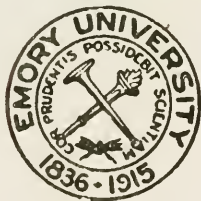




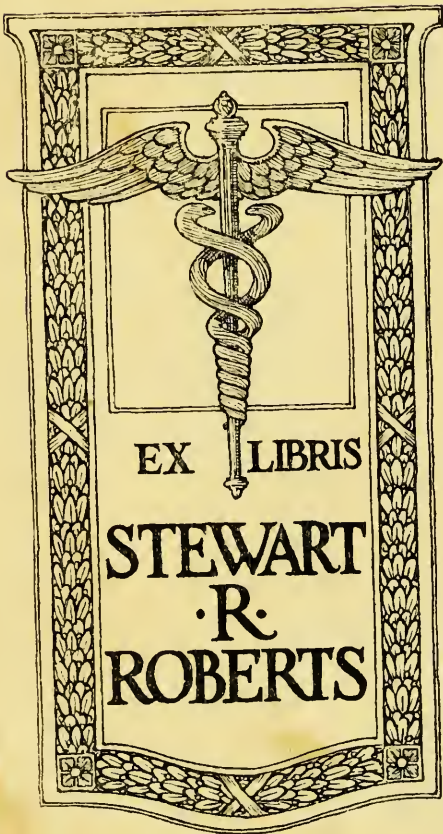
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THE
PHARMACOPOEIA

Of the
ROYAL COLLEGE
Of
PHYSICIANS at EDINBURGH.

Faithfully translated from the FOURTH EDITION.

With useful NOTES on the

Materia Medica,

And

PRACTICAL OBSERVATIONS ON THE PREPARATIONS,
both Simple and Compound.

To which are added

The PRESCRIPTIONS, as well *Extemporaneous* as
Officinal, in Use at the ROYAL HOSPITAL.

By

W. LEWIS, M. B. F. R. S.

LONDON:

Printed for JOHN NOURSE, at the *Lamb*, opposite
Katherine-Street in the Strand.

MCCCLVIII.

THE HISTORY OF

THE

REIGN OF

CHARLES

THE SECOND

BY

JOHN

WILKINS

1704

LONDON

Printed by

J. Sturges



T O T H E

R E A D E R.

A Thorough knowledge of the *Materia Medica*, and a skilful method of preparing and compounding simples, are allowed by all to be a most necessary part of the art of physic. Good medicines, properly administered, promise health; bad ones, or such as are ill compounded, prove either productive of numerous mischiefs, or incapable of doing any real service to the sick. Since so much depends upon medicines, surely the right method of disposing and compounding them ought to be looked upon as a principal point in the art of healing. It is upon this account that the art of pharmacy has been every where cultivated by physicians of the most distinguished abilities; insomuch, that almost every principal city is furnished with a pharmacopœia of its own. Nor has the royal college of physicians in Edinburgh been wanting in this respect, as sufficiently appears from the little work

To the READER.

published with this view immediately after its institution.

Pharmacy, nevertheless, is not exempt from the alterations of time, its improvement and progress, and the great variety of medicines, make some changes unavoidable. Hence it is, that in the Edinburgh Pharmacopœia many things are wanting, which custom has introduced since its first publication; and hence likewise, though more contracted than almost any other dispensatory, yet many things are found in it which are now grown into disuse, insomuch that it has already almost ceased being a rule to the apothecary. Lest therefore, through the unskilfulness of the compounders of medicines, the life of the sick should be in danger, or the expectations of the physician disappointed; our college, consulting the advantage of the public and their own dignity, have thought proper to publish this edition of their pharmacopœia corrected and enlarged, as a standard rule for the apothecaries of this city to follow in compounding medicines: an acceptable work both to the patient and physician.

In preparing this new edition, we have generally followed the old one, and have not departed from it, unless where necessity obliged, or some manifest advantage persuaded us. We have likewise

To the READER.

wife all along had an eye to the more celebrated dispensatories of other nations, lest, slighting the labours of others, we should seem to depend too much upon our own abilities.

We have digested in an easy and compendious method a sufficiently large catalogue of officinal plants, under their most usual names; as also of the animal and mineral substances used in physic; pointing out the parts employed for medicinal purposes. Some articles we have lopt off, as not differing from others in virtue; or which had been introduced by the credulity or superstition of our ancestors; but we have still left a great many perhaps to be expunged by posterity; judging it more convenient that our catalogue of simples should be full and even redundant, than any ways deficient or scanty.

Of the simple distilled waters we have rejected not a few: to the compound one or two new ones are added, which will not only keep better, but contain in a greater degree the respective virtues of the plants; particular care being all along taken to commit nothing to distillation, which will not give over some virtue to the water.

We have added a great many tinctures. Tinctures contain the efficacious part of most simples, in a small compass; and hence, as their dose,

To the READER.

by this means becomes less, this form proves generally agreeable to the patient.

In the making of syrups, we have shewn which are most conveniently prepared by decoction, and which by infusion; and by what means the virtue of aromatics, which is usually lost in these kinds of preparations, may be preserved.

We have likewise inserted into our pharmacopœia several extemporaneous compositions, taken from the present practice, to save the trouble of the prescriber in directing them : it were to be wished, that, from the unanimous consent of physicians, more of this kind could have been added.

To most of the sections are subjoined general rules for the preparation of the medicines contained therein ; nor have we thought the smallest matters unworthy of our regard ; since it is certain, that in pharmacy, the slightest errors may produce very bad consequences.

Upon the whole, that we might avoid the incumbrance of too great a number of medicines, and the inconveniencies of too scanty a collection, many obsolete, useless and incongruous ones are lopt off, and some new ones added, of no small utility. In the emendation of compositions, the utmost care and diligence has been employed ;
some

To the R E A D E R.

some of no consequence being rejected, and others added, which may better answer the intention of the prescriber : some which long custom has familiarized, and antiquity as it were rendered sacred, remain untouched ; but most are contracted : and the utmost caution has been taken, that such compositions as are now retained, or substituted to others, may, if they do not excel, at least equal, those omitted. Throughout the whole we have consulted utility rather than pomp ; and at the same time endeavoured to abridge the labour of the apothecary, avoiding the intricate cumber which most of the present pharmacopœias labour under.

That these our endeavours may happily tend to the advantage of the publick, the health of the sick, and the advancement of medicine, is our joint and earnest wish.

Given at *Edinburgh*,
from the College of
Physicians, *Nov. 30th*,
MDCCXXI.

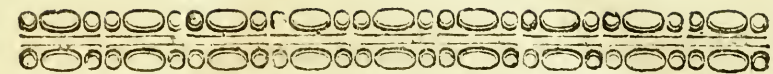
To the READER.

In this fourth edition of our pharmacopœia we have inserted some new compositions, and altered many of the old ones; nevertheless, since medicine receives daily improvements, and the art of pharmacy can only by degrees get clear of its errors; it is not to be doubted, but there remains still room for enlarging and farther reforming pharmacopœias.

Edinburgh, Feb. 13th,
MDCCLXIV.



T H E



T H E

P R E F A C E.

TH E learned editors of the *Edinburgh Dispensatory* have, in the preceding pages, given so clear and full an account of the steps which they have taken in revising and correcting the several editions of this dispensatory from its first appearance in the year 1699, as not to leave room for any addition of this kind. It would be highly impertinent to attempt any encomium upon a book which has been so well received by the public; and not less so, to trouble the reader with the particular motives which induced us to undertake the following work, or the reasons for our delaying its publication to this time. Nevertheless, as the authors have thought it convenient to preface the original, something of the same kind will be expected with regard to the present translation and commentary.

With regard to the translation, we have endeavoured, as far as possible, to keep up close to the original, not only in the expression, but likewise in the manner of ranging the several articles; and this we were induced to do, not so much out of deference to the authority of the compilers, as from a firm persuasion, that the method here followed is superior in point of perspicuity to that which usually obtains in translations of books of this kind.

With

The P R E F A C E.

With regard to the additional matters, they are warranted from the manifest design of the book itself, or tend to make it more universally useful.

The copiousness of the catalogue of medicinal simples neither required, nor indeed would admit, without a manifest incumbrance, of any additional articles; but as the college have only described the several simples by the most commonly received appellations, a few excepted, the synonymous names and descriptions used by the most celebrated botanists are added.

To the capital articles of the Materia Medica we have subjoined, by way of note, a description of the simple, the criteria of its goodness, the marks which distinguish the genuine from the base; and in many cases, its solvents, &c. chemical analysis where useful, the most advantageous method of preparing and exhibiting it, its medicinal virtues, &c. taken chiefly from our own experience, observing all along, where we build upon the authority of others, to cite the original author at the bottom of the page.

With regard to the preparation and composition, which compose the body of the work, we have given an account of all the material alterations which have been made from the preceding edition, frequently pointing out the grounds on which we conceive such alteration is made, and have likewise subjoined, in their proper places, all the officinal compositions in use at the royal hospital at Edinburgh, that differ from those received by the college. In these the reader will often see many notable improvements upon the formula, whose place they are intended to supply.

The P R E F A C E.

We have likewise endeavoured, according to the utmost of our abilities, to explain the method of conducting the several processes in the fullest manner, especially where the brevity of the original work made this necessary, or the process itself was difficult, hazardous, or liable to miscarry, from want of due experience in the operator.

We have likewise compared several of the processes with those described in other dispensatories, and whenever any doubt has occurred, to which the preference ought to be given, have committed them to trial, and related the history and event of each experiment.

We have also added, by way of appendix, the extempore compositions of the royal hospital. This addition, it is conceived, will prove very acceptable to the reader, especially as the compilers express their wishes to have inserted something of this kind themselves.

To conclude, if it shall appear, that our endeavours have any ways facilitated the practical part of pharmacy, by obviating the difficulties and inconveniencies which medicinal preparations are on many accounts liable to, or contributed to the improvement of this valuable branch of the healing art, by weeding out some of its numerous errors, or starting some useful improvements, we shall not be thought to have wantonly increased the number of books on this subject, but meet with a favourable acceptance from the public.

The NAMES of the
FELLOWS, HONORARY FELLOWS
and LICENTIATES

Of the
ROYAL COLLEGE
Of
PHYSICIANS in EDINBURGH.

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David Cockburn.

Robert Lewis, *Elect.*

John Stevenson, *Elect.*

William Cochrane, *Elect.*

John Lermont, *Elect.*

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Charles Alston, *Reg. Prof. Botan. Elect. & Collegio
ab Epistolis.*

Andrew

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James Houſton.

William Græme.

William Macfarlan.

Alexander Martin.

David Horſeburgh.

George Young.

John Boſwall.

T H E

T H E

WEIGHTS and MEASURES,

With their CHARACTERS.

gr. a grain	}	contains	}	twenty grains.
℥ a scruple				three scruples.
ʒ a dram				eight drams.
℔ a pound				twelve ounces.

By *a spoonful* is meant half an ounce in syrups, and three drams in distilled waters.

A gallon contains *eight pounds*.

Ana imports, that each of the preceding ingredients is to be taken in the quantity following the word.

p. æ.)	}	stands for	}	that is	partes æquales.	equal quantities.
q. v.)					quantum vis.	what quantity you please.
q. s.)					quantum sufficit.	as much as is sufficient.
f. a.)					secundum artem	according to art, when the manner of compounding is left to the direction of the apothecary.
F.)	}	stands for	}	that is	Fiat	Let it be made.
B. A.)					Balneum arenæ	a sand-heat.
B. M.)					Balneum mariæ	a water-bath.

THE

CONTENTS.

SECTION I.	<i>Medicinal Simples</i>	pag. 1
II.	<i>Preparations of certain Simples</i>	100
III.	<i>Distilled Waters</i>	107
IV.	<i>Distilled Spirits</i>	119
V.	<i>Waters by infusion and Vinegars</i>	122
VI.	<i>Tinctures, Elixirs, and medicated Wines</i>	127
VII.	<i>Decoctions, &c.</i>	147
VIII.	<i>Syrups</i>	154
IX.	<i>Honeys, Gellies, Juices and their Fæcule</i>	162
X.	<i>Conerves, Preserves, and Sugars</i>	166
XI.	<i>Powders</i>	169
XII.	<i>Electuaries, Confections, Antidotes, and Lobocho</i>	176
XIII.	<i>Pills</i>	186
XIV.	<i>Troches</i>	194
XV.	<i>Oils by Expression, Infusion and Decoction</i>	199
XVI.	<i>Balsams</i>	201
XVII.	<i>Ointments</i>	204
XVIII.	<i>Plasters</i>	212
XIX.	<i>Cataplasms</i>	219

The CONTENTS.

CHEMICAL MEDICINES.

CLASS I.

Chemical Preparations of Vegetables pag. 221

- SECTION I. *Distilled Oils* ib.
II. *Extraëts and Refins* 237
III. *Essential and fixed Salts, with
the preparations of Tartar* 245

CLASS II.

Chemical Preparations of Animals 263

CLASS III.

Chemical Preparations of Minerals 275

- SECTION I. *Preparations of Salts* ib.
II. *Preparations of sulphureous
substances* 293
III. *Preparations of Metals* 303
IV. *Preparations of metallic Mine-
rals* 314

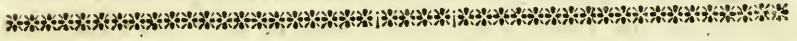
APPENDIX, *containing the extemporaneous me-
dicines of the Dispensatory for the use of the
poor in the royal hospital at Edinburgh* 337

A GENERAL INDEX of the simples, preparati-
ons, and compositions, together with the princi-
pal matters contained in the notes.

INDEX MEDICAMENTORUM.



T H E
E D I N B U R G H
D I S P E N S A T O R Y .



S E C T I O N I .
M E D I C I N A L S I M P L E S .

V E G E T A B L E S .

<i>Names generally received, and the parts in use.</i>	<i>Synonymous names and descriptions.</i>
--	---

A Bies, *the fir-tree; its wood, tops and resin.*
 Abrotanum mas, *male southernwood; the herb.*
 Abrotanum fæmina, *female southernwood; the herb.*
 Absinthium vulgare, *common wormwood; the herb.*

The greater narrow-leaved male southernwood, C. B.
Chamæcyparissus. Lavender-cotton. Female abrotanum, with roundish leaves, C. B.
Roundish-leaved santolina, Tournefort.
The greater common wormwood, J. B. Broad-leaved or Pontic wormwood, Ger.

- Abfinthium Romanum, *Roman wormwood*; the herb^a.
Fine-leaved hoary wormwood of Pontus, C. B.
- Acacia vera, *Egyptian thorn*; its inspiffated juice called *true acacia*^b.
The inspiffated juice of the unripe fruit of the scorpion-sena-leaved acacia, C. B.
- Acetofa vulgaris, *common sorrel*; the herb, roots and feeds.
Oxalis. Meadow-sorrel, C. B. Common four dock, Raii synopsis.
- Acetofella, *wood-sorrel*; the herb.
Lujula. Common four trefoil, C. B.

^a Roman wormwood has neither fo strong a smell, or fo bitter a taste, as the common. A conserve of it is reported to have been of great service in dropfies: but the sea-wormwood is generally used instead of this; not, on account of its being more pleasant and palatable*; but because it is cheaper and more easily procured. Nevertheless, as the former has a greater share of medicinal virtues than the latter, this exchange is not to be admitted, unless in particular circumstances, where it is expressly ordered.

^b The true acacia, which comes from Egypt, in cakes, wrapt up in bladders, weighing each from four to eight ounces, appears outwardly of a deep brown colour, inclining to black; but inwardly, somewhat reddish. It is of a firm consistence, softens in the mouth, and has a rough, but not disagreeable taste. The Egyptians make use of it in spitting of blood, and in hæmorrhagies: they likewise employ it in collyriums for strengthening the eyes, and preserving them from inflammations; and in gargarisms for quinsseys: *Alpinus* asserts that nothing is of greater service in the falling down of the anus and uterus, than a solution of the inspiffated juice in a decoction of the leaves and flowers. The true Egyptian acacia is rarely to be found in our shops: what is usually sold under that name is the inspiffated juice of unripe flocs. This is harder, heavier, blacker and sharper than the true sort †.

* *Botan. officinal. pag. 7.*

† *Geoffroy de Materia Med. tom. ii. pag. 716.*

Acorus verus, <i>true acorus</i> ; the roots ^c .	Calamus aromaticus. <i>The calamus aromaticus of the shops, C. B. The sweet- smelling flag of Ray.</i>
Adiantum verum, <i>true maiden-hair</i> ; the herb ^d .	Capillus veneris. <i>Coriander- leaved adiantum, C. B.</i>
Agallochum ; the wood.	Lignum aloes. <i>Wood of a- loes of the shops, C. B.</i>
Agaricus, <i>Agaric</i> ^e .	The fungus of the larch-tree. Ageratum,

^c The root of calamus aromaticus is somewhat flattened on the sides, crooked, full of joints, of a reddish yellow colour externally, white and of a spongy texture within, of an acrid bitterish taste, and an aromatic flavour. *Geoffroy* * says, that it yields a considerable quantity of essential oil. It is generally looked upon as a warm stomachic root, and, as such, sometimes made use of in practice.

^d This is the produce of the southern parts of France, and not being so easily procured as the Trichomanes, or English maiden-hair, is supplied by it. Some of the more industrious artists have, in the syrup of maiden hair, substituted a still cheaper ingredient in the place of them both ; and probably not to the disadvantage of the medicine, both the true and the false maiden-hair, yielding little more than an insipid mucilaginous juice, greatly resembling the substitute made use of.

^e This fungus is an irregular, spongy substance, extremely light, very friable, and of a snowy whiteness, except the cortical part, which is of a brownish colour, and is usually taken off before the agaric is brought to the shops. The best sort is as described above ; but there is an inferior kind of a bad colour, full of red fibres or veins, and which upon cutting proves hard and gritty. Agaric, upon first tasting, is sweetish, but soon proves bitter, acrid and very nauseous. *Mr. Boulduc* † obtained from this drug, by means of spirit of wine, a tincture of an extremely disagreeable and nauseous taste; one drop of which being put on the tongue occasioned vomiting, and left behind it a dislike for all kind of food, &c. for a whole day. Two ounces of agaric yielded to spirit six drams and a half of a resi-

* *Mat. Med. tom. ii. p. 4.*

† *Mem. del acad. roy. des scienc. pour l'ann. 1714.*

- Ageratum, *maudlin*; the herb. Eupatorium Mesués. *Ageratum* with jagged leaves, *Casparis Baubini*.
- Agnus castus, *the chaste tree*; the seed. Vitex. *Agnus castus* with narrow hemp-like leaves, C. B.
- Agrimonia, *agrimony*; the herb. Eupatorium Græcorum & Avicennæ. *Eupatorium* of the ancients, C. B.
- Alchimilla, *ladies mantle*; the herb. Common ladies mantle, C. B. Ladies mantle, and in the north bearsfoot, R. syn.
- Alkekengi, *winter cherries*; the fruit. Halicacabum. *Bladder solanum*, *Casparis Baubini*. Jack by the hedge, Raii synopsis.
- Alliaria, *sauce-alone*; the herb. Manured garlick, C. Bau.
- Allium, *garlick*; the root. Frangula. *Black-berry-bearing alder*, *Casp. Baubini*.
- Alnus nigra, *black alder*; the bark. { The inspissated juices of the Guinea caballine aloe, like the common, but spotted all over, Commel.
- Aloe caballina, *horse aloe*; the inspissated juice. {
- Aloe hepatica, *hepatic aloe*; the inspissated juice. {
- Aloe succotrina, *succotrine aloe*; the inspissated juice^f. The concrete juice of the succotrine, narrow-leaved prickly aloe-plant with purple flowers, Breyn. Prodrom.
- Alfine,

nous extract: but on treating it with water, no solid extract was obtained. This drug was formerly of great esteem in medicine; but the present practice has almost rejected its use, on account of the manifest inconveniencies which attend its exhibition. Nevertheless, Mr *Boulduc* † says, that an extract of it, made with water acuated with salt of tartar, is an effectual and safe purge.

^f Aloes is the inspissated juice of the plant aloe. There are various sorts of it in the shops, which are distinguished, either from the places whence they are brought, from the species of the plants which yield them, or from some difference in the juices themselves.

† *Ibid.*

Alfine, *chickweed*; the herb. *Middle chickweed, C. B. middle, or lesser chickweed, Raii synopsis.*

Althæa,

The ancients reckoned but two sorts; the one was pure, and of a yellowish colour, inclining to red, resembling the colour of a liver, and thence named hepatic; the other was full of impurities, and supposed to be only the dross of the better sort. *Geoffroy* *, *Commelinus* †, *Dale* ‡, and the more accurate writers on the *Materia Medica*, range the different sorts of aloes found at present in the shops, in three classes, the focotorine, or finer; the common, or second sort, which is less esteemed; and the fetid, which is the worst of all: these two last sorts, when pure, are likewise called hepatic; and when very impure, caballine or horse aloes. The focotorine is bright, shining, clear, friable in the winter, somewhat pliable in the summer, of a yellowish red colour, with a purple cast: the purest sort of this kind of aloes, when reduced to powder, is of a bright golden colour, of an aromatic, bitter taste, and smells not unlike myrrh. The common sort of aloes is less clear and bright than the former, of a darker colour, and more compact texture; it is likewise drier, of a disagreeable smell, and an intensely bitter taste. The third and worst sort of aloes, properly called caballine, has been usually given only to horses: this is easily distinguished from the foregoing sorts, by its ungrateful strong smell, although, in other respects, it agrees pretty much with the common aloes; sometimes it is prepared so pure and bright, as not to be distinguished by the eye from even the focotorine. *Mr. Boulduc* || observes that the focotorine aloes contains less resin than the hepatic; and that the resin has little, if any, purgative virtue: he asserts likewise, that the former purges more, and with greater irritation than the latter. This observation, which appears to be perfectly just, points out the uses to which the different kinds of aloes may be applied: the finer sort is properest to promote or excite the menstrual flux, or to answer the like purposes, while the inferior sorts are better calculated

* *Mater. Med. tom. ii. p. 648.*

† *Præ lud. botan. 40.*

‡ *Pharmacolog. p. 248.*

|| *Mem. del acad. roy. des scienc. 1708.*

Althæa, *marshmallow*; the leaves, root and feed.

Ammi verum, *true ammi*; the feed.

Ammi vulgare, *common bishopsweed*; the feed.

Ammoniacum gummi, *the gum called ammoniacum* §.

Bismalva, *Ibiscus*. *The althæa of Dioscorides and Pliny, C.B. Common marshmallows, Raii synopsis.*

Candian ammi, Ger. & Park. Ammi with seed of smallage, C.B. True bishops-weed.

The greater ammi, Casparis Baubini.

Amomum

to act as a common purge. With regard to the solubility of aloes, it entirely dissolves in boiling water; but a considerable portion subsides upon the menstrooms growing cold. The same inconvenience is observable in solutions of this drug made with wine, which on keeping throw off to the sides and bottom of the containing vessel, a considerable part of what they had formerly taken up; while on the other hand, proof spirit not only almost entirely dissolves the aloes, if pure, but keeps the whole suspended. If the reader desires any farther account of this celebrated drug, he is referred to *Herman. Cynos. Mat. Med. p. 689. Burggrav. Lex. Med. universal. and Geoff. Mat. Med. tom. ii. p. 648.*

§ Ammoniacum is a concrete juice, between a resin and a gum, brought from the East Indies, usually in large masses, composed of little lumps or tears, of a milky colour, but soon changing, upon being exposed to the air, of a yellowish hue. The better sorts of this juice very much resemble, in appearance, the finer kinds of benzoin. It has a nauseous sweet taste, followed with a bitter one; and a peculiar smell, somewhat like that of galbanum, but more grateful, or according to *Pomet* *, like that of opopanax. It softens in the mouth, and grows of a whiter colour upon being chewed. Thrown upon live coals, it burns away in flame. It is in some measure soluble in water and in vinegar, with which it assumes the appearance of milk. For internal use, such tears as are large, dry, free from little stones, seeds, or other impurities, are to be chosen. The coarser kind of ammoniacum is purified by solution and cola-

* *Hist. des drogues (nouvelle edit. par Pomet le fils) tom. ii. p. 30. ture,*

- Amomum verum*, true *amomum*; the seed ^h.
- Amomum vulgare*, common stone-parsley; the seed.
- Amygdalus amara*, the bitter almond-tree; its fruit.
- Amygdalus dulcis*, the sweet almond-tree; its fruit.
- Anacardium*, *anacardium*; the fruit ⁱ.
- Anchusa*, *alkanet*; the root ^k.
- Amomum in the bunch*, *Casp. Baubini*.
- Sison. The Macedonian parsley of Fuchsius, R. synopsis. Aromatic stum, Tourn.
- { The kernels of the fruit of the manured almond-tree, *Casparis Baubini*.
- Oriental *anacardium*, *Casp. Baubini*. Malaca-bean.
- Alcanna*. Purple-flowered *alkanet*, C.B. *Alcibiadon*, Ger.
- Anethum,

ture, and then carefully inspissating it; but unless this be artfully managed, the gum will lose a considerable deal of its essential oil. The strained gum of the shops is a grievous abuse, being a composition of ingredients much inferior in virtue and price. The genuine gum ammoniac is, according to *Geoffroy* †, the juice of an umbelliferous plant growing in Africa, which flows from wounds made in it for that purpose: his conjectures are founded on the leaves and seeds, usually found among the tears.

^h The seeds of the true amomum are brought to us from the East Indies in roundish pods, divided into three parts. The seed is rough, angular, aromatic, of a dark colour without side, and white within, solid, but easily pulverable, in which respect it manifestly differs from cardamom seeds, with which it is confounded in the shops. It yields, upon distillation, a considerable quantity of an aromatic oil.

ⁱ *Anacardium* is the fruit of a tree, of a black shining colour, about an inch in length, and in shape like a bird's heart, growing in the East Indies. It is composed of two barks or shells, between which is a fungus substance, containing a dark-coloured caustic oil; and of a kernel, of a white colour and sweetish taste.

^k There are two kinds of this root mentioned by authors: one is brought from the Levant; and the other from Italy and France: the latter is here designed, and therefore shall be alone taken notice

† *Mater. Med. tom. ii. p. 603.*

Anethum, *dill*; the herb,
and feed.

Angelica fativa, *garden ange-
lica*; the root, leaves and
feeds.

Anime. The resin¹.

Anisum, *anise*; the feed.

Anthora, *counterpoison
monks-hood*; the root.

Aparine, *goose-grass*; the
herb.

Apium, *smallage*; the roots
and feed.

Aquilegia, *columbine*; the
leaves and feed.

Arabicum gummi, *gum A-
rabic*^m.

Garden dill, Casp. Baubini.

*Garden imperatoria, Tournef.
Garden angelica, C. B.*

*The anise of the herbalists, C. B.
the apium called anise, with
sweet-smelling seeds, Tourn.*

*Antithora. Anthora, or whol-
some wolfs-bane, C. B.
Yellow helmet-flower.*

*Clivers. Common clivers, C.
Baubini, Raii synopsis.*

*Eleoselinum. Marsh apium
of the shops, C. B.*

*Wild columbine, C. B. Blue
columbine, Ger. Common
single columbine, Park.*

Areca,

of: the former is not known in our shops. The root in use is of a red colour without, and white within, with little blue heads; and being rubbed on the hand, tinges it of a vermilion colour. As the colour, for the sake of which it is used, lies in the bark, the smaller roots are to be preferred: they should be chosen new, clean, dry, yet so pliable as not to be brittle*.

¹ Anime is a transparent resin, of a white colour, inclining to yellow. It flows from a tall tree which grows in America. Burnt on coals, it quickly consumes, emitting an agreeable smell. The Brasilians apply the fume of it for disorders of the head from colds; and are of opinion that it is of service to other parts of the body likewise, when affected by the same cause.

^m Gum arabic is a concrete gummy juice which drops from the tree that yields the true acacia. It is of a bright, pale yellow, or

* *Pomet hist. des drogues, vol. i. p. 90. Lemery, dict. des drogues, Savary dict. de commerce.*

yellow

Areca, *Indian nut*; the inspissated juice called catechu, and terra Japonica, or *Japan earth*ⁿ.

Argentina,

yellow colour, brittle, without any smell or taste, somewhat wrinkled on the outside, and shining within like glass. It grows soft in the mouth, sticks to the teeth, and readily dissolves in water, but not in spirit of wine, or in oils. In the fire it burns to a coal, but does not flame. The best sort of this gum is dry, transparent, of a white or pale yellow colour, and free from dirt. The true gum arabic is rarely to be met with in the shops: gum senega, which is brought from the coasts of Guinea, is usually sold for it. This greatly resembles the other; and probably, as Dale † conjectures, exudes from a tree of the same kind: it is generally in large pieces, rough on the outside, and in these circumstances possibly consists the only difference between the two; although the former is held to be the purer and finer gum, and therefore chose for medicine; and the latter the strongest, most substantial and cheapest, and consequently more employed in certain trades and businesses.

ⁿ The Japan earth of the shops, is a hard, pulverable, gummy-resinous juice, outwardly of a reddish colour, inwardly of a shining dark brown colour, almost black, with a cast of red, of a bitterish astringent taste, followed by a sweet and more grateful one. It is brought from Malabar, Surat, Pegu, and other parts of India, but is not the produce of Japan; nor is it an earth; for when pure, it communicates a dark brown colour to water, and dissolves in it, so as to pass a strainer, without leaving any feces: great part of it likewise proves soluble in spirit of wine, to which it gives a somewhat brighter tincture, than to water. Powdered and thrown on a red hot iron, it emits a copious fume, melts, takes fire, sometimes flames, and leaves behind a small portion of greyish ashes. Some authors are of opinion, that this is not the juice of any one particular tree, but is drawn indifferently from any, or all of the species of acacia, and from the fruit of a kind of palm which is very like a date*. It is said that the Indians prepare this juice from

† *Pharmacolog*, p. 343.

* *Geoff. Mat. Med. tom. ii. p. 724.*

- Argentina, *silver-weed*; the herb.
- Aristolochia longa, *long birthwort*; the root.
- Aristolochia rotunda, *round birthwort*; the root.
- Artemisia, *mugwort*; the herb.
- Arthanita, *sow-bread*; the root.
- Arum, *wake-robin*; the root.
- Afarum, *asarabacca*; the roots and leaves.
- Aspalathus, the wood.
- Asparagus, *sparagus*; the root.
- Assa foetida, *fetid assa*; the gummy-refin °.
- Potentilla, *Anserina*. *Bastard cinquefoil called silver-weed, Raii syn. Wildtansy.*
- The true long-rooted birthwort, *Casparis Baubini.*
- The round birthwort with a dark (almost black) purple flower, *Casp. Baubini.*
- The greater common mugwort, *Caspar. Baubini.*
- Cyclamen. The common round-leaved autumnal sow-bread, *Park. sow-bread with round leaves purplish underneath, C. Baubini.*
- Black-spotted arum, *C. B. Common arum, Gerard. Cuckow-pint.*
- Common asarabacca, *Parkinson.*
- Garden asparagus, *Casparis Baubini.*
- The concrete juice of the root of *Hingisèh, or the assa foetida plant, Kæmpf. amœnit. exot.*

Atriplex

the areca nut, before it is quite ripe, by boiling the nut in water, impregnated with some oyster-shell-lime, till the liquor has acquired a dull red colour: the decoction is then decanted from the feces, and inspissated to a proper consistence.

° Assa foetida is brought to us in large masses from Persia and the East Indies. It is a compact, gummy-resinous substance, soft and pliable like wax while new, composed of various little shining lumps or grains, which are partly of a whitish colour, partly reddish, and partly of a violet hue. It smells like garlick, but much stronger, and has a bitter, acrid, biting taste. Those masses are accounted best, which are clear, of a palish red, and variegated with a great number of elegant white tears. When it first exudes from the wounded

- Atriplex fativa*, garden or-
rack, or arrack; the herb. *White or pale-green garden
orack, C. B.*
- Atriplex foetida*, stinking o-
rack; the herb and seed. *Fetid chenopodium, Tournef.
fetid blitum, called vulva-
ria, Raii synopsis.*
- Avena*, oats; the feed. *Common, or white oats, C. B.*
- Aurantia malus*, orange-tree;
the flowers, fruit, and
rind of the fruit. *The greater orange-tree, C.
B. the orange-tree with
acid fruit.*
- Auricula Judæ*, Jews-ear;
the fungus of the elder-
tree.
- Auricula muris*, mouse-ear;
the herb. *Pilosella. The greater creep-
ing hairy mouse-ear, C. B.*
- Balsamita mas*, costmary, or
alecost; the herb. *Costus hortorum. Corymbi-
ferous garden mint, C. B.*
- Balsamum Copaiba*, balsam
of *Copaiba*^p; the resin. *American balsam, C. B. white
American balsam, Park.*

Balsamum

wounded root, it is liquid and white like milk; but upon being exposed to the air grows of a brownish colour, and gradually acquires different degrees of consistency. It loses with age of its smell, and likewise of its strength, a circumstance to be particularly regarded in dosing this medicine. The purest white tears, being fresh cut, are of a yellowish white colour, which, in a little time after, changes to a fine red tending to a violet. This drug does not entirely dissolve, either in an aqueous or a spirituous menstruum, but somewhat more is taken up by the former than by the latter. Digested in proof spirit, a turbid solution is obtained, which passes the filter, and upon examination is found to participate largely of the *assa foetida*. With rectified spirit, a transparent tincture is extracted, which smells very strong, but does not appear to hold so much of this juice as the former. Put on a red hot iron, it melts, emits a strong-smelling fume, catches flame, and burns almost entirely away, leaving but few ashes. See the description and natural history of this plant, with the method of collecting the *assa foetida*, in *Kæmpf. Amœnitat. exot. fascic. 2. obs. 5. p. 535.*

^p Balsam of *Copaiba* is a liquid resinous juice, imported from the *Braçils*. While fresh, it is of the consistence of oil; but grows thicker

Balsamum Gileadense, *balm of Gilead*^q; the resin. Opobalsamum, *Balsamum Judaicum, e Mecha verum, Oleum balsami. The true balsam of the ancients, Park.*
 Balsamum Peruvianum, *balsam of Peru*^r; the resin. *Black balsam of Peru, Parkinson.*

Balsamum

thicker upon keeping. It is of a white colour, inclining to yellow, of a bitter aromatic taste, and a peculiar smell. Upon distilling this balsam with water in the common manner, I have found it to yield sometimes more than half its weight of a clear, colourless, essential oil, a resin, of a yellow colour, inclining to green, remaining behind in the still.

^q Balm of Gilead is a liquid resin, of a whitish or yellow colour of a fragrant smell, and of a penetrating aromatic taste. *Geoffroy* resembles the smell of this balsam to that of citrons, others to a mixture of rosemary and sage flowers. I have occasionally met with a curious balsam somewhat resembling the latter in point of smell: it was exceedingly fragrant, limpid and thin; and dropt on water, spread itself all over the surface, imparting to it a considerable degree of its smell and taste; the grosser part which 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 some as a characteristic of the true balsam*.

^r There are two kinds of balsam of Peru; one of a white colour; the other of a dark brown: the latter is here intended, the first being rarely to be met with. It is a fluid, resinous juice, of the consistence of turpentine, of a reddish colour inclining to black, and of a subacid, biting taste. Its smell is by some resembled to that of benzoin. Distilled with water, it yields a small quantity of very fragrant oil. This balsam is said † to be obtained from a tree which grows in Peru, and the hotter parts of America, by boiling its tops and bark in water for a certain time, and suffering the liquor to cool; when the balsam, which is found swimming upon the surface, is carefully skimmed off. But the balsam of Peru, which I have hitherto

* *Alpin. de balsamo dialog. ad finem edition. novæ medicini. Ægyptior. pag. 104.*

† *Geoff. Mat. Med. tom. ii. p. 481.*

Balsamum Tolutanum, *balsam of Tolu*[†]; the resin.

Bardana major, *the greater burdock*; the roots and seed.

Bdellium; the gummy-resin[°].

Becabunga, *brooklime*; the herb.

Bellis major, *greater daisy*; the herb.

Bellis minor, *lesser daisy*; the herb.

Lappa major. *The great burdock, or arcium of Dioscorides, C. B. Raii synopsis.*

Anagallis aquatica. *Water-pimpernell. Roundish-leaved water speedwell, Morison. hist. plant. Casp. Baub.*

The greater wild white daisy, with leaves growing on the stalk, Casparis Baubini.

The fourth and fifth wild daisy, C. B. Consolida minima.

Benzoinum,

had an opportunity of examining, was specifically heavier than water, and therefore must have been obtained by some other means than that above-mentioned.

[†] This balsam is of the consistence of the thicker kinds of turpentine, but upon keeping, grows hard and brittle. It is of a light reddish, inclining to a golden colour, of a grateful taste, and fragrant smell, somewhat like that of lemons. It is brought over in little gourd-shells from Tolu in America ‡.

[°] Bdellium is a gummy resinous tear of a tree, which concretes into glebes of different figures and magnitudes. It is of a brown ruffet colour, and in appearance somewhat resembles common myrrh. Upon cutting a piece, it looks somewhat transparent, and, as *Geoffroy* || justly observes, like glue. It is not easily pulverable, grows soft and tenacious in the mouth, and sticks to the teeth, has a bitterish taste, and not a disagreeable smell, particularly when set on fire. It readily catches flame, burns a considerable time, with a crackling noise; during which, little streams of liquid matter seem to ooze out at its surface. Pure bdellium is partly soluble in an aqueous, and partly in a spirituous menstruum. It is brought from Arabia, Media, and India. The larger and darker-coloured masses of this gum are broke to pieces, and sold for sagapenum.

† *Dalæi Pharmacolog. p. 278.*

|| *Geoff. Mat. Med. tom. ii. p. 624.*

- Benzoinum, *benzoine*; the resin †.
- Berberis, *barberry-bush*; the bark, fruit and seed. Oxyacantha Galeni. *The hedge barberry, C. B.*
- Beta, *beet*; the herb.
- Betonica vulgaris, *common betony*; the leaves, tops, and flowers. Common purple - flowered wood-betony, *Raii synopsis.*
- Betula, *birch-tree*; the bark and sap.
- Biftorta, *bistort or snake-weed*; the root. *Bistort with a less curled root, C.B. Common greater bistort, Raii synopsis.*
- Bonus Henricus, *English mercury*; the herb. Lapathum unctuosum, *Tota bona, Mercurialis. The first wild broad-leaved or unctuous dock, C. B.*
- Borago, *borage*; the flower. Broad-leaved bugloss, called *borage, Casp. Baubini. Ambrosia. Botrys ambrosoides, Casparis Baubini.*
- Botrys, *Jerusalem-oak*; the herb. Caulis. *White headed cabbage and colewort, C. B.*
- Brassica sativa, *cabbage and coleworts*; the leaves. Soldanella. *Lesser sea soldanella, C. B. Sea bindweed.*
- Brassica marina, *sea colewort*; the leaves. Rough or white bryony, with red berries, *C. B. Raii syn.*
- Bryonia alba, *white bryony*; the root. The greater narrow-leaved bugloss, *Casparis Baubini.*
- Buglossum fativum, *garden bugloss*; the roots, leaves and flowers.

Bugula,

† Benzoine is a hard, dry, brittle resin, brought to us from the East Indies in large masses, composed of white and light brown pieces, or yellowish specks, breaking very easily when rubbed between the hands, and yielding a most pleasant smell. That which is clearest from dross and other impurities, smells well, and looks whitest, is accounted the best. The purest sort readily and entirely dissolves in rectified spirit.

- Bugula, *bugle, or middle consound*; the herb.
- Bunias, *navew*; the seed.
- Bursa pastoris, *shepherds purse*; the herb.
- Buxus, *the box-tree*; the leaves and wood.
- Cacao, *cocoa tree*; the fruit, called *chocolate nuts*.
- Calamintha montana, *mountain calamint*; the herb.
- Calendula, *marigold*; the flower.
- Campechense lignum, *log-wood* ^u.
- Camphora, *camphor*; the resin ^w.
- Consolida media. *The middle blue meadow consolida, C. B.*
- Napus sativa & sylvestris. *The garden or sweet navew; and the wild navew.*
- Greater shepherds purse, with a sinuated leaf, C. B. *The box, C. B. The common box-tree, Raii synopsis.*
- The almond-like fruit of Guatimela, Casp. Baubini. *The common calaminth of the German shops, C. Baub.*
- Caltha. *Common marigolds, C. B. Single marigolds; Ger.*
- Caphura. *Camphor of the shops, Casparis Baubini.*

Canella

▪ This wood has been but lately introduced as a medicine. A decoction and extract of it are in use in our hospitals, and are said to have proved very serviceable in diarrhoeas.

^w Camphor is a singular concrete, extracted by art from a particular kind of tree, in the East Indies ^{*}, and brought to us in little semi-transparent pieces or grains, of a reddish or ash colour, a fragrant smell, and a sharp pungent taste. It is of so very volatile a nature, as upon being exposed to the free action of the air, to entirely exhale in no great length of time. Pure camphor melts in a small heat, and assumes the fluidity and appearance of water; at the same time it arises in a thin vapour, which being caught in proper vessels, concretes into a solid transparent cake, which is the refined camphor of the shops. This easily takes fire, and burns away, without leaving any remains. It readily dissolves both in expressed and distilled oils. One ounce of highly rectified spirit of wine will take up six drams of camphor: if this solution be exposed to the air, the spirit flies off before the camphor begins to exhale: if it be

^{*} Dal. *pharmacolog. p. 300. Miller botan. off. p. 105.*

distilled,

- Canella alba, *white canella* ; the bark ^x. *Cinnamon, or white canella in smaller pipes, C. Baub. falsely called cortex Winteranus, or Winters-bark.*
- Cannabis, *hemp* ; the seed. *Manured hemp, Raii synopsis.*
- Capparis, *caper-bush* ; the bark of the root, and buds of the flowers. *Prickly caper-bush, with a smaller fruit and a round leaf, Casparis Baubini.*
- Caprifolium ; the leaves and flowers. *Periclymenum, Matrisylva. Wood-bind. The German not perfoliated wood-bind, C. Baubini, Raii synopsis.*
- Capficum, *Guinea pepper* ; the fruit. *Piper Indicum. The most common Indian-pepper, C. B. The greater common long-podded Guinea - pepper, Parkinson.*

Caranna,

distilled, the spirit rises first : if set on fire, the spirit entirely burns away before the camphor takes flame. Spirit of nitre likewise proves a solvent for camphor, but separates from it upon the addition of water. It dissolves likewise in the vitriolic acid, and seems to lose its smell in it ; but recovers it and its pristine appearance, upon the affusion of water : this last solution digested for some time, emits a penetrating vapour like to that of burning brimstone. Spirit of salt has little or no effect on camphor : nor do vegetable acids or fixed alkaline salts any way act upon it. Distilled several times from fresh parcels of bole, it assumes and retains the appearance of oil. See several things relating to the natural and chemical history of camphor, in *Diët. de commerce, Mem. de l'acad. roy. des scienc. 1705. Phil. Transf. n. 120,* and *Practical Chemistry, p. 267.* The most convenient way of giving camphor inwardly is in the form of a bolus, or rather that of an emulsion, which latter is on many accounts preferable to the former.

^x Canella alba is a bark rolled up into long quills, and cleared from the outer coat. It is both outwardly and inwardly of a whitish colour, lightly inclining to a yellow : it is thicker than cinnamon, has a fragrant smell, and a smart, pungent taste, with something of

Caranna, the resin ^y.

Cardamomum majus, *greater cardamom*; the feed ^z.

Cardamomum minus, *lesser cardamom*; the feed ^a. *The small cardamoms, called simply cardamoms in the shops, C. B.*

Cardia-

of the aromatic in it, resembling a mixture of cinnamon, ginger, and cloves. The white canella yields, upon being macerated and distilled, an aromatic essential oil, of a yellowish colour, which somewhat resembles in smell the oil of cloves, and sinks in water. Canella is often used in the shops for Winter's bark, which it greatly resembles *, and to which it is not an ill substitute †.

^y Caranna, according to *Geoffroy* ‡, is a tenacious, resinous concrete, while fresh ductile like pitch, but hard and friable when it has been kept for any time; outwardly of an ash colour inclining to black, inwardly of an obscure brown, or, according to *Dale* ||, of a pitch colour, of a bitterish, resinous taste, a little like myrrh, and of a fragrant smell while burning. It is brought to us from New Spain, and other parts of America, in little masses rolled up in leaves of flags. It should be chosen fresh, of a fragrant smell; free from other resins or impurities. *Dale*, *Geoffroy*, and some other writers, agree in this description of caranna; but I have never met with any which has come up to it: the sorts which I have seen have rather resembled storax than myrrh, both in taste and smell, and appeared outwardly of a dark brownish colour, and, upon breaking, of a brown with a cast of red, variegated with irregular white streaks.

^z The greater cardamoms are brought to us from Java, but are rarely to be found in our shops. Some substitute in their room grains of paradise; others the true amomum. This sort of cardamom feed is angular, of a dark brown colour, an aromatic smell, and a hot biting taste, contained in oblong triangular pods, about an inch in length.

^a Lesser cardamoms are small, brown, angular seeds, of an aro-

* *Dalæi pharm. p. 300.*

† *Geoff. ubi supra, p. 174. Miller, botan. off. p. 105.*

‡ *Ubi sup. p. 530.*

|| *Ubi sup. p. 324.*

- Cardiaca, *motherwort*; the herb. *The species of Marrubium called cardiaca, C. B. R. syn.*
- Carduus benedictus, *blessed thistle*; the herb and feed. *The wild hairy cnicus, or carduus benedictus, C. B.*
- Carlina, *carline thistle*, the root^b. *Chamæleon albus. The stalkless great-flowered carline thistle, C. Baub. The low carline thistle, Parkins.*
- Carthamus, *bastard-saffron*; the feed^c. *Cnicus. Safflower. Garden cnicus, or carthamum of the shops, C. Baubini.*
- Carui, *caraway*; the feed. *Carum. Meadow cummin, the caraway of the shops, Casparis Baubini.*
- Caryophyllata, *avens*; the root. *Common avens, Casparis Baubini. Herb bennet.*
- Cary-

matic taste and smell, contained in short triangular pods of a pale colour.

^b This root, which is brought from the Alps and the Pyrenæan mountains, is from four to eight inches long, and about an inch thick. Its surface is reddish, and as it were corroded and perforated with little holes. It is white on the inside, of an acrid, bitter, aromatic, but not ungrateful taste, with a fragrant smell. This root is said to be poisonous to some animals, but not to man: some have looked on it as a great alexipharmic: *Frederick Hoffman* observes, that boiled in broth, it has frequently proved emetic. The present practice has rejected its use, and it is rarely to be found in the shops.

^c The feeds of carthamus, which are the part of the plant chiefly made use of for medicinal purposes (for the flowers have been seldom used) have been in all ages reckoned among the purgatives; though even these have at length become almost strangers to the apothecaries shop. These feeds, when in perfection, are white, smooth, about three lines long, angular on one side and roundish on the other. They contain, under a hard bark, a whitish pulp of a sweet taste, followed with an acrid and a nauseous one. When good, they sink in water*.

* *Geoff. Mat. Med. tom. ii. p. 462.*

- Caryophyllus aromaticus*, *The unripe fruit of the clove-tree, Rumph. herbar. Amboinens.*
cloves; the fruit ^d.
- Caryophyllus hortensis*, *Tunica, Vetonica. The great garden July-flower, Casp. Baubini. The double clove July-flower, Gerard.*
clove July-flower; the flower.
- Cassia fistularis*, *Cassia fistula of Alexandria, Casparis Baubini.*
pudding pipe tree; the fruit ^e.

Cassia

^d Aromatic cloves are the unripe fruit of a tree, in shape somewhat resembling a short, thick nail. They are almost four-square, of a rusty colour inclining to black, about half an inch long. At the larger end shoot out from the four angles four little points like a star, in the middle of which is placed a round ball of a lighter colour than the rest of the fruit; this is hollow, and composed of little leaves, which, when the fruit is ripe, expand into a flower; this part is very apt to be rubbed off. Cloves are of a strong, though agreeable, aromatic smell, and a hot biting taste *. When fresh, they yield, upon pressing, a thick, reddish fragrant oil; and upon distillation with water, a copious, aromatic, essential oil, of a light colour, which grows deeper upon keeping: this oil sinks in water. Chuse such cloves as are of the darkest colour, weighty, oily, and of a strong smell, and which, upon tasting, almost burn the tongue, and have a sort of rich moisture. They grow in the Molucca islands, near the equator, and are cultivated with great care in the island of Ternate. The Dutch bring them to Holland, whence they are imported to us. Great care ought to be taken in the choice of them; for they are very liable to be robbed of their essential oil.

^e *Cassia fistularis* is a round pod, or fruit of a tree, scarce an inch in diameter, about a foot, and oftentimes more, in length. The outside is a dark brown, hard, woody bark, having a large seam running the whole length on one side, and another less visible on the other. The inside, which is of a yellowish colour, is divided by a great number of parallel, thin, woody plates, or partitions, placed transversely, covered with a soft, black pulp of a sweetish taste, with some degree of acrimony; with a flattish, smooth, oval seed

* *Geoff. Mat. Med. tom. ii. p. 389.*

Cassia lignea, woody cassia; Malabar and Java cinna-
 mon, or canella; C. B.
 the bark ^f.
Cassumuniar, *casmunair*; Casmunar, Bengale, Risa-
 gon.
 the root ^g.

Cauda

in every partition. There are two sorts of this drug in the shops: the one is brought from the East Indies; the other from the West. The canes of the latter are generally large, rough, thick-rinded, and the pulp disagreeable and nauseous: those of the former are less, smoother; and the pulp is more black, shining, and of a sweet and not disagreeable taste: this sort of cassia fistularis is preferable to the other. The pods should be weighty, new, and which do not make a rattling noise, from the seeds being loose, when shaken: the pulp should be black, shining, sweet, not harsh (which happens from the fruit being gathered before it is fully ripe) nor sourish, which it is apt to turn upon keeping: it should neither be too dry, nor too moist; nor at all mouldy, which from its being kept in damp cellars, or moistened in order to increase its weight, it is very subject to. *Sennertus* observes, that the urine is apt to be turned of a green colour by the use of this fruit; and sometimes, where a great quantity has been taken, of a blackish colour. The pulp of cassia dissolved in a large quantity of water, and kept for several months in a cask, deposits an essential salt very like tartar*.

^f The tree, whose bark the cassia lignea is, is a sort of wild cinnamon growing in Malabar, the island of Java, and other parts of the East Indies. We have two or three kinds of this bark in the druggists shops, whereof the quill sort, which is of the colour of cinnamon, and rolled up like it, but in lesser quills, is most esteemed. There is another sort, which is thicker, and not so curled up, which breaks blackish, and as it were resinous, of a strong and biting taste; this is likewise very good. The best is what comes nearest to cinnamon in smell, with a glutinous sweetness in taste †.

^g Casmunair is a tuberous root, which comes from the East Indies. Some of it is an inch or more thick, and cut into transverse sections, marked on the surface with circles like galangal. It is of a dusky yellow colour within, a bitter, hot, aromatic taste, and fragrant

* *Geoff. ubi supra*, p. 344.

† *Miller bot. off.* p. 121.

smell,

- Cauda equina, *horse-tail*; the herb. Equifetum. *Marsh long-haired horse-tail*, C. B. The greater marsh horse-tail, Raii synopsis.
- Centaurium majus, *greater centaur*; the root. The greater centaur with jagged leaves, C. Baubini.
- Centaurium minus, *lesser centaur*; the herb. The red ordinary small centaur, Park. Raii synopsis.
- Centinodium, *knotgrass*; the herb. Polygonum. *Broad-leaved polygonum*, C. Baub. Raii synopsis. The greater common male knotgrass, Park.
- Cepa, *onion*; the root. Common onion, C. B. The red and white onion, Ger. Park.
- Cerasus nigra, *black cherry-tree*; the fruit and gum. The greater wild cherry-tree with a sweet, staining fruit. Casparis Baubini.
- Ceterach, *ceterach*; the herb. Asplenium, Scolopendria. *Spleenwort*, *Miltwast*.
- Cherifolium, *chervil*; the herb. Garden chervil, Casp. Baub.
- Chamædrys, *germander*; the herb. Trifago. *That commonly reckoned the true germander*, J. Baub. The common germander, Parkinson.
- Chamæpitys, *groundpine*; the herb. Iva arthritica. *Common yellow, or trifid-leaved groundpine*, C. Baubini.
- Chamæmelum nobile, *camomile*; the herb and flowers. Noble camomile, or sweet-scented leucanthemum, C. B. Sweet-scented creeping camomile, called simply camomile, Raii synopsis.
- Cheiri, *wall-flower*; the flowers. Leucoium luteum.

smell, somewhat resembling ginger. Such as desire further information concerning this root, may consult the observations of Peachy and Marlow.

- Chelidonium majus, greater celandine; the herb and root. *The yellow horned poppy called celandine, C. B. Common great celandine, Raii syn.*
- Chelidonium minus, lesser celandine; the herb and root. *Lesser chelidonia, Casp. Baub. Pilewort.*
- Chermes, kermes; the grains^h. *Kermes, Coccus baphicus or tinctorius.*
- China; the rootⁱ.

China

^h Kermes is a light, brownish-red coloured, shining, membranous bag, of the size of a pea, covered over with light down, or an ash-coloured dust, and filled with innumerable eggs or animalcula, which being squeezed between the fingers, pour out a dark reddish liquor, of a subacid bitterish taste, and not ungrateful smell. It adheres to the leaves and tender branches of a particular kind of oak, though it is said by *Lister* to have been found on the tender branches of cherry-trees. One pound of these grains yielded, upon distillation, six drams of volatile salt: the caput mortuum, after calcination, afforded no fixed alkaline salt: hence it appears, that these grains are of an animal nature. *Mr. Geoffroy* * has extracted a curious account of the manner of curing and preserving these animalcula for medicine and other purposes, from the first memoir of *Mr. Reaumur*, in vol. iv. of his *history of insects*, to which the reader is referred.

ⁱ There are two kinds of this root in the shops; one is brought from the East Indies, the other from the West. The oriental, which is the only sort here intended to be used, is a thick jointed root, of the reed kind, heavy, woody, full of unequal knots. Its bark is of a brown colour, with somewhat of a reddish cast: the inside of the root is white, with a reddish tinge. It has very little taste or smell. That which is fresh, close, solid, heavy, neither worm-eaten nor rotten, and which, upon being chewed, appears to be full of a fat unctuous juice, is to be chosen for medicinal purposes.

* *Mat. Med. tom. ii. p. 782.*

China chinæ ; *the bark called Peruvian bark* ^k.

Cortex Peruvianus.

Cicer rubrum, *red chickpease* ; the seed.

Cichoreum, *succory* ; the roots, leaves, flowers and seed.

Cicuta, *hemlock* ; the herb.

Greater hemlock, C. B.

Cinnamomum, *cinnamon* ; the bark ^l.

Cinnamon, or *canella of Ceylon*,
C. B. *Cassia cinnamomea*,
Herman. hort. Lugd. Bat.

Citrea

^k This celebrated drug is described by *Geoffroy* * with great exactness. It is a very dry bark, two or three lines thick, rough on the outside, of a brown colour, sometimes almost covered with a whitish moss : its inside is smooth, of a reddish or rusty iron colour, an intensely bitter taste, somewhat astringent, accompanied with an aromatic flavour, which is not disagreeable. Sometimes it is brought over in thicker pieces, three, or four, or more inches long : this is taken from the trunk of the tree. There is another sort, which is not so thick as this, and rolled up in small quills, with several transverse clefts or cracks, covered with moss, of a cinnamon colour on the inside : this is taken from the small branches. There is another sort which is in lesser pieces than this, of a yellowish colour on the inside, and whitish on the outside : this is said to be taken from the root, and is esteemed by the Spaniards in America as preferable to the other sorts. The best sort of bark is of a reddish yellow colour, resembling that of cinnamon ; but has somewhat of a duskier cast : it should be chosen fresh, of an aromatic, not disagreeable, bitter taste, and which easily breaks, and then appears full of shining resinous particles.

^l Cinnamon is a light, reddish, thin bark, rolled up in long quills or canes ; of a fibrous, woody texture. Its surface is sometimes rough and at other times smooth, of a yellow colour, inclining to red, not unlike rusty iron, of a most fragrant, delightful smell, and a sweet, pungent taste. The virtue of this bark is said to be contained in the inner pellicle, or skin. Cinnamon, if distilled when

* *Mat. Med.* p. 179.

- Citrea malus, *citron-tree*; the fruit, rind of the fruit and seed. *Malus medica*, C. Baub.
- Citrullus, *water melon*; the seed. *The citrul, or Turkey-melon, Parkinson.*
- Cochlearia hortensis, *garden scurvy grass*; the herb. *Roundish-leaved scurvy grass, Casparis Baubini.*
- Cochlearia marina, *sea-scurvy grass*; the herb. *Scurvy grass, with a sinuated leaf, Casparis Baub. Common scurvy grass, Parkin.*
- Coffee, *coffee*; the fruit. *The Egyptian-tree, with fruit like bay-berries, C. B.*
- Colocynthis, *coloquintida, or bitter apple*; the fruit ^m. *Lesser colocynth with round fruit, C. B. The fruit of the colocynth-tree, after the rind and seeds are thrown away, J. B.*

Con-

fresh, yields a large quantity of essential oil: that which arises at the beginning of the distillation, is pale, almost colourless, and swims upon water: that which follows, is of a yellow or reddish colour, and sinks in water: they are both very limpid, of an exceeding fragrant smell, and an extremely biting taste; so as not to be applied to the tongue without great danger, unless cautiously diluted. Dr. Stare says, that oil of cinnamon kept for twenty years in a well stopped glass, was partly changed into a salt.

^m The coloquintida of the shops is a round, light, white, dry, cellular substance, containing in the cavities seeds like those of the cucumber, but rounder, less flat and harder: the kernel of these is oily and of a sweet taste. This drug is the pulp of a fruit about the size of an orange: it is at first of a green colour, but turns yellow as it approaches maturity. The pulp, which is the only part used in medicine, is very nauseous, acrimonious, and extremely bitter: it is brought to us from Aleppo. Mr. Boulduc has given a curious memoir on this article*. He obtained from eight ounces of the

* Mem. de l'acad. des scienc. 1701.

- Confolida major, *comfrey*; the roots, leaves and flowers. Symphytum majus.
- Contrayerva; the root ^m. Drakena. *The contrayerva of the Spaniards, or drakena root of Clufius, Park.*
- Copal; the refin ⁿ. Sea mofs, or white coralline of the shops, Raii syn.
- Corallina, *coralline*.

Corallium,

pulp of coloquintida, by decoction in water, almost three ounces of a gummy extract; but got only half an ounce of resin from the same quantity of pulp digested in spirit of wine. He observes, that the extract, made by long decoction in water, purges without any inconvenience; but that the resin occasions intolerable griping pains, without proving at all cathartic. It has been a common custom for a long time past to endeavour at correcting the virulency of coloquintida, by the addition of hot essential oils drawn from aromatics: the oil of cloves in particular has been applied to this purpose. But these kinds of ingredients surely are not the proper correctors of substances, whose virulency depends upon their acrimony and adhesiveness.

^m Contrayerva is a root an inch or two long, about half an inch thick, full of knots, hard, and of a reddish colour. Long, tough, slender fibres shoot out from all sides of it: these are sometimes loaded with knotty excrescences. The root is of a pale colour within, of a somewhat astringent taste, bitterish, with a light and sweetish kind of acrimony: it has a peculiar kind of aromatic smell. The fibrous part of the root has very little smell or taste: the tuberos should therefore be only chosen.

ⁿ Copal is a solid, resinous concrete, brought, in irregular lumps, from New Spain. Some pieces are very transparent, and from a light yellow colour to a brown; others are of a whitish colour, and semitransparent: the latter is more friable than the former, and resembles the finer kinds of common resin grossly powdered and forced together into a mass. This resin is by some resembled to frankincense; but it has a more agreeable smell, and does not melt so thin, or burn away so fast upon a red hot iron. Water makes no impression upon copal, and it is very difficultly dissolved in spirit of wine.

- Corallium album, — rubrum ; *white and red coral* °.
- Coriandrum, *coriander* ; the seed. *Greater coriander seed, Casp. Baubini.*
- Cornus, *the cornel-tree* ; its fruit. *The garden male cornel, Casp. Baubini.*
- Costus orientalis, *oriental costus* ; the root ^P.
- Cotula foetida, *mayweed* ; the herb. *Fetid camomile, Casparis Baubini.*
- Craffula, *orpine* ; the herb. *Telephium, Fabaria. Common telephium, C. Bau.*
- Crithmum, *sampire* ; the herb. *Feniculum marinum, Herba sancti Petri. Crithmum or small sea fennel, C. B.*
- Crocus, *saffron* ; the flowers and stamina ^q. *Manured saffron, Casparis Baubini.*

Cube-

• Coral is a sea plant, without leaves, but having flowers and seeds. It is of various colours ; the most usual are red and white, which are the two sorts alone made use of for medicinal purposes. Coral, upon a chemical analysis, yields a small portion of an urinous spirit, mixed with a black, fetid oil, and a small quantity of fixed salt, differing very little from sea salt. Red coral calcined in an open fire, loses its colour, and becomes white : from the calx, iron may be extracted, by applying a load-stone. Digested in essential oils, it imparts its red colour to them. Coral is not affected by water, or vinous spirits, but is readily soluble in every kind of acid spirit *.

^P Costus is a long thick root brought from the East Indies, of the colour of box, with a thick, pale-coloured bark, of a warm, bitterish, aromatic taste, and fragrant smell, somewhat resembling that of violets or Florentine orris. It should be chosen fresh, compact, well-scented, bitterish, and not rotten †.

^q There are three sorts of saffron to be met with in the shops ; two of which are brought from abroad ; the other is the produce

* *Pract. Chem. p. 235.*

† *Dalæi Pharmacolog.*

- Cubebæ, *cubebæ*; the fruit †. *Common cubebæ, C. B.*
 Cucumis asininus, *wild cucumber*; the fruit. *Cucumis agrestis. The wild or squirting cucumber, C. B.*
 Cucumis hortensis, *garden cucumber*; the seeds.
 Cucurbita, *gourd*; the seeds. *The greater flattish-bottomed gourd, with a white flower, Casp. Baub.*

Cuminum,

of our own country: the latter is vastly preferable to the two former; and is the sort which should be alone made use of in medicine. This, when in perfection, is of a fiery red colour, and yields a very deep yellow tincture: it should be chosen fresh, not above a year old, in close compact cakes, neither dry nor yet very moist, of the same colour within as without, and of a strong acrid smell. The English may be distinguished from the foreign sorts, by its blades being broader than those are. Saffron imparts all its colour, strength and virtue, both to rectified spirits and common water: a tincture drawn with the latter menstruum is apt to grow sour, and then loses its colour; but extracted with the former will keep in perfection for many years. This drug loses greatly of its medicinal virtues, by being exposed to the air, or by being much dried, though with the utmost caution.

† Cubebæ are a dry, round fruit, or grain, like pepper, sometimes a little bigger, furnished with a long, slender stalk. The bark is of a dark ash-colour, wrinkled, sometimes smooth: it contains, under a tender shell, a roundish seed, which is externally of a blackish, internally of a whitish colour. Cubebæ have a hot, aromatic taste, which falls far short of the acrimony of pepper, which nevertheless copiously, and for a long time, promotes the excretion of saliva. There are two kinds of cubebæ brought from the East Indies: one is gathered before, and the other as soon as fully ripe: those of the former kind are bright, wrinkled, and have their kernel much shrunk; the others are smooth, full and heavy. Cubebæ should be chosen large, fresh, and heavy. Distilled with water, they yield a considerable quantity of aromatic essential oil*.

* *Geoff. Mat. Med.*

- Cuminum, *cummin*; the seed.
- Cupressus, *cypress-tree*; the fruit.
- Curcuma, *turmeric*; the root^f.
- Cydonia malus, *quince-tree*; the fruit and feeds.
- Cynoglossum, *bounds tongue*; the root.
- Cynosbatus, *the dog-rose, or hip-tree*; the fruit and little spongy balls.
- Cyperus longus, *long cyperus*, the root.
- Dactylifera palma, *the date tree*; the fruit, or dates^g.
- Daucus Creticus, *Candian carrot*; the feed.
- Cuminum. *Cummin, with a long seed, C. B. Oriental fennel, called cummin, Tournefort.*
- The tame cypress, Gerard.*
- Long-rooted curcuma, Herman. Hort. Lugd. Bat. Maniella kua, Hort. Malabar.*
- Terra merita.*
- Malus cotonea. The fruit of the quince-tree, J. B.*
- The ordinary great bounds tongue, Casp. Baubini.*
- The common wild rose, with a sweet-scented, flesh-coloured flower, C. B.*
- The long-rooted sweet cyperus, or the cyperus of the shops, Casparis Baubini.*
- The greater palm-tree, Casp. Baubini.*
- Daucus with very fine fennel-like leaves, Casp. Baub.*

Daucus

^f Turmeric is a long, slender, tuberous, knotty root, outwardly of a saffron colour, of a warm, bitterish taste, and not ungrateful smell. There are two kinds of it, the long and round; the former is that of the shops. That which is firm, and of a lively yellow colour in breaking, is accounted the best.

^g This fruit is of the shape of an acorn, but bigger, and contains, under a thin yellow skin, a pulp of a sweetish slimy taste, and under this a long, hard kernel, with a furrow running its whole length. Such dates are to be chosen as are large, yellow, have few wrinkles, are plump, fleshy, of a whitish colour, towards the kernel, and of a vinous taste*.

* *Dalci Pharmacolog.*

- Daucus sylvestris*, *wild carrot*; the feed. *Fine-leaved wild carrot of Dioscorides, or the daucus of the shops, C. B. R. f.*
- Dens leonis*, *dandelion*; the root and plant. *Broad-leaved dandelion, C. Baubini. Taraxacum.*
- Dictamnus Creticus*, *dittany of Crete*; the leaves †. *Cretan dittany, C. B. Downy broad-leaved Cretan origanum, Tournefort.*
- Digitalis*, *fox-glove*; the leaves. *Purple fox-gloves, with rough leaves, C. B. R. synopsis.*
- Doronicum Romanum*, *Roman wolfs-bane*; the root. *Scorpion-rooted doronicum, Casparis Baubini.*
- Dracontium*, *dragons*; the herb. *Many-leaved dragons, Casp. Baubini.*
- Dulcamara*, *bitter-sweet*; the root and plant. *Solanum lignosum. Woody nightshade. Climbing solanum, or bitter-sweet, C. Baubini.*
- Ebulus*, *dwarf-elder*; the herb, root and bark. *Chamaeæte. Dane-wort, Wall-wort. Low elder, or ebulus, Raii synopsis.*
- Elemi*, the resin †.

Elemi,

† The true dittany of Crete is a kind of origanum, said to grow plentifully in the island of Crete or Candy, in Dalmatia, and in the Morea. The leaves, which are the only part of this plant in use with us, come from Italy. The best sort are well covered over with a thick, white down, sometimes intermixed with purplish flowers: they somewhat resemble lemon-thyme in smell and taste, but have more of an aromatic flavour, as well as a greater degree of pungency. When fresh, they yield a considerable quantity of an excellent essential oil.

‡ Elemi, improperly gum elemi, is a soft, resinous, concrete juice, brought to us from the Spanish West Indies, in long, roundish cakes. It is somewhat transparent, of a whitish yellow colour inclining to green, of a strong, not unpleasant smell, said to exude from a tree of the olive kind, upon being wounded. Distilled with water in

the

- Endivia, *endive*; the root, herb and seed. Garden broad-leaved or common endive, C. B. Scarriola, Intybus.
- Enula campana, *elecampane*; the root. Helenium. Common elecampane, C. Baubini. The largest aster, Tournef.
- Erigerum, *groundsel*; the herb. Senecio, Small common groundsel, Casp. Baub.
- Eruca, *rocket*; the seeds. The white broad-leaved garden rocket of Dioscorides, Casparis Baubini.
- Eryngium, *eryngo*; the root. Sea eryngo, Casparis Baubini.
- Erysimum, *bedge-mustard*; the herb. Common erysimum, Casparis Baubini. The rocket with a hairy pod close to the stalk called erysimum, Raii syn.
- Efula major, *greater spurge*; the root. Shrubby marsh titbyma, Casp. Baubini.
- Efula minor, *smaller spurge*; the root. Pityusa. Pine-leaved spurge, perhaps that of Dioscorides, Casparis Baubini.
- Eupatorium cannabinum, *bemp-agrimony*; the plant. Commonly called eupatorium Avicennæ. The eupatorium of Avicenna, water-bemp, water-agrimony.
- Euphorbium; the gummy resin ^w.

Euphra-

the common manner, it yields a large portion of pale-coloured, thin, fragrant, essential oil, there remaining behind in the still a resinous substance friable when cold. This elegant balsam is rarely made use of but in external applications, although, from its fragranciness and the large quantity of oil which it contains, it should seem preferable to some others which are at present held in greater esteem.

^w Euphorbium is a gummy-resinous concrete, which exudes from a tall shrub, that grows in the remotest parts of Africa. It is brought to us immediately from Barbary, in drops of an irregular form,

- Euphrasia, *eye-bright*; the herb. *Euphrasia. The eye-bright of the shops, C. B.*
- Faba, *beans*; the flowers and seeds.
- Ficus, *the fig-tree*; its fruit, called *caricæ* or *figs*. *The dried fruit of the common fig-tree, C. Baub.*
- Filipendula, *dropwort*; the root.
- Filix florida, *flowering fern*; the root. *Branched unindented fern, C. B. Osmunda regalis. Osmund royal.*
- Filix mas, *male fern*; the root. *Unbranched indented male fern, C. B. Raii synopsis.*
- Filix fœmina, *brakes*; the root. *The greater branched fern, with obtuse pinnulæ, not indented, C. B. Raii syn.*
- Fœniculum dulce, *sweet fennel*; the seed ^{*}.

Fœni-

form, some of which, upon being broken, are found to contain little thorns, small twigs, flowers, and other vegetable matters: others are hollow, fistulous, without containing any thing in their cavity. The tears in general are of a pale yellow colour externally, somewhat white within-side: they break between the fingers easily, but are extremely troublesome to pulverize; for the powder affects the head in a most violent manner. The best sort of euphorbium has a sharp, biting taste, upon being slightly applied to the tongue; and upon being held for some time in the mouth, proves most violently acrimonious, enflaming and soon exulcerating the fauces, &c. The acrimony of this drug is so very great, as to render it absolutely unfit for any internal use: several correctors have been invented to abate its virulence; but the best of them are not to be trusted to; and as there seems to be no real occasion for it, we think, with Hoffmann and others, that it should be expunged from the catalogue of the *Materia Medica*.

* Forty eight ounces of sweet fennel seeds yield about an ounce of oil, of a far more agreeable smell than that of common fennel: it

- Fœniculum vulgare, *common fennel*; the herb, seeds *and* root. *Common fennel of Germany, Casparis Baubini.*
- Fœnum Græcum, *fenu-greek*; the seed. *Garden fenugreek, Casparis Baubini.*
- Fragaria, *strawberry bush*; the plant *and* fruit.
- Fraxinella, *white or bastard dittany*; the root. *Dictamnus albus. Common white dittany or fraxinella, Casparis Baubini.*
- Fraxinus, *the ash-tree*; its bark *and* seeds. *The common great ash, Park. Raii synops.*
- Fuligo ligni, *wood-foot*.
- Fumaria, *fumitory*; the herb. *The first not bulbous fumitory, or that of the shops, Casp. Baubini, Common purple fumitory, Gerard.*
- Galanga minor, *lesser galangal*; the root ^y.
- Galbanum; the gummy resin ^z.

Galega,

it congeals in the cold, like oil of anniseed, and assumes a beautiful crystalline appearance.

^y The lesser galangal is a knotty, jointed root, brought from China, cut in short pieces, scarce an inch long, and not half so thick, of a brownish red coat, pale red colour within, having several circular rings on the outside, of a hot, bitterish, aromatic, biting taste, like pepper, and a fragrant, aromatic smell.

^z Galbanum is a concrete juice, said to exude either naturally from a kind of ferula, or to ooze from wounds made in the plant for this purpose. It is a semi-pellucid, soft, tenacious substance, between a resin and a gum, but partaking much more of the nature of the latter than of the former, of a strong, and to some unpleasant smell, and a bitterish, warm taste. The large masses of the better sort are brought from Syria; they are of a whitish colour, inclining to yellow; upon opening them, they appear to be composed of clear, white tears, and should be chosen free from the impurities

Galega, <i>goats rue</i> ; the herb.	<i>Ruta capraria</i> . Common <i>goats rue</i> , <i>Casp.</i> <i>Baubini</i> .
Gallæ, <i>galls</i> .	
Gallium, <i>ladies bed-straw</i> ; the herb.	<i>Yellow ladies bed-straw</i> , <i>Casp.</i> <i>Baubini</i> .
Gambogia, <i>gamboge</i> ; the gummy-refin ^a .	<i>Cambugio</i> , called by some the <i>golden yellow purge</i> , <i>Park.</i> <i>Gutta gamba</i> .

Genista,

of sand, earth, or vegetable matters. There is another sort, of a darker colour brought from the East Indies, which is not near so good as the former. *Geoffroy* relates, that a dark greenish oil is to be obtained from this simple by distillation, which, upon repeated rectifications, becomes of an elegant sky-blue colour. The purer sorts of galbanum are said by some to dissolve entirely in wine, vinegar, and water ; but these liquors are only partial menstrua with regard to this juice ; nor do spirit of wine, or oil, prove more effectual in this respect : the best dissolvent is a mixture of two parts spirit of wine, and one of water.

^a Gamboge is a hard, concrete juice, brought to us from the East Indies, in large cakes, or rolls. The best sort is of a deep yellow or orange colour, breaks shining, and free from dross : it has no smell, and very little taste, unless kept in the mouth for some time, when it impresses a slight sense of acrimony. Gamboge readily takes fire, and burns in a bright flame, at the same time emitting a copious smoke. It immediately communicates to spirit of wine a bright golden colour, and almost entirely dissolves in it, *Geoffroy* says except the sixth part. Boiled with water, it flows into a turbid, yellowish liquor, but soon almost entirely precipitates, leaving the liquor colourless. Alkaline salts enable water to act upon this substance powerfully as a menstruum : the solution made by their means is somewhat transparent, of a deep blood colour, and passes the filter. The sweet spirit of sal ammoniac readily and entirely dissolves gamboge, and takes up a considerable quantity of it if pure : And what is pretty remarkable, this solution mixes either with water or spirit, without growing turbid. Gamboge is a most violent purgative : *Hoffman*, and some others, condemn it as an unsafe medicine, while others are of a contrary opinion, and greatly commend its use. *Geoffroy* says,

D

that

- Genista, *broom*; the herb, flowers and seeds. *The common angular-stalked broom, Casp. Baubini.*
- Gentiana, *gentian*; the root. *Greater yellow gentian, Casp. Baubini.*
- Geranium *batrachoides*, *cranes-bill*; the herb.
- Geranium *Robertianum*, *herb Robert*; the herb. *Herb Robert of the wall, J. Baubini.*
- Glaſtum, *wood*; the plant. *Ifatis. Manured or broad-leaved ifatis, C. Baub.*
- Glycyrrhiza, *liquorice*; the root ^b.
- Grana paradisi, *grains of paradise*; the seed. *Cardamomum maximum.*
- Gramen caninum, *dogs-grass*; the root. *Field dogs-grass, or that of Dioscorides, C. B. Couch-grass, or quick-grass.*

Granata

that such as know how to time and exhibit this medicine, find great conveniency and advantage in its use, as it has no smell, and very little taste; its dose is exceeding small, rarely amounting to ten grains; its operation quick and powerful, though not violent, evacuating viscid tenacious juices both upwards and downwards. It wants no corrector, if given in a liquid form, and sufficiently diluted. Taken in a bolus or pill, it is apt to prove emetic; but very rarely has this effect, if joined along with mercurius dulcis. See several forms of exhibiting this drug in *Geoff. Mat. Med. tom. ii. p. 686.*

^b The powder of this root, of which considerable use is made in medicine, is often mingled with flower, and I fear too frequently with ingredients not quite so wholesome. The best sort is of a brownish yellow colour, (the fine pale yellow being generally sophisticated) and of a very rich sweet taste, much more agreeable than that of the green root.—The extract of liquorice is rarely to be met with in the shops, in perfection: the makers of this commodity, both at home and abroad, are either very slovenly in its preparation, or designedly mix it with sand and other impurities. This extract, when made with due care, is exceedingly sweet, not at all bitterish or nauseous; but more agreeable in taste than the root itself; it entirely dissolves in water, without depositing any feces.

- Granata malus, *pomegranate-tree*; the fruit, and its rind called malicorium.
- Granata fylvestris, *the wild pomegranate-tree*; its flowers, called balaustines.
- Gratiola, *hedge-hyssop*; the herb.
- Guaiacum; the wood, bark and gum.
- Hedera arborea, *the ivy-tree*; its leaves, berries and gum.
- Hedera terrestris, *ground-ivy*; the herb.
- Helleborus albus, *white hellebore*; the roots.
- Helleborus niger, *black hellebore*; the roots.
- Helxine, *pellitory of the wall*; the herb.
- Hepatica nobilis, *noble liverwort*; the herb.
- Hepatica terrestris, *ground liverwort*; the herb.
- Herba Paris, *herb Paris, true-love, or one berry*; the herb and fruit.
- Hermodyctylus, *hermodactyl*; the root.
- Herniaria, *rupture-wort*; the herb.
- Punica malus. *The manured pomegranate-tree, Casparis Baubini.*
- Balaustium.
- Hedge-hyssop with centaury-leaves, Casparis Baubini.*
- Lignum vitæ. The first American guaiacum, with fruit of the maple-tree, or the true guaiacum; Breyn. Prodrom. The common climbing berry-bearing ivy-tree, Raii syn.*
- Chamæcissus. Aleboof. Common ground-ivy, C. B.*
- Veratrum album. *Greenish-flowered white hellebore, Casparis Baubini.*
- Veratrum nigrum, *Melampodium. Rosy-flowered black hellebore, C. B.*
- Parietaria. *The parietaria of the shops and Dioscorides, Casparis Baubini.*
- Trifolium aureum. *Single-flowered hepatic trifolium, Casp. Baubini.*
- Lichen. *Stone lichen or water hepatica, C. B.*
- Four-leaved berry-bearing solanum, Casp. Baubini.*
- The dried root of colchicum, Casparis Baubini.*
- Lesser polygonum, or greater millegrana, C. Baubini.*

- Hippoglossum, *horse-tongue*; the herb. *Biflingua. Alexandrian bay, with the fruit growing on a pedicle, C. B.*
- Hippofelinum, *alexanders*; the herb, root and seed. *Smyrnum. The hippofelinum of Theophrastus, or smyrnum of Dioscorides, Caspar. Baubini.*
- Hordeum, *barley*; the seed. *Distichon by Pliny, because it has two rows of grains in an ear, C. B.*
- Horminum fativum, *garden clary*; the herb and seed. *Sclarea. The horminum called sclarea, C. B.*
- Hydrolapathum, *water-dock*; the root. *The great water-dock of the shops, and Casp. Baub.*
- Hyoscyamus albus, *white henbane*; the seeds. *The greater white henbane, Casp. Baubini.*
- Hyoscyamus niger, *black henbane*; the leaves. *Common black henbane, Raii synopsis.*
- Hypericum, *St. Johns wort*; the herb, flowers and seeds. *Common hypericum, Casparis Baubini.*
- Hypocistis, *hypocistis*; the inspissated juice ^c. *The inspissated juice of the (hypocistis sub cisto) undergrowth or excrescence of the cistus, C. Baub.*
- Hyssopus, *hyssop*; the herb. *Blue or spiked hyssop of the shops, C. B.*
- Jacobæa, *rag-wort*; the herb. *Common cut-leaved ragwort, Casparis Baubini.*
- Jalappa, *jalap*; the root ^d.

Jasmi-

^c Hypocistis is an inspissated, shining black juice, of a rough, styptic, and fourish taste. It should be chosen free from grit, of a full black colour, and not at all burnt. It greatly resembles the juice of acacia.

^d Jalap is the root of a sort of convolvulus growing in America. It is brought over to us cut into transverse slices; which should be chosen dry, dark-coloured, heavy, close, full of resin, hard, not brittle nor pliable. Mr. Boulduc obtained from twelve ounces of this

- Jasminum, *jasmine*; the *Common white-flowered jas-*
flower. *mine, C. B.*
- Iberis, *sciatica-cresses*; the *Sciatica-cresses with broader*
herb and seed. *leaves, C. B.*
- Imperatoria, *masterwort*; *Magiftrantia, astringia.*
the root.
- Ipecacuanha; the root^c. *The many - berried Brazilian*
herb Paris, Raii hist.

Iris

this root, by the means of spirit of wine, two ounces of resin; and from the remainder, by water, four ounces of a very solid extract: from another parcel of the same root he obtained six ounces and a half of extract, by applying water at first. The remarks of this gentleman in general upon this kind of purgatives, are, that the resinous parts exhibited apart from the mucilaginous ones, occasion great disorders, without proving sufficiently purgative, while, on the other hand, the extract made with water alone purged gently, and was at the same time diuretic.—Jalap is esteemed as an excellent purgative in cold phlegmatic constitutions. Several attempts have been made to correct its supposed virulence. Some have recommended hot aromatic oils for this purpose, which, as *M. Geoffroy* rightly observes, abate the purgative quality of this drug, and by their heat endanger an inflammation of the bowels. Alkaline salts, or soaps, are the best correctors of resinous purgatives; for they prevent the adhesion of the resin to the coats of the intestines, and at the same time promote the intended operation. But jalap, if judiciously timed and dosed, needs little assistance of this kind: it may indeed be triturated with equal its weight of dry loaf sugar, and thus be better fitted for common use. *Hoffman, Simon Paulli*, and some of the more eminent physicians, restrain the dose of this root to twenty-four grains: a scruple, if the jalap be good, is, as *Geoffroy* observes, a sufficient dose for most constitutions. See several excellent remarks on this drug in *Geoff. Mat. Med. tom. ii. p. 81.*

^c This root, with respect to the places from which it is brought is of two sorts, Peruvian and Brazilian; but the eye distinguishes three sorts, ash-coloured or grey, brown and white. The grey, or Peruvian, ipecacoanha, is that usually preferred in the shops, and shall only be taken notice of here: it is a small, wrinkled root, bent and contorted into all manner of figures, brought over in short

Iris Florentina, *Florence orris*, C. B.
ris; the root. *White Florence orris*, C. B.
Iris Illyrica.

Iris

pieces, full of wrinkles, and deep circular fissures, quite down to a small white fibre or nerve, which runs in the middle of each piece: the cortical part is compact, brittle, and looks smooth and resinous upon breaking: it has very little smell, and a bitterish subacid taste. *Geoffroy* relates, that the powder of this root is so acrimonious, that it is apt to affect the person who reduces it to powder, without a great deal of precaution, in an extraordinary manner. At first, it occasions a difficult respiration, spitting of blood, or an hæmorrhage from the nose, with an inflammation and swelling of the eyes, face and throat; which symptoms go off of themselves in a few days, or are immediately relieved by venæsection. The decoction of this root in water is so mucilaginous and viscid, as not to pass through a cloth, unless forcibly expressed.

Eight ounces of good ipecacoanha yield about ten drams of resin; and from the same quantity of the root may be obtained, by boiling it in water, three ounces and a half of a gummy extract. The resinous extract acts as a powerful emetic, but the gummy has little effect this way, though it is of almost equal service in dysenteries with the root itself, while the other is of no use in these cases. From these experiments *Geoffroy* concludes, that the chief virtue of ipecacoanha depends upon its gummy substance, which lining the intestines with a soft mucilage, when their mucus has been abraded, occasions their exulcerations to heal, and defends them from the acrimony of the juices; and that the resinous part, in which the emetic quality resides, is required, when the morbid matter is lodged in the glands of the stomach and intestines. However he prefers the root in substance to any of its preparations; and says, that he has found ten grains of the powder to act as effectually as one or two scruples, and therefore confines the dose of this medicine between six and ten grains. With regard to preventing relapses in dysenteries, this celebrated author informs us, that after he had sufficiently purged and vomited his patient with ipecacoanha, he exhibited every day a few grains divided into several doses, so as to occasion no sensible evacuation, and that by this method, the cure was established.

Iris nostras purpurea, <i>common purple flower-de-luce</i> ; the root.	<i>The common German or wild orris, Casp. Baubini.</i>
Juglans, <i>the walnut-tree</i> ; the fruit <i>and</i> its shell.	<i>Common walnut-tree, Casp. Baubini.</i>
Jujubæ, <i>jujubes</i> ; the fruit.	<i>The greater jujubes, C. B.</i>
Juniperus, <i>juniper</i> ; the berries, wood <i>and</i> gum.	<i>The common shrub juniper, C. B.</i>
Kali, <i>glass-wort</i> ; the herb, cineres clavellati <i>or</i> pot-ashes ^f .	
Labdanum; the resin ^g .	<i>The gum of the purple-leaved Cretan ladaniferous cistus, Tourn. Corollar. inst.</i>

Lacca,

blished. See *Geoff. Mat. Med. tom. ii. p. 89. Phil. Trans. N^o. 410. Baddams abr. vol. viii. p. 494.* The analysis of ipecacanha is to be seen in the *Mem. de l'Acad. roy. an. 1700 & 1701.*

^f There are several kinds of potashes to be met with in the shops of the dry salter: they are rarely found, at least under this denomination, in those of the apothecary or druggist. The sort in greatest esteem in England is that brought from Russia; the best of which is a strong, tolerably clean, alkaline salt. But all these kinds of salts are greatly liable to abuse; particularly that sort, called, from its colour, pearl-ashes, which is by many esteemed the purest kind of all, but nevertheless has been found, upon examination, to contain a large portion of sea salt, lime, &c. Whatever kind is made choice of should be purified, and separated with great care, from all additional salts, which may have been mixed with it, either artfully or accidentally; the manner of doing which may be seen in *Pract. chem. p. 273.*

^g Labdanum, or ladanum, is a resinous substance of an agreeable smell, and lightly pungent, bitterish taste: it exudes upon the surface of the leaves of the ladaniferous cistus, a tree which grows plentifully in the island of Crete, and other places in the Archipelago. Bellonius describes the method of collecting it, which is perfectly agreeable to Tournefort's observation: The Greeks make use of a rake for this purpose, to which they fix belts or thongs of skins:

- Lacca, *lacca* ; the gummy-refin.
- Lactuca, *lettuce* ; the herb and feed. *Garden lettuce, C. B.*
- Lamium album, *white archangel* ; the herb and flowers. *The oblong-leaved not stinking white lamium, C. B. Dead nettle.*
- Lavendula vulgaris, *common lavender* ; the herb and flowers. *Lavendula latifolia.*
- Laureola, *spurge-laurel* ; the leaves and berries. *Green-flowered ever-green laurel, by some called the male, C. B.*
- Laurus vulgaris, *common bay-tree* ; the leaves and berries. *The greater broad-leaved bay, Parkinson, Common bay, C. B.*
- Lens vulgaris, *lentils* ; the feed.
- Lentiscus, *the mastich-tree* ; the wood, and resin called mastich ^h. *Common lentiscus, Casparis Baubini.*

Lapidium,

these they gently apply, in the extremest hot weather, to the twigs of the cytus, in such a manner as to take up the unctuous juice that exudes, which is afterwards scraped off with knives. There are two sorts of this drug in the shops: the best, which is difficultly to be met with, is in dark-coloured, almost black masses, of the consistence of a soft plaister, which grows still softer upon being handled: this, if perfectly good, entirely dissolves in spirit of wine, throws out sparkles in burning, and emits a copious smoke and very agreeable smell. The other sort is harder, not so dark-coloured, in long rolls coiled up; this is of a much weaker smell than the first sort, and is mixed with sand, which, according to some writers *, is in so large a proportion as to make up three fourths of the mass.

^h Mastich is a dry, brittle, transparent, white or pale yellow coloured resin, which exudes from a tree of the turpentine kind, grow-

* *Geoff. Mat. Med. tom. ii. p. 542.*

- Lepidium, *dittander*; the herb. *Piperitis. Pepperwort. Broad-leaved lepidium, C. B.*
- Levisticum, *lovage*; the root and feed. *Ligusticum. Common lovage, C. B.*
- Lichen cinereus terrestris, *ash-coloured ground liverwort*; the herbⁱ.
- Lilium album, *white lily*; the root and flowers. *The common white lily with upright flowers, C. B.*
- Lilium convallium, *lily of the valley*; the roots and flowers. *White conval lily, C. B.*
- Limonia malus, *lemon-tree*; the fruit and its rind. *Sour lemons, C. B.*

Linaria,

ing in several places in Turkey, and in the isle of Chio, and brought to us in tears or small lumps, from Smyrna and Aleppo. Mastich easily softens with heat, or upon being chewed in the mouth, when it grows tough, and white like wax. Thrown on coals, it readily flames, and yields a pretty strong, but not disagreeable, smell. It dissolves almost entirely in rectified spirit of wine: the solution is not clear, but has a whitish cast, and tastes extremely pungent, like the warmer resins. If a few of the whole tears are gently heated in water, they soon emit a strong smell, not unlike elemi, at length rise to the top of the water in distinct little round balls, which subside again upon the waters growing cold: the decoction has very little taste or smell.

ⁱ Mr. Ray was the first who gave a distinct account of this plant, reckoning it among the lichens. Dr. Dillenius has lately more exactly described it (*Hist. Musc.*) and put it into the tribe of the mosses, calling it *lichenoides digitatum cinereum lactucae foliis sinuosis*. The great Dr. Mead (from whose late elegant treatise of poisons we have extracted this remark) informs us, that this plant grows in all countries, and that it has been brought over from America along with the Peruvian bark; that it is to be found at all times, but ought to be gathered from autumn to winter, as being at that time in its freshest vigour. It is a warm diuretic, of a disagreeable and nauseous taste, but remarkable for its virtue in the cure of the bite of a mad dog.

Linaria, <i>toad-flax</i> ; the herb.	<i>Common yellow large-flowered toad-flax, C. B.</i>
Lingua cervina, <i>harts-tongue</i> ; the herb.	<i>Scolopendrium, phyllitis. The harts-tongue of the shops, C. B.</i>
Linum vulgare, <i>common flax</i> ; the seed.	<i>Manured flax, C. B.</i>
Linum catharticum, <i>purg-ing flax</i> ; the herb.	<i>Meadow wild-flax, with very small flowers, C. B.</i>
Liquidambra, <i>liquid-amber</i> ; the resin ^k .	
Lithospermum, <i>gromwell</i> ; the seed.	<i>Milium folis. The greater upright gromwell, C. B.</i>
Lotus urbana, <i>sweet trefoil</i> ; the herb and seed.	<i>Garden sweet trefoil, Casp. Bauhini.</i>
Lupinus, <i>lupin</i> ; the seed.	<i>White-flowered manured lupin, C. B.</i>
Lupulus, <i>hops</i> ; the leaves.	<i>The first, or male, and second, or female hops, C. B.</i>
Macis, <i>mace</i> .	<i>The inward bark of the fruit of the the nutmeg-tree.</i>
Majorana, <i>marjoram</i> ; the herb.	<i>Common marjoram, C. Bauh.</i>
Malabathrum, <i>Indian leaf</i> ; the leaves ^l .	<i>Sampfuchus, Amaracus. The leaf of the cinnamon-tree, Casparis Bauhini.</i>

Malva

¹ Liquid amber is a resinous juice which flows from a large tree, described by Mr. Ray *, growing in New Spain, Virginia, and South America. This juice, which is at first of the consistence of turpentine, but by keeping grows hard like resin, is of a yellow colour inclining to red, of a hot aromatic taste, and fragrant smell, not unlike that of storax, heightened with a little ambergrease.

^m The Indian leaf is of a greenish colour, firm texture, very smooth on one side, less so on the other, on which run three remarkable ribs through its whole length, These leaves have little or no smell till they are well rubbed, when they emit an agreeable spicy

* *Hist. plant. p. 99.*

- Malva vulgaris*, common mal-
lows; the herb, flowers
and seeds. *The wild mallow with a sinu-
ated leaf, C. Baubini.*
- Malus hortenſis*, apple-tree;
the fruit.
- Malus ſylveſtris*, crab-tree;
the fruit. *Red and white crab-apples,
Caſparis Baubini.*
- Mandragora*, mandrake; the
leaves. *Mandrake, with a round
fruit, C. Baub.*
- Manna; an inſpiffated
juice^m.

Mar-

odour: they taſte likewise faintly, ſomewhat like cloves. The tree which furniſhes theſe leaves is ſaid to grow in the mountainous parts of the province of Malabar in the Eaſt Indies, and to be ſomewhat like the cinnamon-tree. Mr. Miller * could diſtinguiſh but very little difference, either in ſhape, colour, ſmell or taſte, between the Indian leaf, and the leaves of the true cinnamon. This drug is of no farther uſe than as an article in the mithridate and theriaca; and is, when in its utmoſt perfection, vaſtly inferior to mace, which the college of London allow to be uſed as a ſuccedaneum to it.

^m There are ſeveral ſorts of manna in the ſhops: the larger pieces called flake manna are uſually preferred; but the ſmaller tears or grains are equally as good, provided they are white, or of a pale yellow colour, very light, of a ſweet but not unpleaſant taſte, and free from dirt and other viſible impurities. Manna, while freſh, is ſomewhat transparent, and upon breaking is found to contain a kind of ſyrupy juice. Some people injudiciously prefer the fat, honey-like manna to the foregoing. This latter has either been expoſed to a moiſt air, or been damaged by ſea or other water. Some of this kind of manna is ſaid to be a compoſition of ſugar and honey, mixed with a little ſcammony: this ſort ſometimes purges more violently than the other. There is another ſort of factitious manna, which is white and dry, and is ſaid to be compoſed of ſugar, manna, and probably ſome purgative ingredient, boiled to a proper conſiſtence: this may be diſtinguiſhed from the genuine manna by its

* *Botanic. officin.* p. 202.

weight,

- Marrubium album, *white borebound*; the herb. Prassium. *Common borebound*, C. B.
- Marum vulgare, *herb mastich*; the herb. Sampsucus or marum *smelling of mastich*, C. B. Marjoram-leaved Spanish thymbra, *Tourn.*
- Marum Syriacum, *Syrian mastich-thyme*; the herb. Cortusian marum, *J. B.* The hoary shrubby sea ground-pine, with lanceolated leaves, C. B.
- Matricaria, *featherfew*; the herb and flowers. Parthenium. *The first or common featherfew*, *Raii synopsis.*
- Mechoacanna, *mechoacan*; the rootⁿ. *The American convolvulus called mechoacan.* R. *hist.*
- Melilotus, *melilot*; the herb and flowers.
- Melissa, *balm*; the herb. *Garden balm*, C. B.
- Melo, *melon*; the seed. *The common melon*, C. B.

Mentha,

weight, solidity, untransparent whiteness, and by its taste, which is different from that of manna. If the reader desires further satisfaction with regard to this article, he is referred to *Geoff. Mat. Med. tom. ii. p. 581.*

ⁿ Mechoacan, is the root of a plant of the convolvulus kind, brought to us from the province of Mechoacan in South America: it grows likewise in many other parts of America; and in great abundance, according to Mr. *Savary*, in the island of St. Domingo. The best sort of this root is in compact, white slices, having a rough bark, and its internal substance equable, without any appearance of fibres. It has a sweetish taste, with a small degree of acrimony. Slices of bryony-root are said to be mixed with those of mechoacan, but the former may be easily distinguished from the latter by their bitter taste and fungous appearance. This root is rarely to be met with in the shops, the paler kinds of jalap being sold for it; but jalap is a far stronger purgative than this. Mr. *Geoffroy* is of opinion, that mechoacan is one of the safest and best purgatives; and *Hoffman* orders from the quantity of half a dram to a dram of it to be given to boys.

- Mentha fativa*, garden mint ; the herb. *Narrow-leaved spiked mint, C. Bauhini.*
- Menthastrum*, horse-mint ; the herb. *Long-leaved wild mint, Casp. Bauhini.*
- Mercurialis mas & fæmina*, male and female French mercury ; the herb. *The testiculated or male, and the spiked or female mercury of Dioscorides and Pliny, C. B.*
- Mespilus* ; the medlar-tree ; its fruit.
- Meum*, spignel ; the root. *The first or dill-leaved spignell, C. B.*
- Mezereon*, spurge - olive ; the root, bark and berries. *Chamaelea. Spurge - flax or the dwarf-bay, Ger. The laureola, with deciduous leaves and purple flowers, called in the shops, female laureola, C. B.*
- Milium*, millet ; the feed. *Millet with white or yellow grains, C. B.*
- Millefolium*, milfoil or yarrow ; the herb. *Common white-flowered yarrow, C. B.*
- Morsus diaboli*, devils-bit ; the herb and root. *Succisa. Smooth succisa, C. B. Whole - leaved scabious, Tournef. The scabious with its root cut short, and globular flowers, Raii syn. The mulberry with black fruit, C. B.*
- Morus*, the mulberry-tree ; the bark of the roots and the fruit.
- Myrobalani citrini*, &c. citrine or yellow, &c. *Myrobalans* ; the fruit.
- Myrrha*, myrrh ; the gummy-refin °.

Myrrhis,

° Myrrh is a gummy-resinous concrete juice, which is brought to us from the East Indies, in glebes, or drops, of various colours and

Myrrhis, <i>sweet cicely</i> ; the herb and seed.	<i>Great chervil, or sweet cicutaria, C. B.</i>
Myrtus, <i>the myrtle-tree</i> ; its berries.	<i>The common Italian myrtle, C. B.</i>
Nardus Celtica, <i>Celtic nard</i> ; the root.	<i>The Celtic nard of Dioscorides, C. B. Celtic valerian, Tourn.</i>

Nardus

magnitudes. The best sort is of a brown or reddish yellow colour, somewhat transparent, not hard to pulverise, though this last circumstance differs according to the age of the myrrh; the fresher, the more viscous and tough the myrrh is. The taste of this excellent drug is somewhat acrid and bitter, and a little aromatic, though not sufficiently so to prevent its proving nauseous to the palate: it has a strong smell, which is not disagreeable. Myrrh catches flame, and burns, like a resin, but does not dissolve in oily substances, nor does it entirely dissolve, like a gum, in water. Rectified spirit of wine extracts its resinous part, in which consists all its aromatic flavour, and leaves a gummy substance, which has very little taste or smell: *Geoffroy* * relates, that tartarized spirit of wine, or sweet spirit of sal ammoniac, entirely dissolve it, but this does not succeed upon trial. Some gentlemen have lately observed, that boiling water dissolves myrrh freely, and while boiling hot, keeps it almost entirely suspended; but when the water grows cold, about one third or less subsides, much the greater part remaining united with the cold water: if this solution be evaporated to the consistence of an extract, it will again dissolve in water, but will not give so much as a tincture to spirit: spirit will take up great part of what precipitates from water, the rest seeming to be dross. I have oftentimes made an excellent and fragrant tincture of myrrh, by grossly pulverising some of the fresher and purer sorts, and then exposing it to the action of a dry air, in a shady place; when it was again pulverised, and exposed, as before, for a longer time, and then a pure rectified spirit poured upon it, which soon extracted, without the assistance of any heat, a deep-coloured tincture, containing in a very eminent degree the fragrant smell and bitter aromatic taste of the myrrh †.

* *Mat. Med. tom. ii. p. 638.*

† *Practical Chemistry, p. 322.*

- Nardus Indica, *spikenard*; the root. Spica nardi. *Indian nard, or the spike, spikenard and Indian spike of the shops, Casp. Baub.*
- Nasturtium aquaticum, *water-cresses*; the herb. *Creeping water-cresses, C. B. Water sisymbrium, Tourn.*
- Nasturtium hortense, *garden cresses*, the herb and feed. *Common garden cresses, C. B.*
- Nepeta, *catmint*; the herb. Mentha cataria. *Common great catmint, C. B.*
- Nephriticum lignum; the wood.
- Nicotiana, *tobacco*; the leaves. Petum, *tabacum*. *The greater broad-leaved tobacco, C. Baubini.*
- Nigella, *fennel-flower*; the feed. Gith. *Nigella with a small, single, white flower, C. B.*
- Nummularia, *moneywort*; the herb.
- Nux moschata, *nutmeg*; the fruit ^p. Nux myristica, *Pala Rumph. Herb. Amboin. Nutmeg with round fruit, C. B.*

Nux

^p Nutmegs are the kernel of a roundish nut which grows in the East Indies. The outside covering of this fruit is soft and fleshy, like that of a walnut, and spontaneously opens when the nut grows ripe; immediately under this lies the mace, which forms a kind of reticular covering, through the fissures whereof appears a hard, woody shell that includes the nutmeg. These kernels are of an oval figure, about half an inch long, full of irregular wrinkles and of an ash colour: they are at first soft; but being dried by keeping, grow hard, and appear inwardly variegated with yellowish or dark reddish veins, of a pleasant spicy smell, and an agreeable, aromatic, bitterish, and somewhat astringent taste. The nutmeg when in perfection yields a considerable portion of essential oil. From sixteen ounces of nutmegs, *Geoffroy* obtained one ounce of oil; after the distillation, a fat, unctuous matter was found swimming on the water, like tal-

low,

- Nux pistachia, *pistachio nut*; the fruit. *The foreign pistachio nut, with the fruit growing in clusters, or the Indian terebinthus of Theophrastus, Casp. Bauhini.*
- Nymphæa alba, *white water-lily*; the root and flower. *The common great white water-lily, Casparis Baub. Nenuphar.*
- Ocimum, *basil*; the herb.
- Olea, *the olive-tree*; its fruit, ripe and unripe oil, *with the dregs thereof.* *The manured olive-tree, Casp. Baubini.*
- Olibanum; the resin. *Thus masculum. The frankincense-tree, C. B.*
- Ononis, *rest-barrow*; the root. *Anonis, Aresta bovis. Prickly purple-flowered anonis, C. B.*
- Ophioglossum, *adders-tongue*; the herb. *The first or ordinary adders-tongue, Casparis Baub.*

Opium

low, almost entirely destitute of all aromatic virtue. The same quantity of nutmegs yielded, on expression, three ounces and a quarter of an oil of a sebaceous consistence, greatly resembling the nutmegs both in taste and smell.

There is another sort of nutmeg, called the female, which is of a longish and almost cylindrical form, and somewhat aromatic taste and smell; but this is not in use in the shops.

Nutmegs have long been used as a medicine, and are deservedly looked upon as a warm and agreeable aromatic. They are supposed likewise to have an astringent virtue, and are made use of in that intention in diarrhœas and dysenteries. Their astringency is said to be promoted by torrefaction, but this does not appear to the taste. This treatment certainly deprives the spice of some of its finer oil, and therefore renders it less efficacious to any good purpose; and if we may reason from analogy, probably abates of its astringency. *Geoffroy* relates from *Bontius*, that too liberal a use of preserved nutmegs is apt to produce lethargic disorders, hurts the stomach and disposes to inflammations.

Opium; the gummy-resin ^a .	
Origanum vulgare, common origanum; the herb.	<i>Wild origanum, the cumila bubula of Pliny, C. Baub. Wild marjoram.</i>
Orobus, bitter vetch; the feed.	<i>Ervum. Orobus with great seeds in jointed pods, C. B.</i>
Oryza, rice; the feed.	
Oxylapathum, sharp-pointed dock; the root.	<i>Lapathum acutum. Wild dock, with flat sharp-pointed leaves, C. B.</i>

^a Opium is a solid but softish resinous gum, of a dark, reddish-brown colour, a hot bitter taste, and strong smell, brought from the Levant and East-Indies, in irregular cakes of different sizes, from four ounces to a pound and upwards in weight, and covered with leaves and other vegetable matters. This celebrated drug is prepared from the milky juice, which issues from incisions made in white poppy heads, by exposing it for some time to the open air, in which it acquires the colour and consistence above mentioned.

Opium consists of five parts of gum, four of resin, and three of earth. Water, wine, vinegar and brandy, in the proportion of twelve parts of the menstruum to one of opium, take four or five days for the solution without heat; but in the proportion of eight to one, ten or twelve days; alcohol requires a month: proof spirits entirely dissolve it: the residuum of a solution in cold water contains nothing that boiling water can extract. Sixteen ounces of opium*, yielded forty-two drams, six grains of phlegm; one dram, fifty-eight grains of volatile salt; sixteen drams of oil: the caput mortuum afforded two drams, eighteen grains of fixed alkaline salt; two drams twenty five grains of earth remaining: nineteen drams, fifty six grains were lost in the distillation; and forty-three drams, seventeen grains consumed in the calcination. Eight ounces of opium being fermented and then distilled, yielded about three ounces of weak spirit, the flavour of which was different from that of opium: the resinous residuum was full as much as if the opium had not been fermented, and retained a little smell, but the extract made with water had nothing of it.

* *Medical essays abr. vol. I. p. 132.*

Palma, *palm-tree*; the oil^r. *The palm-tree, with prickly pedicles of the leaves, and yellow, oily, plum-like fruit, Catal. plant. Jamaica.*

Panax Heracleum, *Hercules's all-heal*; its gum called Opoponax^r.

Pa-

^r Palm oil is a thick, unctuous substance, of the consistence of an ointment, of an orange colour, and a fragrant smell, obtained from the kernel of the fruit of a kind of palm-tree, which grows in Africa, particularly at Senega. Authors differ as to the manner of extracting this oil; some affirm it to be got by simple expression, in the same manner that oil of almonds, olives, &c. are procured: But others, of greater authority, and with a greater shew of probability*, alledge, that it is obtained by infusion in hot water; and that the oily matter rises to the surface, whence it is skimmed off.

The inhabitants are said to make this oil part of their food; and to employ it for the same purposes as we do butter: but with us, it is rarely given inwardly, and is used only in some external applications. The common people apply it to the cure of chilblains, and when early made use of, not without success. This oil, by keeping, loses its high colour, and becomes white; when it ought to be rejected, as no longer fit for use.

^r Opopanax is a gummy-resinous juice, sometimes to be met with in round drops or tears, but usually in irregular lumps, which are 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 particular strong smell, and a bitterish, nauseous taste.

A small piece of opopanax put upon a red hot iron, emits a copious, white, strong-smelling fume, and at length becomes red hot, without at all melting. It is not easily made to flame, burns languidly, and soon goes out, leaving a considerable portion of black ashes. The purer pieces, boiled in rectified spirit of wine, impart to it a golden colour: the tincture smells strongly, and dropt into

* *Dalæi Pharmacol. p. 269.*

- Panicum, *panic*; the feed. *German or small-headed panic, C. Baubini.*
- Papaver album, *white poppy*; the heads, feeds and flowers. *Garden poppy with white seed, C. B.*
- Papaver nigrum, *black poppy*; the heads, feeds and leaves. *Garden poppy, with black seed, C. B.*
- Papaver rhœas, *wild poppy, or corn-rose*; the flowers. *Papaver erraticum. The greater wild poppy, C. B.*
- Paralysis, *cowslip*; the flowers.
- Pareira brava; the root^s. *Butua.*

water turns it of a milky colour, as if this juice contained more oil than could be expected from the manner of its burning. Opopanax, boiled in water, affords a yellow decoction of a bitter, nauseous taste. The purer pieces contain a considerable quantity of a soft, light, spongy, whitish matter (some of it is in flakes) which neither water nor spirit dissolve. This, probably, is part of the root of the plant, from which this juice is extracted.

^s Pareira brava is a hard, woody, crooked root, of a dark colour on the outside, and marked with various wrinkles, which run as well longitudinally as circularly. Its internal substance is of a dull yellowish colour, and interwoven with woody fibres; so that upon a transverse section a number of concentric circles appear, crossed with fibres, which run from the center to the circumference. This root has no smell, a little bitterish taste, blended with a sweetness, like that of liquorice. Some of the roots are no bigger than ones finger, others as big as a child's arm.

The Portugueze and Brasilians extravagantly cry up the medicinal virtues of this root. Mr. *Geoffroy**, from whom we have taken the above description, says, that in nephritic complaints, where the urine was stop'd by viscid mucus, he had oftentimes exhibited this root with great advantage, and in such cases always found it a powerful diuretic. His dose of the root in substance is from twelve grains to half a dram, and in decoction two or three drams.

* *Mat. Med. tom. ii. p. 22.*

- Pastinaca hortensis*, garden
parsnep; the seed.
- Pastinaca sylvestris*, wild
parsnep; the seed. *Broad-leaved wild parsnep,*
Casparis Bauhini.
- Pastinaca aquatica*, water
parsnep; the herb. *Sium. Broad-leaved sium,*
C. B. The great broad-
leaved water parsnep, Ger.
- Pentaphyllum*, cinquefoil;
the root. *Quinquefolium. The greater*
creeping cinquefoil, C. B.
- Pepo*, pompkin; the seed. *The great round rough-leaved*
pompkin, with a yellow
flower, Casp. Baub.
- Perfica malus*, the peach-
tree; its flowers and fruit.
- Perficaria mitis*, dead arf-
mart; the herb. *Spotted and unspotted mild*
arsmart, C. B.
- Perficaria urens*, hot or bit-
ing arsmart; the herb. *Hydropiper. Hot arsmart or*
water-pepper, C. B.
- Petasitis*, butter-bur; the
root.
- Petrofelinum Macedoni-*
cum, Macedonian par-
sley; the seed. *Apium of Macedonia, C. B.*
- Petrofelinum vulgare*, com-
mon parsley; the root,
herb and seed. *Apium hortense. Garden*
apium, or common parsley,
Casparis Bauhini.
- Peucedanum*, bogs-fennel;
the root. *Sulphur-wort. German peu-*
cedanum, C. B.
- Pimpinella fanguiforba*, bur-
net; the herb. *Lesser burnet, C. B.*
- Pimpinella saxifraga*, bur-
net saxifrage; the root,
herb and seed. *The lesser saxifrage with bur-*
net leaves, Raii synopsis.
The second greater trago-
selinum, Tournefort. Or,
The lesser burnet saxifrage,
Casparis Bauhini. The
lesser tragofelinum, Tourn.
- Pinus*, the pine-tree; its
fruit and resin.

- Piper album, *white pepper* ; Ripe black pepper blanched.
the fruit †.
- Piper longum, *long pepper* ; Oriental long pepper, C. B.
the fruit †. Cattu-tirpali, Hort. Malabar.
- Piper nigrum, *black pepper* ; Black pepper of the shops ; mo-
the fruit †. lago-codi, Hort. Malabar.

E 3

Pruna

† White pepper is universally allowed to be only the black pepper decorticated by maceration in water, and then gently dried ; but it is extremely probable, that the black pepper is cured before it is quite ripe, and the white not till it is fully so ; and hence may arise the difference usually perceived between the two.

There is likewise another sort of pepper, which is naturally white and grows upon much the same kind of plant as the former. But this is rarely to be met with in the shops.

‡ Long pepper is the unripe fruit of a tree, brought to us from the East Indies, about an inch, or an inch and a half in length, of a cylindrical figure, resembling the catkins of the birch-tree ; its external surface appears composed of numerous minute grains, disposed in a very particular manner, which *Geoffroy* * has described with great exactness ; its internal part is divided into several small cells, each of which contains a roundish seed, outwardly of a blackish colour, inwardly whitish : the whole is of a hot, biting, bitterish taste. Long pepper should be chosen fresh, entire, weighty, hard to break, sound, and free from dust and other impurities.

‡ Black pepper is a round, hollow grain, about the size of a small pea, covered over with a black or dark coloured, wrinkled bark ; which being taken off, a somewhat hard, compact substance appears, the external surface whereof is of a greenish yellow colour ; the internal (which bounds the hollow part of the fruit) of a whitish colour ; of a hot, acrid taste, burning the mouth and fauces. It should be chosen large, weighty, as little wrinkled as possible, and free from dust. This is the only spice we import directly from the East Indies, all the others coming through the hands of the Dutch.

Geoffroy relates, that thirty-six ounces of well chosen black pepper, being macerated in water for six days, and afterwards distilled, yield-

ed

* *Mat. Med. tom. ii. p. 380.*

Piper Jamaicense, *Jamaica* Pimenta,
pepper; the fruit ^y.

Pisum, *peas*; the seed.

Pix liquida, *tar*.

—Sicca, *navalis*, *pitch*.

—Burgundica, *Burgun-* Pix Græca.
dy pitch.

Plantago latifolia, *common*
broad-leaved plantain; the
leaves *and* seed.

Pœonia mas & fœmina, *male*
and female pœony; the
root, flowers *and* seed.

The male pœony, with a shin-
ing blackish leaf, C. Bauh.
The female pœony with a
great full red flower, Casp.
Bauh.

Polium montanum, *poley*
mountain; the herb.

The narrow-leaved Cretan
polium, C. B. or

The upright sea polium of
Montpelier, C. B.

ed one dram of a thin, limpid, aromatic oil, which smelt strongly of pepper, was of a hot biting taste, but not so acrimonious as might have been expected: this oil floated on the water which came over with it: the water smelt very strong of pepper, and tasted remarkably hot.—Spirit of wine seems entirely to extract all the pungency and heat of this spice; so that a few drops of a tincture made with it (which is of a dark brown colour) sets the mouth as it were in a flame.

^y Pimento is the fruit of a tree which grows in great plenty in Jamaica. It is of a fragrant, aromatic smell, resembling a mixture of cinnamon, cloves and nutmegs. This spice yields, on distillation with water, a considerable portion of a pleasant, essential oil, which, like those obtained from the eastern spices, sinks in water, and deserves to be introduced as a succedaneum to them, for the great price of these oils subjects them so much to adulteration, that they are rarely to be met with in any tolerable degree of purity or perfection.

- Polypodium quernum, *polypody of the oak*; the root. *Common polypody of the oak, Casp. Baubini.*
- Polytrichum, *English maid-en-hair*; the plant. *Trichomanes. The trichomanes or polytrichum of the shops, Casparis Bauh.*
- Populus nigra, *black poplar*; the buds.
- Porrum, *the garden leek*; its root.
- Portulaca, *purslain*; the herb and feed. *Broad-leaved manured purslain, Casp. Baubini.*
- Primula veris, *primrose*; the herb and root. *The great wild single-flowered verbasculum, C. B.*
- Prunella, *self-heal*; the plant. *Brunella. The great whole-leaved self-heal, C. B.*
- Pruna Damascena, *Damask prunes*; the fruit.
- Prunus Gallica, *French or common prunes*; the fruit.
- Prunus sylvestris, *sloe-bush*; the inspissated juice of its fruit, called German acacia.
- Psyllium, *flea-wort*; the feed. *The greater upright flea-wort, Casp. Baubini.*
- Ptarmica, *sneeze-wort*; the root. *Meadow dracunculus with serrated leaves, C. B.*
- Pulegium vulgare, *penny-royal*; the herb. *Broad-leaved penny-royal, C. Baubini. Water mint, or common penny-royal, Tournefort.*
- Pulegium cervinum, *barts penny-royal*; the herb. *Narrow-leaved penny-royal, Casparis Bauhini.*
- Pulmonaria maculosa, *spotted lung-wort*; the herb. *Spotted comfry or lungwort, Casparis Bauhini.*
- Pyrethrum, *pellitory of Spain*; the root. *Daisy-flowered pyrethrum, C. Bauhini.*
- Quercus, *oak*; the buds, bark, acorns and cups. *The common oak with fruit on long pedicles, C. B.*

- Raphanus ruficandus, *horse-radish*; the root.
- Rapum, *turnep*; the root and feed.
- Resina alba, *white resin*.
- Rhabarbarum verum, *true rhubarb*; the root^z. *The true rhubarb of the shops.*
Rheum.
- Rhamnus catharticus, *buckthorn*; the berries. *Spina cervina.*
- Rhaponticum, *rhapontic*; the root. *The rha or rheum of Dioscorides, with large smooth dock-like leaves, C. B.*
- Rhodium, *rose-wood*; the wood^a. *Aspalathus odore roseo.*

Ribesia,

^z The druggists distinguish three sorts of rhubarb in the shops, which they name from the places they are brought from. We shall only take notice of that which is in greatest esteem: this root is in middle-sized, compact, roundish pieces, solid, but not flinty or hard, of a yellow colour on the outside, on chewing does not prove mucilaginous or clammy, is of an astringent and somewhat bitterish taste, and an aromatic, not disagreeable odour. When broke, it appears variegated like a nutmeg, with lively reddish streaks, spread transversely across the root. This sort is easily reduced to powder, which is of a fine, bright yellow colour, and instantly communicates a high saffron tinge to water.

Geoffroy relates, that from two ounces of rhubarb was obtained, by means of water, one ounce and twelve grains of a gummy extract; and from the same quantity, digested with spirit of wine, scarce three drams of extract. He likewise makes a pretty singular remark, that the resinous extract easily dissolves in water, which he attributes to a large quantity of fixed alkaline salt that he supposes in it. But as there does not appear any experiment, or foundation, from which the actual existence of an alkaline salt in this root can be proved, this solution is not satisfactory, especially as it may be accounted for in another way.

^a Rhodium is a solid, resinous wood, or root, brought from the Canary islands, in long, crooked pieces, full of knots, which, when cut

- Ribesia, *red currant-bush*; the fruit.
- Rosa Damascena, *Damask roses*; the flowers. Rosa pallida. *The pale rose.*
- Rosa rubra, *red roses*; the flowers.
- Rosmarinus, *rosemary*; the leaves, and flowers called anthos. *The narrow-leaved garden rosemary, C. B.*
- Rubia tinctorum, *madder*; the roots^b. *Manured madder, C. Baub.*

Rhubus

cut, appear of a yellow colour like box, with a red cast; of a bitterish taste, and a fragrant smell, resembling roses. This root is at present only in esteem, upon account of the essential oil which it yields in distillation, and which is employed as a high and agreeable perfume in scenting pomatums, &c. But if we may reason from analogy, this odoriferous simple might be advantageously employed to nobler purposes: a tincture of it made with rectified spirit of wine is of an elegant colour, and contains in a small volume the virtue of a considerable deal of the root; and therefore bids fair to prove a serviceable cordial, not inferior, perhaps, to any thing of this kind.

^b Madder is an oblong, slender, juicy root, of a red colour, both externally and internally, of an astringent sweet taste, mixed with a little bitterness; it has little or no smell.

In the *Philosophical Transactions* *, we have an account of a remarkable effect of this root: several hogs, which had fed for some time on bran, that had been employed for scouring callicoes died red by an infusion of madder, had all their bones, particularly the teeth, changed to a deep red colour; but neither the fleshy nor cartilaginous parts suffered the least alteration: on sawing several of the bones through, all the internal part was found equally tinged, except at the ends where the substance was more spongy. Some of these bones being macerated in water for many weeks together, and afterwards steeped and boiled in spirits, lost none of their colour, nor communicated any tinge to the liquors in which they were infused.

* Numb. 442. p. 287.

- Rubus vulgaris ; *the bramble-bush* ; its leaves and fruit. *The common bramble, or bramble with black fruit, C. Baubini.*
- Rufcus, *butchers - broom* ; the root. *Brufcus. Knee holm, called oxymyrfine by some, Raii synopf.*
- Ruta hortensis, *garden rue* ; the herb and seed. *The broad-leaved garden rue, Casp. Baubini.*
- Sabina, *savin* ; the leaves. *The tamarisk-leaved savin of Dioscorides, C. B.*
- Saccharum album, rubrum & candum ; *white and brown sugar, and sugar-candy* ; the inspissated juices. *The inspissated juice of the arundo saccharifera, Casp. Baubini, or sugar cane ; refined, unrefined, and crystallized.*
- Sagapenum ; the gummy-refin^c.

But as several other substances, which the dyers use in staining calicoes, might have contributed to this effect ; a cock † was fed with madder-root mixed with fig-duft. He died in sixteen days : on examining the bones, they were found all over of a red colour.

^c Sagapenum is a concrete juice ; according to *Geoffroy*, betwixt a gum and a resin ; but it should seem to have more of the nature of the former than of the latter. It is brought to us from Alexandria, either in distinct tears, or run together in large masses. This drug is outwardly of a yellowish colour, internally somewhat paler and clear like horn, grows soft upon being handled, and sticks to the fingers, tastes hot and biting, and has a disagreeable smell ; by some resembled to that of a leek, by others to a mixture of *assa fœtida* and *galbanum*.

Sagapenum readily takes flame from a candle, and is resolved by decoction with water, into a turbid white liquor ; the purer and paler-coloured tears scarcely alter the colour of spirit of wine, though boiled along with it ; nevertheless they impart to it a considerable deal of oily matter, as appears from its smell, taste, and turning white upon the admixture of water. When sagapenum is scarce, the druggists supply its place with *bdellium* broke into small pieces, as has been already observed under the article *bdellium*.

† *Phil. Transf. Numb. 443. p. 299.*

Sago.

Salvia hortensis major, *common sage*; the herb and flowers.

Salvia hortensis minor; *small sage, or sage of virtue*; the herb.

Salvia sylvestris, *wood-sage*; the herb.

Sambucus vulgaris, *the common elder - tree*; its leaves, flowers, berries and bark.

Sanguis draconis, *dragons blood*; the resin ^d.

Sanicula, *sanicle*; the herb.

Santalum album, *white saunders*; the wood ^e.

Santalum citrinum, *yellow saunders*; the wood ^e.

Elder with black fruit, C. B.

Diapensia. The sanicle of the shops, C. B.

Santa-

^d There are several sorts of this commodity in the shops; but we shall take notice of that alone which is esteemed the purest and best, as it is the only one that should be made use of in medicine. This sort is brought to us from the East-Indies, in oval drops, wrapt up in flags; or in large masses, which are evidently composed of smaller tears. The writers on the *Materia Medica* have, in general, given the preference to the first; but we have seen them both of equal goodness.

Fine dragons blood is a pure, clean, resinous substance, breaking smooth, free from any dirt or sand, without smell or taste, of a dark red colour, which turns to an elegant bright crimson upon being reduced to fine powder. It is not at all acted upon by watery liquors; but totally dissolves in spirit of wine, gives a red colour and hot pungent taste to oils, readily melts on a red hot iron, catches flame, and yields, as *Geoffroy* rightly observes, an acid fume, not much unlike that of benzoine.

^e The white and yellow saunders are the wood of a tree which grows

Santalum rubrum, *red saunders*; the wood ^f.

Santonicum, *worm-feed*; the feed.

Alexandrian santonicum, Casp. Baubini.

Sapo albus Hispanicus, *white Spanish soap*.

Sapo niger; *black soap*.

Melanofmegma.

Sarcocolla, the gummy-resin ^g.

Saponaria, *soapwort*; the herb and root.

Bruisewort. Common smooth saponaria, Casp. Baubini. The lycmis, called saponaria, Raii syn.

grows in China and Siam: the white is the outward part next to the bark, and the yellow the internal. Both sorts have a bitterish, aromatic taste, an agreeable kind of pungency, and a fragrant smell, which, *Geoffroy* thinks, somewhat resembles a mixture of musk and roses: but the yellow possesses these qualities in a more eminent degree than the white. Yellow saunders, digested in spirit of wine, yields a rich yellow tincture, which, by a gentle abstraction of the menstruum, affords a balsam approaching, in colour and consistence, to balsam of Peru. *Hoffman* says *, that this essence, or balsam, of yellow saunders is a medicine of similar virtue to ambergrease, and recommends it as a restorative in great debilities.

^f Red saunders is the internal part of a tree, which grows in the East-Indies, in Malabar and Cormandel. It is a solid, compact, heavy wood, of a dark red colour, which it readily communicates to spirit of wine, but not to water. *Hoffman* † obtained from this wood a resin of a deep red colour, which had no perceptible taste or smell: a small quantity of this resin tinged a large one of spirit, but gave no colour either to expressed or distilled oils.

^g Sarcocolla is a gummy juice, somewhat resinous, said to be the produce of a tree, of which we have no certain account. It is brought from Persia and Arabia, in small whitish yellow grains, with a few of a reddish colour mixed among them. It is of a bitterish and nauseous sweet taste, and dissolves, in a good measure, in water.

* *Observat. chymico-phys. lib. i. obs. 19.*

† *Ibid. obs. 20.*

Sarsaparilla ; the root ^h .	<i>Aspera Perucana</i> or <i>sarsaparilla</i> , <i>Casparis Baubini</i> .
Sassafras ; the wood and bark ⁱ .	<i>The fig-leaved tree from Florida</i> , <i>Casparis Baub.</i>
Satureia, <i>savoury</i> ; the herb.	<i>Garden savoury</i> .
Satyrium, <i>male satyrium</i> ; the root.	<i>Male spotted-leaved fool-stones, or orchis</i> , <i>Casparis Baubini</i> . <i>Cynorchis</i> , <i>Morio mas</i> , <i>R. synopsis</i> .
<i>Saxifraga alba</i> , <i>white saxifrage</i> ; the herb and seed.	<i>Round-leaved white saxifrage</i> , <i>Casparis Baubini</i> .
<i>Saxifraga vulgaris</i> , <i>meadow saxifrage</i> ; the herb and seed.	<i>Seseli pratense</i> .
<i>Scabiosa vulgaris</i> , <i>common scabious</i> ; the herb.	<i>Hairy meadow scabious of the shops</i> , <i>C. Baub.</i>

^h Sarsaparilla, which is brought from New Spain, Peru and Brasil, consists of a great number of long slender roots, hanging from one head, or transverse root which is about an inch thick : the long roots (which are the parts alone made use of) are about the thickness of a goose quill or thicker, flexible, and composed of fibres running their whole length, so that the root may be stript into pieces from one end to the other ; they contain, under a thin, brownish, or ash-coloured bark, a white, soft, farinaceous substance ; have no smell, but a somewhat glutinous, bitterish, not ungrateful taste : the pith is woody, flexible, and not easily broken.

ⁱ Sassafras is a light, spongy wood, or root, brought from Virginia, Brasil, and other parts of America, in long, streight pieces, covered with a rough, fungous bark, outwardly of an ash colour, inwardly of the colour of rusty iron, of an acrid, sweetish, aromatic taste, and a fragrant smell.

The wood and bark of sassafras, being rasped and macerated with a large quantity of water, and then distilled, yields a limpid, extremely fragrant essential oil, which sinks in water, and is the heaviest of all essential oils. See a table of the specific gravity of oils in *Pract. Chem.* p. 258. n.

- Scammonium, *scammony*; *The true Syrian scammony,*
the gummy-refin^k. *Casparis Baubini.*
- Schoenanthus, *squinanth*; *Juncus odoratus.* Sweet
the plant with the flow- *rush.* *The sweet or spicy*
er^l. *rush, Casparis Baubini.*
- Scilla, *the squill, or sea oni-*
on; its root^m. *The white-rooted squill, C. B.*
Or the common squill with
a red root, C. B. Sea orni-
thogalum, Tourn.
- Scordium, *water-germander*;
the herb. *Scordium, C. B. The hoary*
marsh chamædrys, Tourn.
- Scorzonera, *vipers-grafs*;
the root. *Broad scorzonera with sinu-*
ated leaves, C. B.
- Scrophularia vulgaris, *fig-*
wort; the herb and root. *Knotted stinking scrophularia,*
Raii synopsis.
- Scrophularia aquatica ma-
jor, *greater water fig-*
wort; the leaves. *Betonica aquatica. Water-*
betony, Gerard. Greater
water-betony, Raii syn.

Se-

^k Scammony is a concrete juice, extracted from the root of a plant. The best sort, which comes from Aleppo, is light, spongy, tender, free from stones and other impurities, of an ash-colour inclining to black, when powdered of a light grey or white colour, of a bitterish, somewhat acrimonious taste, and a faint, unpleasent smell. *Geoffroy* relates, that from six ounces of scammony were obtained, by means of spirit of wine, five ounces of resin.

^l *Schoenanthus* is a dry, smooth stalk, in shape and colour somewhat resembling a barley straw, full of a fungous pith, brought to us along with the leaves, and sometimes the flowers (which are of a red carnation colour) from Turkey, and Arabia, tied up in bundles about a foot long. The whole plant, when in perfection, is of a hot, bitterish, aromatic, not unpleasent taste; and a very fragrant smell.

^m The squill, or sea onion, is a large, roundish root, composed of a great number of coats inclosing one another, with several fibres at the bottom, of an acrid, bitter taste. It should be chosen plump, sound, fresh, full of a bitter, acrid, clammy juice, free from worms, and not at all carious.

It

Sebesten; <i>sebesten plum</i> ;	<i>Myxa. The domestic sebesten,</i> <i>Casparis Baubini.</i>
Secale, <i>rie</i> ; the feed.	<i>Winter or great rie, Casp.</i> <i>Baubini.</i>
<i>Sedum majus, greater house-</i> <i>leek</i> ; the herb.	<i>Sempervivum majus. Com-</i> <i>mon sedum, C. B.</i>
Seneka; the root ⁿ .	<i>Senegaw rattle-snake-root.</i>

It has been a received opinion, as Mr. *Savary* observes in his *Dictionnaire de Commerce*, that the heart of the squill was of a poisonous nature, and therefore great care has been usually taken to separate it from the rest *: but experience shews the folly of this opinion: the internal part of the squill is generally the most efficacious, as being fullest of juice, and best preserved from the injuries of the weather and other accidents.

Powder of squills, given from four to twelve grains, has been found of great service in the cure of asthma; and its efficacy in this disorder may be seen attested by several physicians, in the *Commerc. literar. Norimberg* †. Dr. *Wagner* ‡ recommends this powder, given along with nitre, in hydropical swellings, and in the nephritis; and mentions several cures, which he performed by giving from four to ten grains of it, mixed with a double quantity of nitre: he says, it almost always operates as a diuretic, and sometimes vomits or purges.

ⁿ This root is not at present much known in the shops. The Indians are said to prevent the otherwise fatal effects, which follow the bite of the rattle snake, by giving it internally, and applying it to the wound. It is likewise said to have been of extraordinary service in the rheumatism, and other disorders arising from a viscosity of the blood ||. Mess. *Lemery, Hamel, and Jussieu* vouch for its good effects in pleurisies and other inflammatory disorders. See *Mem. de l'acad. roy. des scienc. pour l'ann. 1739*.

* *On estime le cœur de ces sortes d'oignons un poison dangereux; & l'on a grand soin de l'oter avant que de s'en servir.*

† *Comm. lit. Norimb. 1737. hebd. 14. §. 2. & hebd. 15, §. 2. and 1739. hebd. 34.*

‡ *Clinical observations.*

|| *Med. Ess. Edinb. abridged, vol. ii. p. 465.*

- Senna Alexandrina, *Alexandrian senna*; the leaves^o. *Alexandrian or sharp-leaved senna, Casp. Baubini.*
- Serpentaria Virginiana, *Virginian snake-root*; the root.
- Serpyllum, *mother of thyme*; the herb. *The ordinary smaller mother of thyme, Casparis Baub.*
- Sesamum, *the oily purging grain*; the seed.
- Seseli Massiliense, *the seseli or hartwort of Marseilles*; the seed.

^f Sena is a small, dry, sharp-pointed leaf, of a yellowish green colour, of a somewhat grateful smell, and a subacid, bitterish, nauseous taste. There are three kinds of it sometimes to be met with in the shops: the best comes from Alexandria, and is the sort described above: this should be chosen fresh, well-scented, of a lively yellowish green colour, soft to the touch, with whole leaves, not bruised nor spotted, cleared from the larger stalks, and such like impurities. The stalks of senna used to be thrown away; but they have been found to be near as purgative as the leaves.

Senna infused in water, communicates to it a deep colour: by evaporating the menstruum, an extract is obtained, which, according to *Geoffroy* *, is extremely acrimonious, and when exsiccated, readily takes fire.

Several attempts have been made to correct the griping quality of senna; but most of them seem to have been founded upon wrong principles. *Mr. Geoffroy* † observes, that the purgative virtue of this drug depends upon a gummy and resinous substance, which proves more or less irritating, according as the volume is greater or less in which it is given, and as it is more or less divided by such matters as take off its adhesive quality. Hence infusions of senna in a small quantity of fluid, or its extract, gripe severely, and purge less than when diluted with a larger quantity of suitable menstruum, or when divided by fixed alkaline salts, oily substances, or the like.

* *Mat. Med. tom. ii. p. 268.*

† *Ibid. p. 269.*

- Sigillum Salomonis, *Solomons seal*; the root.
- Siler montanum, *ser mountain*; the seed.
- Sinapi, *mustard*; the seed.
- Solanum vulgare, *common nightshade*; the herb and berries.
- Solanum lethale, *deadly nightshade*; the herb.
- Sophia chirurgorum, *flixweed*; the seed.
- Sorbus fylvestris, *wild service-tree*; the bark.
- Spica vulgaris, *common spike, or narrow-leaved lavender*; the herb.
- Spina alba, *the white or haw-thorn*; its flowers and leaves.
- Spongia, *sponge*.
- Staphysagria, *staves-acre*; the seed.
- Stœchas Arabica, *Arabian stœchas*; the flowers.
- Styrax calamita; the resin^p.
- Polygonatum. *The common broad-leaved polygonatum, Casparis Baub.*
- Sefeli vulgare. *Ligusticum or sefeli of the shops, C. B. Ser-mountain of Liguria, Park.*
- The first berry-bearing solanum, or that of the shops, Casparis Baubini.*
- Solanum, bearing a black-berry, C. Baub.*
- The species of erysimum called sophia, R. syn.*
- The smallage-leaved wild medlar-tree, without thorns, or sorbus torminalis, C. B. Raii synopsis.*
- Lavendula angustifolia.
- Oxyacantha vulgaris. *The prickly smallage-leaved wild mespilus, or oxyacantha, C. B. Ordinary haw-thorn, R. syn.*
- Purple Stœchas, Casparis Baubini.*
- The resin of the quince-leaved styrax-tree, Casparis Baub.*
- Styrax

^p There are two kinds of solid storax in the shops: the one is called *storax in the cane*; and the other *red storax*. The first is a solid, resinous substance, composed of white reddish grains, of a warm and not ungrateful taste, and of a most fragrant smell. This easily

Styrax liquida, *liquid storax*;
the resin ^q.

Suber, *the cork-tree*; its bark. *The ever-green broad-leaved cork-tree, C. Baub.*

Sumach; the seed. *Rhus obsoniorum. Elm-leaved rhus, C. Baub.*

Tacamahacca; the resin ^r.

Ta-

melts in the fire, and readily catches flame. It was formerly brought from Pamphilia, inclosed in reeds, from whence it had its name.

The *red storax*, or *storax in the lump*, is a concrete resinous substance, of a yellowish-red or brownish colour, sometimes intersperfed with white grains, resembling in smell and taste the former storax. Of this sort there has been some lately to be met with in the shops, under the name of storax in the tear.

There is still another substance called in the shops storax, of a red colour, and an agreeable smell, much like the foregoing. This is manifestly composed of some kind of wood rasped into a coarse powder, and mixed up, probably, with some of the foregoing storax softened by art.

^q There are two kinds of liquid storax mentioned in authors. The first is a soft, resinous, grey-coloured substance, supposed to be compounded of storax, resin, oil and wine, beat up together, with water, into a proper consistence. The other is the juice of a tree, called by the Turks and Persians *cotter-mallos*, which grows in the island *Cobros* in the *Red-sea*: the makers of this commodity yearly clear off the bark of the tree, and boil it in sea water, to the consistence of bird-lime; then repeating the decoction, strain it from the powdered bark, and send it to *Mocca*: but this kind is rarely found among us. See *Petivers* account of this drug in the *Philosophical Transactions*, N^o. 313.

^r Tacamahacca is a solid resinous substance, brought from New Spain: it is said to be collected likewise in certain other provinces of America, and in the island of Madagafcar. There are two sorts of it to be sometimes met with. The best is called tacamahacca in shells: this is a concrete resin, somewhat unctuous and softish, of a pale yellowish or greenish colour, collected in a kind of shells made from the rind of certain fruits of the gourd kind, and covered over with

leaves:

- Tamarindus, *the tamarind*; its fruit. *The Arabian pod or tamarind, Casp. Baub.*
- Tamariscus, *the tamarisk-tree*; its bark and leaves. *The second fine-leaved, or French tamarisk, C. Baub. Parkinson.*
- Tanacetum, *tansy*; the leaves, flowers and seeds. *The common yellow tansy, C. Baubini.*
- Tapfus barbatus, *mullein*; the leaves. *Verbascum. The male yellow-flowered, broad-leaved verbascum, C. B. Common mullein, Raii synopsis.*
- Terebinthina communis, *common turpentine.* The liquid resin of the pine-tree.
- Terebinthina, Chia & Cypria, *turpentine of Chio and Cyprus.* The resin of the turpentine-tree.
- Terebinthina Argentoratensis, *Strasburg turpentine.* The liquid resin of the fir-tree.
- Terebinthina Veneta, *Venice turpentine.* The resin of the larch-tree.
- Thapsia, *deadly carrot*; the root. *Carrot-leaved thapsia, Casp. Baubini.*
- Thea, *tea*; the leaves.
- Thlaspi, *treacle-mustard*; the seed. *The field thlaspi, with broad pods, C. B. or, the field thlaspi with hoary vaccaria leaves, C. B.*
- Thus vulgare, *common frankincense.* The dried resin of the pine-tree.
- Thymus, *thyme*; the herb. *Common fine-leaved thyme, Casp. Baubini.*

leaves: its smell is exceeding fragrant and delightful, approaching to that of lavender and ambergrease; its taste, resinous and aromatic. This sort is very rarely to be met with: that commonly found in the shops is in semitransparent grains or glebes, of a whitish, yellowish, brownish or greenish colour, of a fragrant smell, approaching to that of the foregoing, but less grateful. Tacamahacca crumbles at first between the teeth, but when chewed a little, sticks together.

- Thymelæa, *spurge - olive*; the berries, called *grana Cnidia*. *Flax-leaved spurge-olive, C. Baubini.*
- Tilia, *lime or linden-tree*; its flowers. *The great-leaved female tilia, Casp. Baubini.*
- Tormentilla, *tormentil*; the root. *Setfoil. Wild tormentil, C. B. Common tormentil, R. f.*
- Tragacantha, *goats - thorn*; its gum, called *gum tragacanth, or dragant*[†]. *The gum of the goats-thorn, C. B. of the hoary Cretan goats-thorn, with a small flower streaked with purple lines, Tournefort.*
- Trifolium palustre, *marsh trefoil*; the leaves. *Trifolium fibrinum, paludosum.*
- Triticum, *wheat*; the seeds, bran and starch.
- Turpethum, *turbith*; the root. *Turbith. Creeping, marsh-mallow-leaved, or Indian turbith, C. Baubini.*
- Tuffilago, *colts-foot*; the herb and flowers. *Farfara. Common coltsfoot, Casp. Baubini.*
- Valeriana hortensis major, *greater garden valerian*; the root. *Garden valerian, the olustrum-leaved pbu of Dioscorides, Casp. Baub.*

[†] Tragacanth is a gummy concrete juice, which exudes, both spontaneously, and from wounds made in the trunk and branches of the plant above described, which grows in Crete, Asia and Greece. It is brought to us from Turkey, either drawn out into long vermicular pieces, and bent into a variety of shapes, or run together in lumps; of a white, yellowish, brownish or blackish colour, semitransparent, dry, yet somewhat soft to the touch, of very little taste or smell. It should be chosen white, resembling fish-glue, in small curled sprigs, free from any visible impurities.

Tragacanth neither dissolves in spirit or oils. Macerated in a small quantity of water, it forms a thick, mucilaginous juice, which does not perfectly dissolve in a larger.

- Valeriana sylvestris major ; greater wild valerian ; the root^s.
- Verberna, *vervain* ; the root and herb.
- Veronica mas, *male speedwell* ; the herb.
- Veronica fœmina, *fluellin*, *female speedwell* ; the herb.
- Vincetoxicum, *swallow-wort* ; the root.
- Viola martia, *March violet* ; the leaves, flowers and feeds.
- Virga aurea, *golden rod* ; the herb.
- Viscus quernus, *misseltoe* ; the wood and leaves.
- Phu. *The greater mountain wild valerian, Casparis Baubini. The greater narrow-leaved wild valerian, Morison. plant. umbellif. Common blue-flowered vervain, C. Baubini.*
- Betonica Pauli. *The most common creeping male veronica, C. Baubini.*
- Elatine. *Roundish-leaved veronica, C. B. The elatine of Dioscorides, Lobel. adv. The shaggy moneywort leaved corn linaria, Tourn.*
- Asclepias, *Hirundinaria. White-flowered asclepias, C. Baubini.*
- The sweet-scented purple-flowered single March violet, C. Baubini.*
- The fourth, or lesser serrated narrow leaved golden rod, C. Baubini.*
- Misseltoe with white berries, C. Baubini.*

^s The wild valerian is preferred by most people to the garden for medicinal purposes. Mr. Miller * is of opinion, that it was with the powder of the root of this sort of valerian, that *Columna* cured himself and others of the epilepsy, by giving the quantity of half a spoonful of it at a time. It has of late years come greatly into esteem, and is, at present, very much in use. Spirit of wine extracts from this root, even in the cold, a dark coloured tincture, which possesses the virtue of the valerian, in a very eminent degree. By infusing fresh parcels of the root in the spirit, a tincture may be obtained of any degree of strength,

* *Botan. officin. p. 448.*

Vitis vinifera, *the vine*; its leaves, sap; dried grapes or raisins, currants; wine, spirit of wine, vinegar, verjuice and tartar^t.

Ulmaria, *meadow-sweet*; the herb.

Ulmus, *the elm-tree*; its bark.

Urtica major vulgaris, *the greater common nettle*; the herb and seed.

Regina prati. *Queen of the meadow*. *Goats-beard with compact flowers*, R. *synops.*

The field-elm, *Casparis Bauhini*.

The first or greatest stinging nettle, *Casparis Baubini*. *The greater cluster-bearing perennial nettle*, R. *synops.*

Urtica

^t Tartar is the essential salt of wine, or of the juice of the grape, thrown off to the sides of the containing vessel, after the liquor has undergone a complete vinous fermentation. It appears of two different colours, white and red, according to the wine it is obtained from: the red sort is generally looked upon as less pure and more earthy than the white. Of either sort, such as is clean, solid, somewhat transparent, having its outside covered over with shining crystals, is preferable to such as is porous, opaque, drossy and less bright. This substance, though truly saline, is scarcely at all acted upon by cold water; and the crystals, or purified tartar, require twenty four times their weight of boiling water to dissolve in. The solutions of both the tartars pass the filter colourless, and shoot in the cold into white semitransparent crystals. All such earths as are soluble in vinegar, render tartar more readily soluble in water. Hence the refiners are said to use a saponaceous earth to promote its solution, which may occasion such an alteration, as to render the better sorts of white tartar preferable, on many occasions, to the common crystals, or cream, of tartar. Lime-water is an active menstruum with regard to these salts, and may be so managed as to dissolve half its own weight. Fixed alkaline salts, mixed with a small portion of water, are still more powerful dissolvents, and may be made

Urtica Romana, <i>Roman nettle</i> ; the herb and feed.	<i>The first nettle of Dioscorides, bearing little balls, including seed like linseed, C. Baub. Raii synopsis.</i>
Winteranus cortex, <i>Winters bark</i> ^u .	<i>The bark of the Magellanic bay-like-tree.</i>
Zedoaria, <i>zedoary</i> ; the root ^x .	<i>The long zedoary, C. Baub. Or the round zedoary, Casp. Baubini.</i>

to take up near three times their own quantity. Tartar exposed to the fire in close vessels, yields first an aqueous liquor, then a weak acid one, which is followed by a dark coloured empyreumatic oil: a light, spongy coal remains, which being burnt to ashes, affords a large portion of fixed alkaline salt. — Pure tartar, taken in a dose not exceeding an ounce, in fine powder, proves a gentle, though effectual purgative in many cases. Angelus Sala relates, that he was cured of an habitual colic, by purging himself, a few times, with two drams of this salt, although he had tried many other medicines to no purpose.

^u This is a thick bark, rolled up in pipes, externally of an ash-colour, soft, fungous, uneven, and full of clefts; inwardly solid, compact, of a rusty colour, of a hot, burning, aromatic taste, and a very fragrant smell. The tree which bears this bark, grows on the coasts of the Streights of Magellan, where it was first discovered, in the year 1567, by Capt. *William Winter*, from from it received its name. This bark has been for a long time confounded with canella alba, and generally reckoned to be the same: but *Parkinson* rightly observes, that the true Winters bark is larger, of a more cinnamon colour and pepper-like taste, than the canella alba.

^x Zedoary is a solid, compact root, of an ash-colour, of an aromatic, bitterish taste, and a light fragrant smell. The druggists distinguish two sorts of this root, the long zedoary and the round zedoary: but they differ from one another only in shape, and seem to be different parts of the same root. *Geoffroy* relates, that zedoary being distilled with common water, yields a thick essential oil, which concretes into a subtile kind of camphor.

Zingiberi, *ginger*; the *Ginger*, C. B. *Inschi*, vel
root ^y. *inschi kua*, Hort. Malab.

A N I M A L S.

Alce, *the elk*. Its hoofs.

Anas, *the duck*. Its fat.

Anguilla, *the eel*. Its liver.

Anier, *the goose*. Its fat and dung.

Aper, *the boar*. Its lard and teeth.

Apes, *bees*. Their bodies, honey ^a, white and yellow wax ^b, and their glue.

Aranæ, *spiders*. Their webs.

Astacus fluviatilis, *the river crab*. Its little stones, called crabs-eyes.

Bezoar

^y Ginger is a knotty, flattish root, of a somewhat fibrous substance, of a pale or yellowish colour, covered with a thin, dusky pellicle, which is usually taken off while it is fresh, before it is brought to us; of a hot, biting, aromatic taste, and fragrant smell. It is brought from China, and some of our own colonies in America: the former is of a less fibrous substance than the other, and is usually preferred. Ginger yields upon distillation a fiery, hot, essential oil, less grateful than the spice.

^a Bees-wax is a solid substance, obtained from the honey-comb after the honey is got out, by heating and pressing it between iron plates. The best sort has an agreeable smell, and a lively, bright, yellow colour. It is neither soluble in spirit of wine, nor in water: boiled in the first, it loses its yellow colour, becomes white, and of a softer consistence; but treated in the same manner with the latter, undergoes no change. Distilled in close vessels, it totally arises; and set on fire in the open air, entirely burns away, leaving no ashes behind.

^b Honey is a vegetable juice, obtained from the honey-comb, either

Bezoar occidentale & orientale, *oriental and occidental bezoar-stone.*

Bombyx, *the silk-worm.* Its bags and silk ^c.

Bufo, *the toad.*

Cancer, *the crab.* Its claws and shell.

Canis, *the dog.* Its excrement, called album græcum.

either by simply separating the combs, and then laying them flat upon a sieve, through which the honey spontaneously percolates; or by including the comb in canvas bags, and forcing the honey out strongly in a press. The first sort is esteemed the purest: the latter is found to contain a good deal of the matter of which the comb is formed, and sundry other impurities, which the violence of the press has probably mingled with it. There is another sort still inferior to the two abovementioned, obtained by heating the combs, before they are put into the press. The best sort of honey is white, thick, of an agreeable taste, and a very pleasant smell. Honey effervesces with alkaline salts, and readily dissolves in water or spirit. Exposed to a gentle heat, it grows thinner, and throws up a thick, viscid matter to the surface, which being skimmed off, leaves the honey more transparent and pure than before. Distilled in close vessels, it yields first an aqueous liquor slightly impregnated with the smell of the honey: from this *dew of honey*, as it is called, great expectations have been raised with regard to its medicinal virtues, but experience does not at all warrant the justness of this notion. This is followed by an empyreumatic oil, and leaves a small quantity of black matter at the bottom of the distilling vessel, which being burnt in the open air, yields an inconsiderable portion of ashes, in which, upon applying a magnet, some iron is found, but upon elixation with water, little or no fixed salt.

^c Sixteen ounces of a mixture of raw silk and silk worms bags, yielded, upon distillation, three ounces of volatile salt, which is a larger quantity than I have ever known to be obtained from any other animal substance.

Cantharides,

Cantharides, *Spanish flies* ^d.

Castor, *the beaver*. Its inguinal glands, called Castor ^e.

Cervus,

^d Cantharides are a fly, of a shining green colour, intermingled with somewhat of the blue, and a golden yellow; according to *Herman* * and *Dale* †, of an acrid highly caustic taste, while fresh. They are found adhering to certain kinds of trees, in the warmer climates of Spain, Italy and France, and sometimes in Germany. In bulk and colour, they differ considerably from each other: the largest, and most esteemed are brought from Italy: they are killed by the steam of vinegar, and then dried in the sun. Cantharides should be chosen large, fresh, dry, whole, and without dust: they are apt to rot upon keeping, and fall to powder, when they are good for nothing.

Cantharides boiled in spirit of wine for a considerable time, impart to it a yellow colour; this tincture has little or no taste, and not the least appearance of acrimony: the fly looks more beautiful after this treatment than before. Water extracts from cantharides a muddy yellowish tinge; but does not become, even after long boiling, sensibly saline to the taste, or possessed of any degree of pungency or acrimony: the fly loses considerably of its beautiful hue.

^e Castor is the inguinal glands of the beaver: they are of various shapes and sizes, covered with a thick pellicle, filled with an unctuous liquor, which grows hard on keeping, and is of an acrid, bitterish, nauseous taste, and a strong, fragrant, but not at all agreeable, smell. They should be chosen large, weighty, well fed, neither too dry nor too moist, of a brown colour, of a strong penetrating smell, and filled with a hard, brittle and friable substance, of a brownish red colour, interspersed with fine membranes and fibres exquisitely interwoven. There are several sorts of castor to be met with in the shops, which are named from the places whence they are brought. The best sort is the Russian, and is said to come from Siberia; this is in large, round, hard cods, and appears when cut, of a red liver-colour.

* *Cynos. Mat. Med. Part ii. p. 55.*

† *Pharmacolog. p. 358.*

Cervus, the stag. His horn, bone of his heart *and* marrow.

Cete, the whale. The fat of his brain called *sperma ceti*.

Cochinillæ, cochineal-flies.

Columba, the pigeon. Its dung *and* blood.

Elephas, the elephant. Its teeth, *or* ivory.

Equus, equa; the horse and mare. The dung, warts *and* milk.

Formicæ, ants. Their bodies *and* eggs.

An inferior sort is brought from Dantzick; this is generally fat and moist. The worst of all is that of New England, which is in longish, hard, and thin cods. Another sort is brought from Hudson's-bay, in shape somewhat resembling that of New England, but of a far better quality, of a very strong smell and taste, little inferior to the castor which comes from Dantzick. Castor boiled in water imparts a good deal of its smell to the vapour: The decoction tastes bitter and very nauseous, but with little or none at all of the flavour of the castor. Two ounces of rectified spirit of wine digested upon half a dram of fine Siberia castor, powdered and sifted, extracted a reddish tincture, which smelt and tasted pretty strong of the castor, but was not near so bitter and nauseous as the decoction above. Proof spirits extracted a lighter tincture than rectified, and which did not taste so strong as the other. The remainder, after the decoction was filtered off, being gently dried, appeared of a deeper colour than the castor, and had very little taste or smell, though it did not seem to be considerably diminished in quantity. The residue of the tincture made with proof spirit was of a lighter colour than the castor, had very little smell, and a slight bitterish taste. What remained after the the tincture made with rectified spirit, was of still lighter and brighter colour than this, seemed to have less smell, but plainly partook more of the nauseous, bitter taste remarked in the decoction made with water. Sweet spirit of sal ammoniac seems to be the best calculated menstruum for castor, from which it soon draws a deep tincture, and at the same time adds to its medical virtues.

- Gallina, *the hen*. The fat, skin of the gizzard, white, yolk and shell of the egg.
- Hircus, capra, *the he and she goat*. The blood, suet and milk.
- Homo, *man and woman*. The blood, urine, fat, milk, scull and mummy.
- Huso, *the Danube whale*. The glue, called ichthyocolla^f.
- Lepus, *the hare*. Its fur, gall, astragalus-bone and coagulum.
- Limaces terrestres, [Cochleæ terrestres] *garden snails*.
- Lucius, *the pike*. Its jaw-bone.
- Lumbrici terrestres, *earth-worms*.
- Manate, *the sea-cow*. The bone, or stone taken from its head.
- Margaritæ, *pearls*.
- Mater perlarum, *mother of pearl*. The shell.
- Millepedæ, [Aselli] *wood-lice*.
- Moschus, *musk*^g.

Ostrea,

^f Fish glue is a solid, gelatinous substance, obtained from certain large fish. It is brought to us from Muscovy, folded up in different forms. Such rolls, or cakes, as are composed of white, thin, transparent plates, which have no smell, and perfectly dissolve in water, are best.

^g Musk is a grumous, unctuous substance, not unlike clotted blood, of a rusty black colour, a somewhat acrid, bitter taste, of a fragrant grateful smell at a distance, but when smelt near to, very strong and disagreeable, unless weakened by the admixture of other substances: it is collected in a little bag, situated near the umbilical region of a particular kind of animal, described by *Tavernier*: the greatest number of these animals is met with in China, Tartary, and the Indies, The best sort of musk is in round, thin bladders, covered with short, brown hairs: the musk itself should be chosen dry, with a kind of unctuousness, of a dark colour, a strong smell, containing as few hard and black clots as possible, and which, if chewed, and rubbed with a knife on paper,

Ostrea, oysters. The shells.

Ovis

paper, looks smooth, bright, yellowish, and free from grittiness, which is probably owing to an admixture of gravel, sand, and other impurities. Musk when pure burns almost entirely away on a red hot iron, leaving behind it only a small portion of light greyish ashes: but this is no certain criterion, if it be adulterated with animal matters. If a small quantity of good musk be infused in spirit of wine in the cold for a few days, it imparts to the menstruum a deep-coloured, but not red, tinge: this being decanted off, fresh spirit poured on the remaining musk, extracts another tincture, but more slowly and much fainter than the former: the first tincture is of a faint, and no very pleasing odour, almost as if there was no musk in it; nevertheless a single drop of it communicates to a pint, or even a quart of sack, a rich musky scent*.

Musk has been for some time pretty much out of use as a medicine, on a supposition of its occasioning vapours, deliquiums, &c. in weak females, and persons of a sedentary life. But Mr. *Garcin* † conjectures, that if suitably managed, it would probably prove a remedy of great service, even against those very disorders which it has been supposed to occasion. For in Spain, Portugal, and the East-Indies, where the use of musk seems pretty well established, these disorders occur infinitely more seldom than with us.

How far the conjectures of Mr. *Garcin* were right, will appear from the account which Dr. *Wall*, an eminent physician at Worcester, has lately communicated to the world ‡ of some extraordinary effects of musk, in convulsive and other disorders, which have too often baffled the force of medicine. This gentleman observes, that the smell of perfumes is often of disservice, where the substance taken inwardly, and in considerable quantity, produces the happiest effects: that two persons, labouring under a subsultus tendinum, extreme anxiety and want of sleep, from the bite of a mad dog, by taking two doses of musk, each of which was

* *Boyles essay on the mechanical production of tastes and odours.*

† *Diët. de commerce.*

‡ *Phil. Transf. numb. 474.*

Ovis, *the sheep*. Its suet, greafe of its wool, oil of its feet, dung and milk.

Pavo, *the peacock*. Its dung.

Porcus, *fus, the hog or sow*. Its lard, astragalus-bone and dung.

Ranæ, *frogs*. Their spawn.

Scincus, *the skink*.

Scorpio, *the scorpion*.

Sepia, *cuttle-fish*. The bone, called *cuttle-bone*.

Taurus, vacca, bos, *the bull, cow, and ox*. Beef-suet, marrow, ox-gall, cows-milk, butter and neats-foot-oil.

Vipera, *the viper*. Its body and fat.

Zibethum, *civet*.

sixteen grains, were perfectly relieved from their complaints. He likewise observes, that convulsive hiccups, attended with the worst symptoms, were removed by a dose or two, of ten grains of musk: and that, in some cases, where this medicine could not, on account of strong convulsions, be administered to the patient through the mouth, it proved of excellent service when injected as a glyster. He likewise adds, that under the quantity of six grains, he never found much effect from it; but that given to ten grains and upwards, it never fails to produce a mild diaphoresis, without at all heating, or giving any uneasiness; that on the contrary, it eases pain, raises the spirits, and that after the sweat breaks out, the patient usually falls into a refreshing sleep; that he never met with any hysterical person, how averse soever to perfumes, but could take it in the form of a bolus, without inconvenience.———To this paper is annexed an account of some further extraordinary effects of musk, observed by another gentleman.

M I N E R A L S.

Ætites, the eagle-stone.

Alumen plumosum [Alumen scissile, Asbestos] a stone.

Alumen Romanum, *Roman alum.* A salt.

Alumen rupeum, *rock alum.* A salt ^a.

^a Alum is a salt, of a white or pale red colour, and a styptic taste, artificially prepared from a bituminous, mineral substance *. It dissolves in about twelve times its weight of water: the solution, being duly evaporated, shoots into semitransparent, octagonal crystals. Exposed to the fire, it easily liquefies, bubbles up in blisters, emits a copious phlegm, and then turns into a light, spongy, white mass; which, being urged with a great fire, yields a small quantity of an acid spirit, similar to that obtained from vitriol or sulphur. Solution of alum coagulates milk, changes the blue colour of syrup of violets into a purple, makes no alteration in solution of sublimate, and turns an infusion of galls turbid and whitish: solution of fixed alkaline salts mixed with it, precipitates a white, earthy substance, which is scarce fusible in the fire, and not at all soluble in water. Oftentimes an urinous smell arises upon the mixture of alum with alkaline salts; this is said to be owing to urine made use of in the preparation of alum; and that this never happens when Roman alum is employed, which is made without any addition of urine.

* *The method of making alum may be seen in Geoff. Mat. Med. tom. i. p. 135. Phil. Transf. n. 142. Baddams abridg. vol. ii. p. 120.*

Ambra grisea, *ambergrease*. A bitumen ^b.

Antimonium, [Stibium] *antimony*. A metallic mineral ^c.
Argen-

^b Ambergrease is a bituminous substance, of an ash colour, variegated like marble, here and there sprinkled with white spots. It is supposed to ouze out of the bowels of the earth, and to be condensed in the sea, where it is either found floating upon the surface, or is thrown upon the shores. The best sort of ambergrease is light, of a strong smell, and being pierced with a hot needle, yields a fat, odoriferous juice. It melts in the fire into a gold coloured substance, easily takes flame, and is totally soluble in spirit of wine and essential oils: with the first it concretes into a butyraceous substance; if the spirit be partly abstracted, the remainder turns to a white foliaceous matter, not unlike sperma ceti. Ambergrease, upon a chemical analysis, yields first a pellucid phlegm like the clearest water, then a brown spirit, afterwards an oil of a deeper colour, and at length, in a strong fire, a thick balsam: the oil and balsam have the same smell with those of common amber *. — This drug is looked upon as a high cordial; and esteemed of great use in some disorders of the head and nervous complaints. The orientals entertain a high opinion of its aphrodisiac virtues, and that the frequent use of it conduces to long life. The virtues of it as a medicine are not as yet well known; but from the notable effects which musk has been of late found to produce, it is extremely probable that this might prove a medicine of similar, though not equal, virtue.

^c Antimony is a ponderous mineral, consisting of long shining streaks or needles, and a dark lead-coloured substance. It is composed of two or three parts of sulphur, not at all different from the common sort, and one of a white, brittle, femimetallic substance. This mineral easily melts, and in a great fire proves totally volatile. Calcined with a moderate heat, and at length melted, it runs into a reddish glass, capable of giving a strong emetic quality to wine. Fused along with fixed alkaline salts, or boiled in a strong lixivium of them, the more sulphureous parts

* See Dr. Neumanns curious paper upon this subject, in *Phil. Trans.* N^o. 433, 434.

Argentum [Luna], *silver*. The metal.
 Arsenicum album [—factitium] *white arsenic* °. } Metallic
 Arsenicum flavum, [Auripigmentum^p] *yellow* } Sulphurs.
arsenic °.

Arse-

are first taken up, and at length the reguline in notable quantity. Regulus of antimony is soluble in the vitriolic acid, corroded by the nitrous, perfectly dissolved by aqua regia, and the concentrated acid of common salt, but not by vinegar, or the vegetable acids; though these latter extract enough from it to become powerfully emetic. Crude antimony, in powder, considered as a medicine, has no sensible effect; though perhaps this may be owing to the gross manner in which it is usually prepared; for I have seen notable effects from it when finely levigated. Many of the preparations of this mineral are most violently emetic, which yet by a slight alteration, or addition, lose their virulence, and become either gently purgative, or powerfully diaphoretic.

° White arsenic is a ponderous, hard, compact, solid, transparent, glassy substance, procured by subliming flowers of cobalt from a certain portion of pot-ashes. *Henckel* relates †, that it is sometimes, though exceeding rarely, found native in the earth, pure, clean, and of a snowy whiteness. White arsenic, exposed to the air, changes its transparency for an opaque milky colour. It is not inflammable; but entirely evaporates in the fire, in a white smoke, smelling like garlick. *Dr. Mead* * observes, that white arsenic is totally soluble in water: if one part of it be sufficiently boiled in fifteen parts of distilled or rain water, that it gives, upon evaporation, salts, of triangular planes, which unite into octoedral crystals: and that in these either beat to powder, or dissolved by boiling, metallic globules, resembling those of quicksilver, are plainly discoverable by the microscope.

¶ Yellow arsenic is prepared by subliming white arsenic, with

† *Pyritolog. oder Kieffs-historie, das zehnte capitel, p. 602.*

* *Mechanical account of poisons, edit. 3. p. 217.*

Arfenicum rubrum [Sandaracha Græcorum] *red arsenic*^r. A metallic sulphur.

AF-

the addition of a tenth part of sulphur. This is splendid, but not so transparent as the white, and not unlike a metallic yellow glass.

^r The red arsenic differs from the yellow only in this respect, a greater quantity of sulphur is added, together with a particular kind of red cobalt called *kupfer-nickel*.

^p Orpiment is a mineral substance, composed of small scales or leaves, like talk, said by some to be found in the mines of gold, silver and copper; by others in particular mines and veins in Greece and Hungary, unmixed with any other mineral. It is of three different colours, of a bright, shining, golden colour, a vermilion red, intermixed with a deep yellow, and a green with a whitish yellow. Orpiment exposed to the fire in an open vessel, melts and emits a flame, not so blue as that of brimstone. As soon as it is melted, it appears of a deep red colour; and when poured out into a thin plate and cold does not ill resemble, in colour and transparency, a garnet; this is the sandaracha Græcorum*. Kept in the fire for some time, it evaporates; the purer sorts scarce leave any perceptible feces. Sublimed in a glass vessel, some whitish flowers first arise, which are soon followed by others of a deep yellow, inclining to an orange colour; and at length by red flowers, which not rising so high as the others, are melted, by the nearness of the fire, into a transparent red substance like that above-mentioned. *Geoffroy* relates †, that the taste of orpiment is acrimonious: but it did not appear so to me upon trial; and *Hoffman* says expressly it has no taste.

—Orpiment has (as the last mentioned author rightly observes) for a long time been reckoned in the class of poisonous minerals, and looked upon as a species of arsenic; although in its crude form, it does not seem to contain any thing of virulency. It has been given to dogs in a considerable quantity, without proving either emetic or purgative, or producing any of those fatal effects, which are usually attributed to it: But after it has undergone the action of the fire, it really acquires a

* *Hoff. Observat. Chymico phys. lib. iii. obs. 1.*

† *Mat. Med. tom. i. p. 185.*

Asphaltus [Bitumen Judaicum] *Jews pitch.* A bitumen.

Bismuthum [Marcafita], *bismuth.* A metallic mineral.

Bolus Armena, *Armenian bole.* An earth.

Bolus Bohemia [- communis], *Bohemian or common bole.* An earth.

Borax [Tincar], *borax.* A salt^s.

Cal-

caustic and poisonous quality. The place which refers to this note will easily account for this confusion; for by that we find orpiment and yellow arsenic have been looked upon as the same thing; and consequently that the poisonous quality of the latter has been oftentimes attributed to the former. The celebrated author above quoted, compares orpiment to antimony, which taken in its crude and native form has no virulent effect, but which, as soon as it is stript, by fire, of its sulphureous covering, becomes a most violent emetic, &c. In the same manner, says *Hoffman*, orpiment may be taken crude, without any harm; but it is far from being harmless when its parts have been once separated by fire.

^s Borax, or tincal, is brought to us from the East-Indies in great masses, composed partly of large crystals, but chiefly of smaller ones, partly white, and partly green, joined as it were together by a greasy yellow substance, intermingled with sand, small stones, and other impurities. The purer crystals exposed to the fire, melt into a glassy kind of substance, (somewhat more than half their former weight) which is nevertheless soluble in water. Pure borax distilled, yields near half its quantity of an insipid liquor. Mixed with either the vitriolic, marine or nitrous acid, it sublimes into elegant flowers; of which it affords greater quantity with the first acid than with the latter. These flowers, according to Mr. *Geoffroy*, are almost insipid to the taste; nevertheless, says he, they calm the heat of the blood in burning fevers, prevent or remove delirious symptoms, and allay spasmodic affections, whether hypochondriacal or hysterical, at least for a time; in a word, this salt is an excellent anodyne: the dose is from one to ten grains in any proper liquor.

Calcarius lapis, *lime-stone*, which, being calcined, is called

Calx viva, *quicklime*.

Calaminaris lapis, *calamine*. A stone †.

Chalcitis. A metalline recrement †.

Cimolia

Borax precipitates solutions made by acids, and turns syrup of violets green. Dissolved in water, (of which it requires ten times its weight) filtered, evaporated and crystallized, it forms little transparent, colourless crystals: the refiners of this salt have a method of shooting it into larger crystals; but these differ in several respects from the rough tincal, and are not so proper for many purposes, as the larger and purer crystals unrefined. If the reader desires a farther account of this salt, he may consult *Practical Chemistry*, p. 155.

‡ Lapis calaminaris is a fossil substance, of a consistence between stone and earth, found in great abundance in the lead mines. It is yellow, gold-coloured, red, sometimes grey, or even of a colour which is a mixture of all the foregoing. Broken to pieces and thrown into the fire, it immediately renders the flame of a beautiful green colour, and exhales a thick, white, copious smoke, of a sweet smell peculiar to it, and vastly astringent. This smoke condenses into very light flowers, at first of a bluish, and afterwards of a greyish white colour: these flowers are supposed to be the pompholyx of the ancients. Calamine contains likewise an unmetallic earth, and some iron. It is never made use of as a medicine, but in external applications.

† It has been greatly disputed among the writers on the materia medica, what the ancient chalcitis was, whether a native or a factitious substance: some affirm it to be common colcothar of vitriol; others, a native, red, vitriolic, venereal mineral. But the accounts which are handed down to us concerning this mineral are so various, that nothing certain can be determined about it. What seems chiefly to have influenced most writers to call chalcitis a venereal vitriol is its Greek name *χαλκίτης*, which they derive from *χαλκός*, copper. But this difficulty will soon vanish, when we consider that the ancients imagined all vitriols to proceed from copper; and therefore named them accordingly.

If

Cimolia alba [Argilla alba] *tobacco-pipe clay.*

Cimolia purpurascens, *fullers earth.*

Cinnabaris nativa ^u, *native cinnabar.* A metallic earth.

Cinnabaris factitia, *factitious cinnabar.* A metallic earth.

Creta alba, *white chalk.* An earth.

Cryftallus,

If we were to reason from the propriety of names, we might suppose our common copperas to be made from copper, though common experience teaches us quite otherwise. The German mineralists, though remarkably accurate in affixing proper appellations to mineral substances, still retain the old, though improper, name of *Kupffer-wasser*, for all sorts of vitriol, whether they proceed from copper or iron. ——— *Henkel* * is of opinion, that common green vitriol, well purified, and perhaps calcined to whiteness, is either the chalcitis itself, or the best substitute for it; and in this opinion he has been followed by some later writers. His conjectures are deduced from the effects unanimously attributed to the ancient chalcitis, which by no means agree to any substance, natural or artificial, whose basis is copper, but are the constant and known effects of such matters as contain iron.

^u Native cinnabar is a ponderous mineral substance, found in Spain, Hungary, and in several other parts of the world. There are many kinds of it to be met with in the repositories of the curious: but we shall only take notice of such as are esteemed the best for medicinal purposes. The finest sort is brought from the East-Indies: this is of a red colour, which greatly improves upon being ground into a fine powder: there is another sort of a good colour, in roundish drops, smooth on the outside, and striated within. This substance appears, upon a chemical analysis, to be composed of sulphur and mercury, in such a manner that the quantity of the latter is commonly above six times greater than that of the former †. The finer the colour of the cinnabar is, the more of mercury it is found to hold.

* *Pyritolog.* pag. 802.

† *Cramer, Elem. art. docimast. ed. 2. tom. i. p. 287. §. 453.*

Cryſtallus, cryſtal. A ſtone.

Cuprum, [Venus] *copper*. The metal, whereof braſs, verdegreafe, tuty, (or cadmia) pompholyx (or nil album) and ſpodium (or nil grifeum) are made.

Ferrum nativum, [Mars] *iron*. The metal, and its ſcoria.

Ferrum factitium, [Chalybs] *ſteel*.

Hæmatites lapis. *Blood-ſtone*.

Hybernicus lapis, [Tegula vel ardeſia Hybernica] *Iriſh ſlate*.

Hydrargyrus, [Argentum vivum, Mercurius] *quickſilver*.
A metallic mineral^x.

Judaicus

Native cinnabar is by many preferred to that made by art: but there does not appear to be any good foundation for this preference. *Geoffroy* relates, that he has obſerved nauſeas, vomiting and anxiety occaſioned by the native; which he attributes to arſenical particles aſſociated with it, and from which it could not be freed by repeated ablutions: he therefore juſtly prefers the factitious cinnabar.

* Quickſilver is a fluid metallic ſubſtance, of a ſhining ſilver colour, very heavy (being to water as 14 to 1) volatile, and incongealable by any degree of cold hitherto known. It is found ſometimes in its fluid form, in the bowels of the earth, and is then called virgin-mercury; but much the greateſt quantity is drawn, by diſtillation, from a mineral called native cinnabar, and from a kind of hard ſtony ore, of the colour of crocus metallorum. There are conſiderable mines of it in Friuli; others in Hungary and Spain; but we receive the greateſt quantities from the Eaſt Indies.

This capital article of the materia medica, is too frequently adulterated with lead, biſmuth and other mixtures; but the abuſe may be diſcovered by the hydroſtatical balance, or by boiling it with vinegar, which will remain unaltered if the mercury be pure, but acquire a ſaccharine ſweetneſs if adulterated: it may likewiſe be diſcovered by ſimple evaporation, when the mercury will entirely exhale, and leave the foreign metallic ſubſtance behind.

From the experiments of *Boerhaave*, we are taught, that this fluid mineral, by agitation alone in glaſs veſſels, or by being expoſed

Judaicus lapis, *Judaic stone.*

Lazuli lapis. *Azure stone.*

Lemnia terra. *Lemnian earth.*

Magnes. *The load-stone.*

Nephriticus lapis. *The nephritic-stone.*

Nitrum [Sal petræ]. *Nitre, or salt petre.* A salt ^γ.

Ochra,

to a small heat, yields a soft, black powder, of a sharp, brassy taste: that a greater degree of heat changes mercury into a heavy, shining, red, friable powder, of a sharp, nauseous taste; and that both the powders may be revived into fluid quicksilver by a more intense heat.——Mercury is soluble in all the mineral acids, but with greater facility in one than in another: Vinegar, and the acids extracted from vegetables, have no effect upon it; neither have alkaline or neutral salts: the nitrous acid readily dissolves it into a pellucid liquor; but neither the marine or vitriolic act upon it unless highly concentrated.——When quicksilver has been dissolved in spirit of nitre, and the menstruum evaporated by fire, the mercury remains in form of a red powder; but if the same solution be precipitated with fixed alkaline salt, a saffron-coloured powder falls to the bottom; with sea salt it gives a white precipitate; with lime-water a yellow.——Quicksilver triturated with sulphur, unites with it into a black powder, which on sublimation becomes an intensely red, shining, radiated mass. See a farther account of mercury under its different preparations.

^γ Nitre is a white, crystalline salt, of an acrid, bitter taste, with a certain sensation of cold.—A kind of nitre appears sometimes in spontaneous efflorescences on old walls, and may be artificially obtained from vegetable and animal matters, by rotting them together; and exposing them for a long time to the action of the air.—Salt-petre is extracted from three sorts of earth, black, yellow and white, in the Moguls dominions, and many other places of the East-Indies, whence all the nitre we have is brought.

Nitre exposed to a gentle fire, in clean vessels, easily melts, parts with a good deal of phlegm, but undergoes no other alteration: exposed to a great heat, usually flies away in fume, or exudes through the vessel; if any little part remains, it is found changed into a sharp alkali: if a coal or any other inflammable matter, be thrown

Ochra, *oker*. An earth.

Osteocolla. A stone.

Pe-

upon nitre whilst in fusion, a detonation ensues with a bright flame, and considerable noise; after the detonation is over, a large quantity of alkaline salt is found remaining.

Cold water dissolves pure nitre slowly; but by agitation may be made to take up one sixth of its weight: a saturated solution of this salt set to crystallize, shoots into colourless transparent crystals, in appearance not unlike natural sprig-crystal; their figure is that of an hexagonal prism, terminated by a pyramid of an equal number of sides. If the liquor which is left after the first crystallization of rough nitre be evaporated to a dry substance, and this calcined for some time in a crucible, a white powder will remain, called by the name of *magnesia alba*, which given in the dose of a dram or two, proves a good purge in hypochondriacal and other diseases. This medicine was for some time kept as a great secret, under the names of nitrous panacæa, Count de *Palmers* powder, &c. till *Hoffman* made it publick in his *Observ. Chymico physica* *.

The vitriolic acid, or substances containing it, as certain solar earths, being mixed along with nitre, and both exposed to the fire, a red vapour arises, which being caught in proper vessels, proves a ponderous, yellow, acid liquor, which dissolves all the metals, and sundry other metallic and earthy substances, gold excepted.—Pure nitre, before it has felt the fire, changes not the colour of syrup of violets; nor does it curdle milk; it turns solution of sublimate milky, and renders infusion of galls turbid, and of a whitish or ash-colour.

Dr. *Stahl* has written an express treatise upon the medical virtues of nitre †, in which he informs us from his own experience, that this salt gently thickens the animal juices, and allays all febrile heats and ebullitions of the blood; that added to gargarisms employed in inflammations of the fauces in acute fevers, it thickens the salival moisture upon the palate and fauces into the consistence of a mucus, which keeps them moist for a considerable time;

* *Lib. ii. observat. 12.*

† *Mensis Martius, de usu nitri medico polychresto differens, Opusculum chymico-physico-med. p. 564.*

whereas

Petroleum, *rock oil*. A bitumen^z.

Plumbum,

whereas if nitre is not added, a sudden dryness of the mouth immediately ensues: that in spitting of blood, nitre given from half a dram to a dram, at proper intervals of time, never failed to put a stop to the hæmorrhage; and in other hæmorrhagies likewise, it was always found to have the best effects, provided it was skilfully dosed: that in nephritic complaints, the prudent use of nitre is of more service than any of the numerous medicines usually recommended in this disease.

This celebrated author likewise affirms, from a large number of experiments, that nitre gives great relief in suppression and heat of urine, whether simple or occasioned by a venereal taint: that it is of great service in acute and inflammatory pains of the head, eyes, ears, teeth, &c. in all erysipelatous affections, whether particular or universal, and likewise in chronic deliriums: that in diarrhœæ happening in petechial fevers, nitre mixed with absorbents and fixed diaphoretics, had the best effects, always putting a stop to the flux, or else rendering the evacuation salutary: that in diarrhœæ happening in the small-pox, it had been employed with the like success, two doses, or three at most (consisting of two, three or four grains each, according to the age, &c. of the patient) given at the interval of two or three hours, putting a stop to the flux, after the bezoardic powders, both with and without opium, had been given without success. The same author recommends this salt likewise as a medicine of singular service in choleras attended with great anxieties and heat of the blood; in the flatulent, spasmodic heart-burns, familiar to hypochondriacal persons; and the loss of appetite, nausea, heart-burn, vomiting, &c. which gouty patients are sometimes seized with, upon the pains of the feet, &c. suddenly remitting. In short, this great physician looks upon nitre as an almost universal medicine; and assures us, that no bad consequences are to be feared from the internal use of it: nevertheless he observes that in a phthisis and ulcerous affections, it has been found to be of no service; and that therefore its use may be superseded in these complaints.

^z Petroleum is a general name for several natural, bituminous, mineral oils, which spontaneously exude from the clefts of rocks, &c. differing only in fluidity from solid bitumens. These oils are found

Plumbum, [Saturnus] *lead*. The metal; gold and silver litharge.

Pumex; *the pumice stone*.

Rubrica fabrilis, *red oker*. An earth.

Sal ammoniacum, *sal ammoniac* ^a.

Sai

found almost in all countries; but in greatest plenty, in the hot climates; as near Scamacchia in Persia, where *Olearius* relates, that he has seen upwards of thirty springs of petroleum.

The best petroleum comes from the dutchy of Modena in Italy, where three different kinds of it are found. The first, or best, is almost as clear, fluid, and transparent, as water, and of a highly penetrating, but not disagreeable smell: the second is of a clear yellow colour, not so fluid as the former, and of a less penetrating smell: the third is of a blackish red colour, of a thicker consistence than the two foregoing, and of a bituminous, somewhat ungrateful smell. The first of these is very rarely to be met with; the second, mixed with a little of the third, and some subtil oil, as that of turpentine, is sent us instead of it.

The first kind, or white petroleum, readily catches flame from a candle, and burns entirely away. It is specifically lighter than any other known liquor, the purest alcohol not excepted; yet perfectly unites with the essential oils of vegetables. Dropped into water, it spreads over its surface to a surprising distance, and exhibits a variety of colours. The strongest frost makes no impression on it. The mineral acids, when highly dephlegmated, readily unite with petroleum, and give it a pretty thick consistence. Highly rectified spirit of wine has no effect upon it, even after a long digestion.

—Petroleum distilled in close vessels yields an oily liquor, somewhat more pellucid than before; but it loses by this treatment, a great deal of its native smell, and burns with a clearer but more languid flame: a small quantity of a yellowish magma remains at the bottom of the distilling vessel.

There is another sort of petroleum brought from Barbadoes, under the name of pisselæum Indicum, or Barbadoes tar: this is of a reddish black colour, of a disagreeable smell, and of the consistence of common tar.

^a The sal ammoniac of the shops is an artificial saline concrete, brought to us from Egypt, in large, flat, round cakes, convex on one

one surface, and concave on the other. The best of these cakes are almost transparent, colourless, dry, and free from any visible impurities: the others are of a grey, yellowish colour, sometimes black, as the matter is more or less impure. This salt is said, by some authors, to be composed from a mixture of urine, common salt, and wood-foot; by others, to be sublimed from the foot of cow-dung*. Sal-ammoniac is soluble in somewhat less than double its weight of water: the solution, being filtered, is colourless as water; and upon due evaporation, shoots into long shining spicula, or thin fibrous plates, like feathers. When pure, it neither coagulates milk, nor changes the colour of solution of sublimate. It makes a considerable effervescence with the vitriolic acid, attended with a notable degree of cold. Exposed alone to a considerable heat, it totally sublimes, without any alteration of its former properties: if previously well ground with metallic, and certain other ponderous substances, it elevates some part of them along with itself, and concretes with the rest into a mass, which readily flows into a liquor in a moist air. Mixed with a due quantity of fixed alkaline salts, it yields to a small degree of fire, two thirds its weight, of pure volatile alkali; what remains in the subliming vessel being dissolved in water, and crystallized, readily assumes the form of cubical crystals, like those of common salt, the properties of which they likewise possess. A mixture of quicklime and sal-ammoniac, set to sublime, affords an exceeding penetrating spirit, but gives nothing over in the form of a solid salt: if the quantity of lime is considerable, the volatile alkaline part of the sal-ammoniac is almost totally absorbed by it.

Sal-ammoniac, well purified, is looked upon by physicians, as a medicine capable of attenuating viscid humors; and promoting a diaphoresis, or the urinous excretions, according to certain circumstances in the constitution, or as the patient is managed during the operation. It has been kept by some as a great secret in the cure of intermitting fevers; and stands recommended by others, as a febrifuge of great virtue. The spirit made with quicklime, is held too acrimonious to be given internally, and therefore is rarely made any other use of than to smell to in faintings, &c.

* *Mem. de l'acad. des sciences, pour l'annee 1735.*

Sal commune, *common salt* ^b.

Sal gemmæ, *sal gem* ^c.

Sal marinum, *sea salt* ^b.

Silefiaca

^b There are two methods of obtaining common salt from saline springs and sea-water: a hasty evaporation of the aqueous fluid, till the salt begins to concrete, and fall in grains to the bottom of the evaporating pan, from whence it is raked out, and set in proper vessels to drain from the brine: the other is a more slow and gradual evaporation, continued no longer, than till a saline crust forms at the top of the liquor, which upon removing the fire, soon begins to shoot, and run into crystals of a cubical figure. In the warmer climates, both these processes are effected by the heat of the sun. The salts obtained by them differ very considerably: that got by a hasty evaporation is very apt to relent in a moist air, and run per deliquium, an inconvenience which the crystallized salt is not subject to: this latter is likewise found better for the preserving of meat, and for many other purposes.

^c This is a fossil salt, of which there are various sorts, differing from one another in degree of purity, transparency and colour, being either perfectly transparent and colourless, of a snowy whiteness, grey, red or yellow. The first sort is that commonly called sal gemmæ or gemmeus, from its transparent appearance resembling crystal, like which it is frequently cut into toys, little vases, &c.— This salt is found in the mountains of Catalonia, not far from Barcelona; and in great plenty, in certain deep mines of prodigious extent, near Cracow in Poland. There is likewise some of this salt dug up in Cheshire.

The three kinds of common salt, though different in appearance, are all of the same origin; and, when reduced to the greatest degree of purity, do not sensibly differ from one another.— Common salt easily melts in water, of which it requires about three times its own weight: the solution, being slowly evaporated, and set to shoot, affords cubical crystals, which unite together in the form of hollow truncated pyramids.—Exposed to the fire, it crackles, and flies about, but soon after melts, when it appears as fluid as water; kept in an extreme degree of heat for a long time, some part of it flies away in fume, and the remainder acquires some-

Silesiaca terra, *Silesian earth.*

Silex. *The flint-stone.*

Stannum, [Jupiter] *tin.* The metal.

Suc-

something of an alkaline nature.—When decrepitated, or melted, it readily runs per deliquium into an unctuous liquor; and at the same time deposits a considerable quantity of earth: if this liquor be inspissated, and the dry matter suffered to run per deliquium again, it deposits more earthy feces; and by repeating these operations, loses entirely its saline qualities; but if well crystallized, it is not easily affected by the moisture of the air.—Thrown on burning coals, it arises in the form of a white fume.—Mingled with the vitriolic or nitrous acid, and exposed to the fire, it partly rises in a copious white vapour, which being caught in proper vessels, proves a highly acid liquor, that ferments with fixed alkaline salts, and when fully saturated therewith, and properly treated, shoots into cubical crystals, in appearance and several other respects similar to the salt from which the spirit was at first obtained; but proving more acrimonious, more fusible in the fire, and more fixed therein.

Common salt checks fermentation, and prevents putrefaction: hence it is used in the maceration of plants, to keep them from putrifying. It has the same effects likewise on the aliment, received into the stomach, where it not only prevents its putrefaction, but restrains the immoderate heat and ebullition of the other fluids. It readily unites with volatile salts, and turns them of an ammoniacal nature; whence it is capable of allaying the acrimony of the humors, and promoting their excretion by the urinary passages. Add to this, that by gently irritating the solids, it acts as a stimulus, and renders the oscillation of the fibres more vivid: Hence the many singular virtues ascribed to common salt, as of heating, absterging, promoting appetite, &c. *Helmont* commends the liberal use of it as a preservative against the stone and gravel; but physicians are not at present agreed, whether it really prevents or promotes the generation of the calculus: Most allow, that salted meat or fish furnish matter for this disease; and that calculous patients are worse after the use of such food. But *Mr. Geoffroy* observes, that there is a very great difference between common salt and the brine of salted meat, for salt, by a long digestion with the
animal

Succinum album—flavum [Carabe] ; *white and yellow amber.* Bitumens ^c.

Sulphur

animal juice, undergoes a certain degree of putrefaction, and assumes, in some measure, the nature of a volatile salt : so that although salted meat may prove hurtful in this disease, it does not follow, that common salt itself will.—If the reader desires further satisfaction with regard to the effects of common salt upon the human body, he may consult *Geoffroy de Mat. Med.* (tom. i. pag. 103.) from whom the latter part of this note is taken.

^e Amber is a bituminous substance dug out of the earth, or found upon the sea-shores* : the most considerable quantities of it are met with along the sea-coasts of Polish Prussia and Pomerania : the chiefest mart for this commodity is Koningsburg ; but it is imported to us from Dantzick. Mr. *Savary* † makes a pretty singular remark, that the true yellow amber is hard to be got ; that what is generally sold for it is a counterfeit made of turpentine and cotton, with yolks of eggs and gum arabic ; while others sell gum copal in its stead. I am at a loss to imagine what authority he had for these conjectures, since they appear to be utterly without any foundation.—Amber is to be met with of various colours, and in different degrees of purity and perfection ; the white is generally esteemed the best for chemical purposes ; and the dark brown the worst. Fine amber rubbed briskly on a woollen cloth, emits a particular strong smell, which to most people is very agreeable. Boiled in water, it neither softens, nor undergoes any sensible alteration. Exposed to the fire, in an open vessel, it melts into a black mass, very like bitumen. Set on fire, its smell resembles that which arises from the finer sorts of pit-coal. Distilled in a retort, with a well graduated fire, it yields first a phlegm which is lightly acid, intermingled with a copious, thin, limpid oil, which grows thicker, and deeper-coloured, as the fire is increased : at length, a white saline matter arises, and fixes itself to the neck of the retort, which is succeeded by a grosser oil, and in a great heat by a black, thick, pitchy matter. There remains at the bottom of the vessel little or no feces, if the

* *Phil. Transf. numb. 248.*

† *Diction. de commerce.*

Sulphur vivum—factitium; *native and common brimstone* ^f.

Talcum, *talc.* A stone.

Vi-

amber be pure; for the method of conducting the distillation of amber, the reader may consult *Pract. Chem.* pag. 223. The oil very much resembles petroleum, and proves not soluble in spirit of wine, unless first artfully separated from its grosser parts. Salt of amber readily dissolves in water, and likewise in spirit of wine; and in a proper quantity of the former, shoots into an irregular lump of crystals. This salt exposed to a small heat in a glass vessel, first melts, then rises in a white fume, and sticks to the upper part of the glass in white flakes. It effervesces with alkaline liquors, but makes no sensible commotion with acid ones. Amber is partly soluble in spirit of wine, and likewise in some essential oils; but expressed ones are not brought to act upon it, without great difficulty: the stronger kind of fixed alkaline lixiviums entirely dissolve it. There seems to be somewhat in this simple, analogous to spirit of salt; for having treated it with fixed alkaline salts, according to the manner described by *Boerhaave* *, and affused a spirit of wine rectified from fixed alkalies, in order to extract a tincture, various saline concretions, after some time, shot at the bottom of the glass; these crystals were evidently cubical, decrepitated on the fire, and exhibited the other marks, by which sea salt is usually distinguished, though I am pretty certain there was no sea-salt, (as might be suspected to be the case) amongst the alkaline salts made use of.

^f Sulphur, or brimstone, is a yellow, mineral substance, found, either already formed in the bowels of the earth, or obtained from certain ores, by a kind of distillation, or composed by art †. Sulphur readily melts, in a small heat, into a red liquor; and in close vessels totally sublimes in flowers: in open vessels, its fume turns into flame, and forms a suffocating vapour, a small quantity of which saturates a large one of fixed alkaline salt, but caught by the common methods, proves an acid liquor, similar to that obtained by distillation from vitriol. Sulphur, mixed with a fixed alkali,

* See *Elem. chem. process.* 53.

† *Hoff. observ. phys. chym. lib. iii. obs. 9.*

.. melts

Vitriolum album, *white vitriol*^z.
 Vitriolum cæruleum [Romanum], *blue vitriol*^h. } Metallic
 } Salts.

melts into a deep red mass, which, fused with metals, renders them all soluble in water. Sulphur and mercury are united by simple triture into a black powder, and by sublimation into a beautiful red mass. Acid liquors have no effect upon it : quicklime and alkaline salts, both volatile and fixed, mingled with water, readily dissolve it, but immediately part with it upon the affusion of any acid. What is sold in the shops for sulphur vivum, is no other than the dregs which remain after the sublimation of the flowers from common sulphur. If the reader desires farther satisfaction in relation to this article, he may consult *Practical chemistry*, p. 159. It dissolves in all sorts of oils.

Sulphur taken inwardly, loosens the belly, and promotes insensible perspiration : it likewise transpires through the pores of the skin, as is evident from the sulphureous smell, perceivable in persons who have long taken it *. There are many processes in the chemical writers, for purifying and preparing sulphur for medical purposes ; but they are either of no manner of service, or injurious to it : the best preparation of all is the sublimation of it into flowers ; for, by this means the sulphur is separated from many accidental impurities, and consequently better fitted for use.

^z White vitriol, which has been supposed, till of late, to be an artificial preparation of the common green vitriol, is prepared at Goslar in Germany, from a particular kind of ore ; though sometimes it is found native in the mines. There appears to be a small quantity of copper and iron in it ; but they both separate from it in its purification. Purified, it appears to be a vitriol of a particular kind.

^h The blue vitriol, which is at present in use among us, is not brought from abroad, but prepared in England : its crystals are not so perfect as the foreign sort.—Exposed to the fire, it does not melt like green vitriol : it first turns white, then of a yellowish red on the outside ; and upon increasing the fire, an acid vapour exhales, leaving behind it a dark red calx. Blue vitriol is said to be found sometimes naturally formed, in great quantity, in the copper mines in Germany.

* *Geoff. Mat. Med. tom. i. p. 172.*

Vitriolum viride, *green vitriol*¹.

Unicornu fossile, [Lithomarga alba] *mineral ivory*. An earth.

G E N E R A L T I T L E S, *including several*
S I M P L E S.

The five opening Roots.

Smallage.

Asparagus.

Fennel.

Parsley.

Butchers-broom.

The five emollient herbs.

Marshmallows.

Mallows.

Mercury.

Pellitory of the wall.

Violets.

The four cordial flowers.

Borage-flowers.

Bugloss-flowers.

Roses.

Violets.

¹Green vitriol, is sometimes found native in the bowels of the earth; but the most commonly to be met with, is artificially prepared from the pyrites and iron. This sort, being exposed to a soft fire, runs into a liquid form; and, its aqueous parts exhaling, becomes a white calx: upon increasing the fire, an acid vapour arises, the calx becomes red, and at length, in an intense fire, assumes a purplish colour.

The acid liquor extracted from vitriol, by a chemical analysis, appears to be perfectly similar, whatever kind of vitriol it be obtained from. Their various colours are owing to the mineral or metallic parts contained in them: the blue colour springs from copper; the green from iron; the basis of the white is probably calamine. Each of these vitriols contains, in its crystalline form, different quantities of an aqueous fluid; the blue contains the least; and the green, the most.

S I M P L E S.

The four greater hot seeds.

Aniseed.	Cummin-feed.
Caraway-feed.	Fennel-feed.

The four lesser hot seeds.

Seeds of Bishops-weed.	Smallage.
Stone-parsley.	Wild carrot.

The four greater cold seeds.

Seeds of Water-melons.	Gourds.
Cucumbers.	Melons.

The four lesser cold seeds.

Seeds of Succory.	Lettuce.
Endive.	Purflain.

G E N E R A L R U L E S *for the collection of*
S I M P L E S.

I. R O O T S.

Annual Roots are to be taken up before they shoot out stalks or flowers: *The Biennial*, chiefly in the autumn after the seeds were sown. *The Perennial*, when the leaves begin to fall off; and therefore, generally in the autumn. Having washed the roots from dirt, and separated the withered or corrupted fibres, hang them up in a shady place, through which the air freely passes, that they may dry moderately. The thicker roots are to be slit longitudinally, or cut transversely into thin slices, care being taken to preserve the cortical part; the pith may be thrown away. Such roots as lose their virtue by this treatment, may be preserved in dry sand.

II. H E R B S.

II. H E R B S.

Herbs are to be gathered at that time of their strength, when their leaves are perfectly formed, but before they have unfolded their flowers. They are to be dried in the same manner as roots.

III. F L O W E R S.

Flowers are to be gathered when moderately expanded, on a dry day, before noon: except roses designed for conserve, which are to be plucked while in the bud.

IV. S E E D S.

Seeds are to be collected when ripe, and beginning to grow dry, but before they fall off spontaneously.

V. F R U I T S.

Fruits likewise are to be gathered when ripe, unless they are ordered otherwise.

VI. W O O D S. B A R K S.

Woods are to be felled in the winter, which is likewise the most convenient time to shave or take off their Bark.

VII. A N I M A L S. M I N E R A L S.

Animals and minerals are to be selected in the state of utmost perfection, unless they are expressly prescribed otherwise.

SECTION II.

P R E P A R A T I O N S

O F

Certain S I M P L E S.

Adeps præparatus.
Fat prepared.

LET the Fat, after the membranes, blood-vessels and fibres are separated, be washed in fresh parcels of water, till the water comes off colourless: afterwards gently melt and strain the fat, which is to be kept close from the air.

Aloë præparata, seu lota.
Aloes prepared, or washed.

Dissolve Aloes in a sufficient quantity of water, with a gentle heat: then strain the solution from the feces, and evaporate it to the consistence of honey ^a.

The

^a This solution, which, in the former editions of the dispensatory, was directed to be exhaled down to the original consistence of the aloes, is now, with great judgment,—kept in a softer form; which is not only more convenient for mixing up with other substances, into the form of pills, &c. but prevents a good deal of trouble, and the almost unavoidable danger of injuring the aloes.

If

The purest, bright aloes stands not in need of this treatment.

Ammoniacum gummi præparatum.

Gum ammoniac prepared.

Dissolve Gum Ammoniac in water, or vinegar; strain the solution, and with a gentle heat evaporate the menstruum ^b.

Apes præparatæ.

Bees prepared.

Dry Bees included in a proper vessel, with a very gentle heat.

Bolus Armenia præparata.

Bole Armenic prepared.

Dissolve powdered Bole, in a sufficient quantity of water, by stirring them well together: pour off the water, while loaded with the finer parts of the bole; put fresh on the remainder, repeat the agitation, and decant as before, till nothing is left, except sand, and small stones. Mix all the turbid liquors together, and

If a large quantity of water be made use of, and the solution suffered to stand till grown cold, before it is committed to the strainer, the resinous part of the aloes will be separated, so as not to pass through: but if this shall be thought an inconvenience, it may be avoided, by using only so much water as is sufficient to reduce the aloes into a soft kind of pulp, which may be pressed, while hot, through a strainer, entire, the feces alone being left behind.

^b The quantity of water, or vinegar, used here, should be no more than is just sufficient to soften the gum, so as that it may be pressed, while hot, through a strainer; to prevent not only an unnecessary trouble in evaporating a large quantity of fluid, but doing a real injury to the ammoniacum itself, by carrying off its more volatile parts.

let them rest till the bole has subsided ; which, after the water is poured off, is to be dried for use ^c.

Bufo præparatus.

Toad prepared.

Put live Toads into an earthen pot, and dry them in an oven moderately heated, till they become pulverable.

Lapis calaminaris præparatus.

Calamine-stone prepared.

Heat Calamine-stone three times red hot, and quench it as often in water: it is then to be pulverized, levigated on a marble, and reduced to a subtile powder, by repeated affusions of water, in the same manner as bole Armenic ^d.

^c By the means of water, a powder may be obtained of any degree of fineness or subtility, without the least admixture of any gross parts, which are always found in preparations made after the common methods, however carefully the operation may have been performed, as has been already observed by the author of the *Pharmacop. reform.* p. 34.

The judicious compilers of the *Pharmacopœia pauperum*, for the use of the royal hospital at Edinburgh, direct Antimony to be prepared in the same manner as is ordered above for bole Armenic. By this means the antimony may be reduced to so great a subtility and tenuity of parts, as to turn out a medicine of considerable virtue, in cases where this mineral, given in a grosser form, usually proves an unactive load upon the viscera, or at best passes off without any other sensible effect, than an increase of the grosser evacuations.

^d *Fountain* is now directed in this, and several other similar preparations, instead of the *Rose* water before ordered ; the former being equally as fit for the purpose, and more eligible than the other, as it saves a needless expence.

Chelæ cancrorum præparatæ.

Crabs claws prepared.

Let the black tips of Crabs claws be reduced to powder, and levigated on a marble ^e.

Corallia præparata.

Coral prepared.

Coral is prepared in the same manner as crabs claws; so likewise is

Cornu cervi calcinatum.

Hartshorn calcined.

Galbanum præparatum.

Galbanum prepared.

Galbanum is prepared in the same manner as gum Ammoniacum.

Hæmatites & Lazuli lapides præparati.

Hæmatites & lapis lazuli prepared.

Powder, and levigate them on a marble ^f.

Lithargyri præparati.

Litharge prepared.

Litharge is prepared in the same manner as bole Armenic.

^e The balm-water, and the unnecessary trouble of forming this powder into troches, are now dropt; pursuant to the resolution which the college of Edinburgh seem to have embraced, of giving the apothecary no more trouble, than is absolutely necessary.

^f The *Hæmatites*, which is an iron ore, is most conveniently levigated between two iron planes: for if the common levigating stones be made use of for this purpose, the preparation, when finished, will contain almost as much of the instrument as of the hæmatites.

Margaritæ præparatæ.

Pearls prepared.

Pearls are prepared in the same manner as crabs claws.

Martis limatura præparata.

Filings of iron prepared.

Set filings of iron, first cleansed by the magnet ^g, in a moist place, that they may turn to rust; which is afterwards to be ground into an impalpable powder. They may likewise be prepared by wetting them with vinegar.

Millepedæ præparatæ.

Millepedes prepared.

Millepedes are prepared in the same manner as bees.

Oculi cancrorum præparati.

Crabs eyes prepared.

Crabs eyes are prepared as the claws.

Opium præparatum, vulgo extractum opii.

Opium prepared, commonly called extract of opium.

The Opium is to be dissolved in water, and prepared in the same manner as aloes ^h.

Opopo-

^g The cleansing of filings of iron, by means of a magnet, is extremely tedious, and does not answer so well as might be expected; for, if they are at all rusty, they will not be attracted by the magnet; nor will they, by this means, be perfectly separated from brass, copper, or other metallic substances, which may adhere to them. The rust of iron is to be procured, at a moderate rate, from the dealers in iron, perfectly free from any impurities, except such as may be washed off by water. The triture, ordered above, should be performed in an iron mortar, and with an iron pestle, for reasons sufficiently obvious.

^h The committee of the college of physicians of London, have
con-

Opoponax præparatus.

Opoponax prepared.

Opoponax is prepared, as gum ammoniac: so likewise is

Sagapenum.

Plumbum ustum.

Burnt-lead.

Melt Lead over a gentle fire, and keep it continually stirring, with an iron spatula, till it is changed into a powder ⁱ.

Sanguis hirci præparatus.

Goats-blood prepared.

About the beginning of summer, take blood from any convenient artery of a middle-aged Goat, and expose it, in a proper vessel, to the sun, or a moderately heated oven, till sufficiently dried.

Succinum præparatum.

Amber prepared.

Amber is prepared in the same manner as crabs claws.

contrived a method of purifying opium, so as to preserve its volatile, resinous, and gummy parts, entire. This they effect, by softening, into the consistence of a pulp, a pound of opium, cut into slices, in a pint of boiling water; and, whilst hot, forcibly pressing it through a cloth. The strained opium may be brought to its former consistence, by continually stirring it in a shallow vessel, over a gentle fire. See *Pharm. reform.* p. 38. and *Appendix*, p. 294. where are some observations upon this process.

ⁱ A flat-bottomed, shallow, iron pan is a convenient vessel for this purpose. No more lead should be used at a time, than is just sufficient, when melted, to cover the bottom.

Testæ

Testæ ostreorum præparatæ ^k.
Oyster-shells prepared.

Wash, and thoroughly cleanse from all filth, the hollow Shells of oysters, (the flat ones are to be thrown away); then expose them to the sun for some days, and rub them in a marble mortar, till they come into a kind of paste, which is to be again dried in the sun, and afterwards ground to an impalpable powder.

Tutia præparata.
Tutty prepared.

Tutty is prepared in the same manner as lapis calaminaris.

Whenever these medicines occur in this pharmacopœia, they are supposed to be prepared in the manner above described; unless they are expressly ordered otherwise.

^k *Prepared egg-shells.*—Boil egg-shells in water, and take off the inner skin; then grind and levigate them into a subtile powder.
Pharmacop. sup.

SECTION III.

DISTILLED WATERS.

Aquæ stillatitiæ simplices. *Simple distilled waters of*

Angelicæ.
 Artemisiæ.
 Cardui benedicti.
 Cerasor. nigr. *fruct.*
contus. nucleis.
 Chamæmeli *flor.*
 Fœniculi.
 Hyssopi.
 Melissæ.
 Menthæ.
 Petroselinii.
 Pulegii vulgaris.
 Rosarum *flor.*
 Rutæ.
 Sabinæ.
 Sambuci *flor.*

Angelica.
 Mugwort.
 Carduus benedictus.
 Black cherries, with
 the stones cracked.
 Camomile-flowers.
 Fennel.
 Hyssop.
 Balm.
 Mint.
 Parsley.
 Penny-royal.
 Roses.
 Rue.
 Savin.
 Elder-flowers ^a.

GENERAL

^a The simple waters of common wormwood, poppy-flowers, and frogs-spawn, are now omitted: the first was too unpleasant, and the others too insignificant, to deserve a place any longer in this pharmacopœia. The number of simple waters is, by this means, so far reduced, as to leave none that can be excepted against, unless the *aqua artemisiæ* and *cardui benedicti*, for both which, there is still

GENERAL RULES for the distillation of SIMPLE WATERS.

I. The plants, and their parts, ought to be fresh gathered.

II. Having bruised them a little, pour on them thrice their quantity of spring-water : but this quantity may be diminished or increased, as the plants are more or less juicy than ordinary. Black cherries require only a small proportion of water.

The distillation may be performed in an alembic, with a refrigeratory, (the junctures being luted), and continued as long as the water, which comes over, is perceived to have any smell or taste of the plant^b, care being all along taken to avoid an empyreuma.

III. Those plants which abound with an aromatic fragrant oil, are to be committed immediately to distillation. But such as contain a more fixed oil, or owe part of their virtues to a kind of volatile salt, as *Carduus benedictus*, Mugwort, Camomile, ought first to undergo an imperfect fermentation, with the addition of yeast; that is, they should be distilled, as soon as the fermentation is fully begun, without staying till it is finished.

some small demand. The black cherry water, as usually made in the shops, was upon trial found innocent : the counterfeiting it with bitter almonds is a practice unknown in Scotland.

^b The directions are here more scientifically set down, than in the former editions of this book ; for it is impossible to exactly determine the precise quantity of water, that is to be drawn off from a certain weight of ingredients. The distillation may be always continued so long (and no longer) as the water, which comes over, has any taste or smell of the plant it is drawn from.

finished ^c. The waters of Balm and Rue require to be cohobated ^d.

IV. If any drops of oil swim on the surface of the waters, they are to be carefully taken off.

Aqua cinnamomi sine vino.
Cinnamon water without spirit.

Take of Cinnamon, one pound,
Water, a gallon and a half.

Let them steep together for two days, and then distill off the water, till it ceases to run milky.

Aqua cinnamomi cum vino.
Cinnamon water with spirit.

Take of Cinnamon, a pound,
French brandy ^e, a gallon.

Let

^c The principle, upon which certain vegetable substances are directed to undergo a slight degree of fermentation with yeast, before they are committed to distillation, is certainly just; though great care ought to be taken, not to give any foreign or disagreeable relish to the waters, by an ill-chosen ferment, or using too large a quantity of any. But I should conceive that carduus benedictus is not a fit subject for distillation, however it be opened, or prepared. Rue, and such other substances, whose oil is locked up, and retained, by a strong mucilaginous matter, may undoubtedly be treated to great advantage, by the method here recommended.

^d The waters, distilled from balm and rue, are judiciously ordered to be poured upon fresh ingredients, and distilled a second time; which process should be repeated, according to the discretion of the apothecary; for by this means these herbs, particularly balm, which afford waters of little or no virtue at the first distillation, may be brought to yield such as contain a great deal, at a second or third, and prove remedies of greater efficacy, in the cure of diseases, than is usually expected from medicines of this class. *Boerhaave* has wrote excellently well upon this subject; and some further observations on simple waters may be seen in *Pharm. reform.* p. 99.

^e The French brandy, here directed, however good, has a flavour

your

Let them steep together for two days, and then distill off one gallon ^f.

Aqua reginæ Hungariæ.

Hungary water.

Take Flowers of Rosemary, just gathered, two pounds,
Rectified spirit of wine, two quarts.

Put them together, and distill them immediately, in a water-bath ^g.

your in it, not at all agreeable to the fragrancy of cinnamon; and this comes over plentifully towards the end of the distillation, at the very time, when the oil of the cinnamon arises in greatest abundance. It should seem, therefore, more eligible, to use a spirit, which has little or no flavour of its own, for this purpose. French brandy, where it can be easily procured, may be in good measure cleansed from its peculiar smell and taste, by mixing it with about half its quantity of pure water, and distilling it with a slow and well managed heat: the distillation should be continued no longer than while the spirit comes over bright, clear, and well tasted: what runs afterwards may be saved for inferior purposes. This spirit may be reduced to the strength of French brandy, by the addition of as much water, as will bring them both to the same specific gravity, or weight, which may be easily determined by the hydrometer, as lately improved by Mr. *Clarke*.

^f The distillation of cinnamon water with spirit was, in the former editions of this book, ordered to be continued till it ceased to come over milky. This direction, though extremely proper when water alone was made use of, became otherwise, when a spirit was employed: for in this case, what arises at first is perfectly limpid and clear; the liquor only becoming turbid towards the end of the distillation.

^g The spirit chosen for the distillation of Hungary water, should be perfectly free from all flavour, and as scentless and tasteless as possible; the flowers should be full blown, not bruised, or spoil'd with rains, and gathered as soon as ever the morning dew is off them.

COMPOUND WATERS.

Aqua absinthii composita.

Compound wormwood water.

Take Roots of Calamus aromaticus,
Outer part of fresh Orange-peel,
Cinnamon, of each four ounces ;
Roman Wormwood, half a pound ;
Mint, three ounces ;
Lesser Cardamoms,
Mace, of each one ounce.

Having cut the herbs, roots and orange-peel, and bruised the seeds and spices, pour on them two gallons of French brandy : let the whole steep together for four days, and then draw off two gallons ^h.

Aqua alexeteria.

Alexeterial water.

Take Elder flowers,
Leaves of Scordium, each two pounds ;
Angelica,
Balm, each one pound ;
Mint,
Rue, each half a pound.

To these, fresh gathered, pour three gallons of water, and distill according to art ⁱ.

^h This water is certainly much altered for the better. The small quantity of sage, formerly ordered, could be of no manner of service ; and the galangal, zedoary and nutmegs were supernumerary articles, in a composition containing mace and calamus aromaticus. The smell and taste of common wormwood are too disagreeable, to counterbalance any advantages expected from it ; and therefore Roman wormwood is well substituted in its room. Nutmegs are, perhaps, a more suitable ingredient than mace, not only as being a cheaper spice, but as they are better fitted for distillation.

ⁱ Two ingredients are lopt off from this composition : the one

DISTILLED WATERS.

Aqua bryoniæ composita.

Compound bryony water.

Take Roots of Bryony, one pound ;
 Wild Valerian, four ounces ;
 Penny-royal,
 Rue, each, half a pound ;
 Leaves of Mugwort,
 Flowers of Feverfew,
 Tops of Savin, each an ounce ;
 Outward part of fresh Orange-peel ;
 Lovage-feed, each, two ounces.

Having cut, or bruised, those ingredients, which require such treatment ; steep them, for four days, in two gallons and a half of French brandy : and then draw off, by distillation, the same quantity of liquor ^k.

Aqua

was too insignificant an article, and the other a too unpleasent one, to be any longer continued.

The alterations, which this water has received in the *pharmacopœia pauperum*, are judicious and well founded. The balm, in most seasons, affords so little in distillation, as to be an ingredient justly exceptionable ; and, although the same objection cannot be brought against the mint and rue, yet these, as they increase the number of the ingredients, without any suitable advantage, and tend to make the water less pleasent, are deservedly rejected.— Take of fresh elder flowers, three pounds ; fresh leaves of angelica and scordium, of each a pound and a half ; water, as much as is sufficient. Draw off, by distillation, three gallons. *Pharm. paup.*

^k The virtue of this water is considerably improved by the addition of valerian root. The composition is retrenched of its most insignificant ingredients ; though there still remain several which a severer scrutiny, than perhaps these kinds of medicines deserve, would have rejected.

In the *Pharmacopœia pauperum*, this water, having lost the ingredient which gives it the name above, is called *aqua hysterica*. The reduction of the number of ingredients is not less judicious than remarkable : and the whole is well contrived for the purposes for which it seems principally intended. ——— *Hysteric water* of the

Aqua epidemia.

Plague-water.

Take Roots of Masterwort,
 Butterbur, each four ounces ;
 Virginian Snake-root,
 Zedoary, each two ounces ;
 Angelica feeds,
 Bay-berries, each three ounces ;
 Leaves of Scordium, six ounces¹.

To these, cut or bruised, pour two gallons of French Brandy : digest them together, for four days ; and then draw off, by distillation, two gallons.

Aqua mirabilis.

The wonderfull water.

Take of Cinnamon, two ounces ;
 Outward part of Lemon-peel, one ounce ;
 Seeds of Angelica,

Lesser

pharm. paup. Take of wild valerian root, a pound and a half ; lovage-seed, half a pound ; favin, three ounces ; French brandy, two gallons. Let them steep together, for the space of four days ; and then distill off two gallons.

¹ This water has five less ingredients than it had formerly : of those which now remain, the two first are perhaps the most liable to objection of any. The compilers of the *hospital pharmacopœia* have altered this water in the following manner.—Take roots of masterwort, a pound and a half ; angelica feeds, half a pound ; elder flowers, leaves of scordium, of each four ounces ; French brandy, three gallons. Steep them together for the space of four days ; and then draw off, by distillation, two gallons and a half.—The butterbur, which is here left out, is certainly an useless ingredient ; as affording nothing upon distillation : nor is the zedoary a substance proper for this treatment. This water is less unpleasant than that above ; its ingredients fewer, and better chosen : nevertheless, some of its articles may still be dispensed with, and to the whole given a greater air of simplicity and elegance. But, as the articles which

DISTILLED WATERS.

Lesser Cardamoms,
Mace, each half an ounce ;
Cubeb, two drams ;
Leaves of Balm, six ounces.

On these ingredients, bruised, pour a gallon of French Brandy : digest for four days, and then distill off a gallon ^m.

Aqua petroselinii composita.
Compound parsley-water.

Take Roots of Parsley, four ounces ;
Fresh Horse-radish roots, three ounces ;
Juniper-berries, six ounces ;
Tops of St. Johns wort,
Leaves of the biting Arsmart,
Elder-flowers, each two ounces ;

might be objected to are very cheap, easily procured, and by no means injure the water, the composition may be deemed sufficiently reformed, for the purposes it is intended.

^m This water has likewise lost five of its most useless articles, without losing any of its virtues. It is extremely rich of the spices ; and, if there be no objection to the balm, is sufficiently uniform as to the ingredients, agreeable to the palate, and a warm, serviceable cordial.

The alterations which this water has received in its introduction into the *Pharmacopœia pauperum*, are evident marks of great skill and judgment in these matters. The cinnamon and mace, two ingredients here justly exceptionable, on account of their price, are prudently dropt ; and their place supplied with canella alba, a most happily chosen ingredient, upon all accounts ; while a proper increase of the cardamom-seeds more than amply supplies the loss of the cubeb. — *Aqua mirabilis* of the *hospital dispensatory*. Take canella alba, half a pound ; fresh outward peel of lemons, four ounces ; lesser cardamom-seeds, two ounces ; French brandy, two gallons. Let them steep together for four days ; and then distill off two gallons.

Seeds of Wild Carrot,
Sweet Fennel,
Parsley, each an ounce and a half.

Having cut or bruised these ingredients, steep them for the space of four days, in two gallons of French Brandy, and then draw off, by distillation, the same quantity of liquor ⁿ.

Aqua pœoniæ composita.

Compound pœony-water.

Take Roots of Pœony, two ounces ;
Wild Valerian, an ounce and a half ;
White Dittany, one ounce ;
Pœony seeds, six drams ;
Flowers of Lilly of the valley, fresh gathered,
four ounces ;
Lavender,
Rosemary, each two ounces ;
Tops of Betony,
Marjoram,
Rue,
Sage, each an ounce.

To these, cut or bruised, pour a gallon and a half of French Brandy ; and having suffered them to steep together for four days, distill off a gallon and a half ^o.

Aqua

ⁿ There is no great demand for this water, the compound horse-radish water being more frequently prescribed in the intentions for which it is designed. For this reason probably, the college have not thought fit to make any other alteration in this water, than an increase of the quantity of the juniper berries, which seem to be the best ingredient in it.

^o As this water may be easily supplied with the *compound spirit of lavender* diluted, it might have very well been expunged. For this reason, and because it is very seldom prescribed, the college have not thought it worth while to make any further correction of it, than throwing out the stœchas flowers, which, besides their

Aqua raphani composita.
Compound horse-radish water.

Take Fresh Roots of Horse-radish, three pounds ;
 Leaves of Garden Scurvy grafs,
 Water Cresses, each two pounds ;
 Outward peel of Oranges,
 Lemons, each three ounce.
 Canella alba, four ounces ;
 Nutmegs, one ounce.

Cut or bruise these ingredients ; then steep them for two days in three gallons of French Brandy, and let the same quantity of liquor be drawn off by distillation ^P.

Aqua

being superfluous articles in a composition containing those of lavender and rosemary, were exceptionable on another account, for those which our shops supply us with have rarely any virtue to recommend them. See *Pharmacop. Reform.* p. 206.

The ingredients of this water are too numerous : the pœony roots and seeds, from which it takes its name, yield nothing by distillation : the dittany, betony and sage, though all of the aromatic tribe, afford so little, as not to deserve a place among other more powerful ingredients.

^P This water has received a considerable alteration for the better. The quantity of its most capital ingredient is increased ; and the arum root (an article the most liable to objection, as it affords little or nothing by distillation) judiciously dropt. In short, if this water has not so great a title to simplicity as some modern compositions, it has at least an equal one to any, in point of efficacy and elegance.

The alteration which the compound horse-radish water of the shops has received in passing into the *hospital dispensatory*, affords a fresh instance of the great skill of the compilers : for it is a considerable point to lessen the expence of preparations, without impairing their efficacy or elegance. That this is here effected, will sufficiently appear from comparing the two forms together——

Compound horse-radish water of the pharmacopœia pauperum.

Take fresh horse-radish root, garden scurvy grafs, of each three
 pounds ;

Aqua theriacalis.

Treacle-water.

Take Roots of Butterbur, one pound ;
 Angelica,
 Masterwort, each half a pound ;
 Zedoary, four ounces ;
 Leaves of Rue,
 Scordium, each six ounces ;
 Theriaca, one pound ;
 French Brandy, three gallons.

Digest them together for four days ; and then distill off two gallons and a half ; to which add half a gallon of distilled Vinegar ^q.

pounds; fresh outward peel of Seville oranges, juniper berries, of each half a pound ; canella alba, four ounces ; French brandy two gallons. Steep the berries and canella in the spirit for four days ; then adding the rest of the ingredients, commit the whole to distillation, and draw off two gallons.

^q This water is ordered not to be drawn so low as the other spirituous waters, and with great judgment ; for the addition of the vinegar considerably weakens it, and if drawn low, renders it extremely unsightly. It is left to the choice of the operator to employ either *Andromachus's*, or the *Edinburgh* treacle : the latter is the best of the two ; but neither of them are proper subjects for distillation ; for besides that three fourth parts are honey, which yields nothing, they contain several other ingredients, which afford as little : this article therefore might be well dropt, and its place supplied with two or three ounces of snake-root. The rue leaves ought to be fresh gathered ; for when dry they are good for nothing. Upon the whole, this water might be well omitted, and its place supplied by the plague-water mixed with distilled vinegar, according to the method of the *hospital dispensatory*.

GENERAL RULES *for the distillation of*
COMPOUND WATERS.

I. The herbs, and their parts, ought to be moderately and newly dried, except such as are ordered fresh gathered.

II. After the ingredients have been steeped in the spirit for the time prescribed, as much water (or more) is to be added, as will be sufficient to prevent an empyreuma.

III. The liquor which comes over first in distillation is by some kept by itself, under the title of spirit, and the other runnings, which prove milky, fined down by art; but it is more eligible to mix all the runnings together, without fining them; that the waters may possess the entire virtues of the plants, which is a circumstance to be more regarded than their fineness or lightness.

† If the distillation be managed with a proper degree of skill and care, the heat applied equable and gentle, and no more drawn off than is expressly ordered in the directions above; most of the waters will appear bright and fine: some of them which look turbid just after they are drawn, will grow clear after standing a few days.

The practice of saving some of the first runnings, under the name of spirit, which is here forbid, is certainly very injurious to the composition, since it robs the water of the more volatile and finer parts of the ingredients. Nor is the method of fining turbid waters by alum, &c. less culpable; for these additions produce their effect only by separating from the waters what they had gained from the ingredients.

SECTION IV.

DISTILLED SPIRITS.

Spiritus vini rectificatus.
Rectified spirit of wine.

TAKE any quantity of French Brandy, and distill it to one half, with a very gentle heat.

This rectified spirit being digested for two days with one fourth its quantity of dry salt of tartar in powder, and then distilled in a glass cucurbit, with a very gentle heat, becomes alcohol.

Spiritus cochleariæ.
Spirit of scurvygrafs.

Take Scurvygrafs, fresh gathered, and bruised, ten pounds;
Rectified spirit of wine, five pints.

Steep them together for twelve hours, and then distill off, with the heat of a water-bath, five pints of spirit.

Spiritus lavendulæ compositus.
Compound spirit of lavender.

Take three gallons of French Brandy. Gradually drop into it, stirring the mixture now and then, of the distilled Oils of

Lavender, an ounce and a half;
Rosemary, an ounce;
Marjoram, six drams;
Lemon-peel, half an ounce;
Nutmegs, three drams;
Cloves, two drams;
Cinnamon, one dram.

Take one half of the spirit, thus impregnated with the oils, and distill it in balneo mariæ to two thirds. In the spirit which comes over, suspend (tied up in a linnen cloth) of

Red Saunders, in powder, one ounce;

Cochineal,

English Saffron, each two drams.

To which, if you would have the spirit perfumed, add of

Ambergrease, a scruple;

Musk, half a scruple.

* This composition has quite a new appearance, and bears an uncommon air of elegance and simplicity; at the same time, promising to be a medicine of uncommon efficacy. A great number of useless articles are rejected, and only such retained as are unexceptionable, with regard to the intention of the medicine. Nor is the alteration from plants to their essential oils less commendable; for, by this means, we are enabled to reduce the medicine to a certain degree of strength: but it behoves the apothecary to be extremely careful in the preparation, or choice, of these oils; upon which the goodness of the medicine absolutely depends. Perhaps fewer oils might have served the purpose, and those might have been proportioned more to the advantage of this preparation and the following. But this could not be done without altering their price; a circumstance carefully to be avoided, to prevent sophistication. They may be made richer, of the oil of cinnamon for instance, in extemporaneous prescriptions. The compilers of the *hospital dispensatory* seem, nevertheless, to think, that the form above is still too expensive for their purposes; and have therefore introduced a cheaper of their own. ——— *Compound Spirit of lavender*, of the *pharmacopœia pauperum*. Take flowers of lavender, fresh gathered, a pound and a half; fresh flowers of rosemary, half a pound; fresh outward part of lemon-peel, three ounces; rectified spirit of wine, a gallon and a half. Distill, in balneo mariæ, to dryness: in the distilled spirit steep, for two days, of cloves, cubebs, and shavings of red saunders, each two ounces: then strain out the spirit for use.

Spiritus

Spiritus falinus aromaticus.

Saline aromatic spirit.

To the other half of the above spirit, impregnated with the oils, add of Volatile falt of Sal ammoniac, eight ounces; and immediately distill the mixture, in balneo mariæ, till two thirds are come over^f.

^f These kinds of compositions are called in different pharmacopœias by different appellations; the above seems chosen with great propriety, since it at once distinguishes it from all other compositions of this book, and likewise denotes the intention of the prescriber, which was to flavour a saline spirit with aromatics. The composition above described is, indisputably, a serviceable and elegant medicine; but it is presumed that the dearness of some of the ingredients may make it very liable to sophistication; particularly since abuses of this kind are not so easily discoverable (by reason of the acrimony of the volatile falt) as in the compound spirit of lavender.

The following form in the *hospital dispensatory*, is, perhaps, as little liable to objection as any medicine of this kind.——Take of the distilled oils of rosemary, one ounce; of lemon-peel, six drams; and of cloves, half an ounce; volatile falt of sal ammoniac, eight ounces; French brandy, a gallon and a half. Distill off one gallon.

Several other forms of these kinds of medicines, with particular directions for making them to advantage, may be seen in *Pract. Chem.* p. 402, to which the reader, if he desires farther satisfaction in this affair, is referred.

SECTION

SECTION V.

WATERS, by INFUSION,
and VINEGARS.

Aqua aluminosa.

Alum-water.

TAKE of Sublimate corrosive Mercury,
Roch Alum, each two drams.

Let them be ground into powder, and boiled, in a glass vessel, with a quart of water, to the consumption of one half. Then suffer the feces to subside, and pour off the clear liquor ^a.

Aqua calcis, feu benedicta.

Lime-water.

Take of Quicklime, one pound ;

Warm water, a gallon.

Stir them well together, and when the lime has subsided, pour off the clear liquor, which keep in close vessels.

This water may likewise be made from calcined Oyster-shells ^b.

Aqua

^a The frog-spawn water and rose-water, formerly ordered in this composition, are exchanged for common water, which is full as good for the purpose. The quantity of the alum is likewise doubled. But the composition might perhaps have as well been rejected ; since it is a very unartful one, and very little in use.

^b The lime-water prepared from calcined oyster or cockle-shells appears from some experiments made by Dr. *Whytt*, ^{*} to be a much more

* *Med. Essays, abr. vol. i. p. 495, 503.*

Aqua benedicta composita.
Compound lime-water.

Take Shavings of the wood, and bark of Sassafras,
two ounces ;

Nutmegs, three drams ;

Liquorice root, sliced or well bruised, an ounce ;

Lime-water, fresh made, two quarts.

Digest them for two days in a close vessel, and to the liquor, after it has been strained, add two ounces of the Balsamic syrup ^c.

Aqua ophthalmica.
Eye-water.

Take Bole Armenic, unprepared, two ounces ;

Tutty, unprepared, one ounce ;

White Vitriol, half an ounce ;

Camphor, two drams.

Let these ingredients, reduced to powder, be boiled a little, with two quarts of water, and frequently stirred. Then suffer the feces to subside, and pour off the water for use ^d.

Aqua

more powerful medicine in cases of the stone, than that obtained from common or stone lime ; the dissolving power of the two former being more than double to that of the latter.

^c This composition is taken from *Bates's pharmacopœia* ; but the raisins there ordered are here omitted, as they never fail to ferment and spoil the medicine : the balsamic syrup is not liable to this inconvenience.

^d *Eye-water* of the *hospital dispensatory*—Take white vitriol, half an ounce ; water, four pints. Boil them, till the vitriol is dissolved ; and then filter the liquor.—This simple eye-water is perhaps fully as efficacious for the purposes it is intended to answer, as the more compound one above. For the bole Armenic and tutty cannot be supposed to contribute any virtue to it ; since their indissolubility and gravity must necessarily carry them down to the feces, from which the medicine is ordered to be decanted. Whenever ei-

VINEGARS.

Aqua phagedænica.

Phagedænic water.

Dissolve half a dram of Sublimate corrosive Mercury, in a pint of Lime-water.

Aqua sapphirina.

Sapphire-coloured water.

Dissolve two drams of Sal Ammoniac in a pint of Lime-water newly made; and let the solution stand in a brass vessel, till it has acquired a blue colour.

Aqua styptica.

Styptic water.

Take Blue Vitriol,

Roch Alum, of each half a pound;

Water two quarts.

Boil, till the salts are dissolved; then filtre the liquor, and to every pint of it add a dram of Oil of Vitriol.

VINEGARS.

Acetum distillatum, seu spiritus aceti.

Distilled vinegar, or spirit of vinegar.

Put any quantity of the best ^e vinegar, into a glazed earthen pot, and with a gentle heat, in balneo mariæ, evaporate

ther of these substances is wanted, it seems the best way to add them occasionally; and to make use of the liquor, while it remains turbid. Camphor, it is said, will communicate a little matter of its taste and smell to boiling water: but whether so much of it remains in the liquor, as to give any degree of virtue, we shall not take upon us to determine; but only observe, that in the hospital form it is omitted.

^e Wine-vinegar is more proper for distillation than beer-vinegar; for the latter, however acid and fine, contains a large portion of a viscous, mucilaginous substance, as is evident from the sliminess and ropiness, to which this kind of vinegar is very subject: this not only

evaporate about one fourth part of it: then distill the remainder in an alembic with a glass head, with a fire gradually increased, as long as the spirit comes off clear ^f.

Acetum rosatum.

Vinegar of roses.

Take Red Roses, clipped from the white heels, and dried,
one pound ;

The strongest Vinegar, a gallon.

Expose them to the sun, in a close vessel for forty days, and then strain off the liquor.

This preparation may be sooner made by digesting the ingredients together in a water-bath kept boiling hot, for some hours.

In the same manner are prepared,

Acetum Rutaceum,

Vinegar of Rue.

Sambucinum, &c.

Elder, &c.

hinders the acid parts from arising freely, but is likewise very apt to make the vinegar boil over into the recipient, and at the same time subjects it to receive a disagreeable impression from the fire: and indeed, it is extremely difficult to avoid an empyreuma, even with the best vinegar, if the distillation be continued to any great length. The best method of preventing this inconvenience is, if a retort be made use of, not to place the sand too high up its sides; and when somewhat more than half the vinegar is come over, to pour to the remainder a quantity of fresh vinegar, made hot, equal to that of the liquor drawn off: this may be repeated three or four times. If the common still be employed for this purpose, the head should be made of pure tin, and fresh vinegar frequently added, in proportion as the distilled liquor runs off; otherwise an empyreuma is unavoidable. See *Pract. Chem.* p. 292.

^f That is, as long as it comes over purely acid, without any burnt taste.

Acetum scilliticum:

Vinegar of squills.

Take Squills, cut into thin slices, one pound ;
Strongest Vinegar, three quarts.

Expose them to the sun in the same manner as is directed in the vinegar of roses ; and afterwards press out and strain the liquor ^g.

Acetum theriacale.

Treacle-vinegar.

Take of Venice, or Edinburgh Treacle, one pound ;
Strongest Vinegar, two quarts.

Digest in a very gentle heat, for three days, and then strain out the vinegar for use.

Acetum lithargyrites.

Litharge-vinegar.

Take of the Litharge of gold, four ounces ;
Strongest Vinegar, a pint.

Digest in a sand-heat, for four days, frequently shaking them, then filter the liquor for use ^h.

^g The preparation here directed is not near so strong as that in the last dispensatory, fresh squills being now used in the same quantity that dry ones were ordered formerly: the trouble of drying them answered no useful purpose. Some are accustomed to add to this composition a small portion of spirit of wine, to preserve it from growing foul; but if the vinegar be good, and the infusion be carefully decanted from the feces after it has stood for some time, and kept from the air, it will continue in perfection a long time. See some farther remarks on this vinegar in *Pharm. Reform.* p. 123.

^h This process is best performed in leaden vessels.

SECTION VI.

TINCTURES, ELIXIRS,
and MEDICATED WINES.

Tinctura antimonii.
Tincture of antimony.

TAKE Antimony,
Nitre ^a, of each two ounces.

Grind them to powder, which gradually inject upon four ounces of Salt of Tartar previously fused in a crucible with a strong fire. Continue the fusion for half an hour, then pour out the mixture into a hot and dry iron mortar. Powder the mass while warm, put it into a heated matras ^b, and pour on it a quart of rectified spirit of wine. Digest them together for eight days in a gentle heat of sand; and then filtre the tincture ^c.

Tinctura antiphthifica.
Antiphthifical tincture.

Take Sugar of Lead, an ounce and a half;
Vitriol of Iron, an ounce;

Rectified

^a The nitre should be well dried, before it is mixed with the antimony; and both of them made very hot, before they are injected upon the salt of tartar.

^b As the glass is very apt to be broke in this process, it may be more convenient to heat the spirit of wine in the matras, and pour the hot powder into the spirit. But a common glass receiver is a fitter vessel than a matras, for this purpose; as the powder may be more easily poured immediately into the spirit, than it can through the long neck of the other. To prevent the exhalation of any part of the menstruum, a long pipe made for the purpose, (see *pract. chem. pl. 2. fig. 9*) may be luted occasionally to the mouth of the receiver.

^c This has been thought by many, to be only a slight tincture of hepar sulphuris: but it has been found to provoke a puke, when
taken

TINCTURES.

Rectified spirit of wine, a pint.
Extract a tincture without heat.

Tinctura balsamica.

Balsamic tincture.

Take Balsam of Copaiba, an ounce ;
Peru, three drams ;
Tolu, two drams ;

Benzoine, half a dram ;

English Saffron, a scruple ;

Rectified spirit of wine, a pint.

Digest for four days in a sand-heat ; and then strain off the tincture ^d.

Tinctura cantharidum.

Tincture of cantharides.

Take of Cantharides, two drams ;

Rectified spirit of wine, a pint and a half.

Digest them in a very gentle heat for two days ; then strain off the tincture, and add to it

Balsam of Copaiba, one ounce ;

Gum Guaicum, half an ounce ;

Cochineal, half a dram.

Digest again, in a sand-heat, for four or five days ; and to the tincture, after straining it, add

Camphor, two drams ;

Distilled oil of Juniper, one dram ^e.

Tinctura

taken on an empty stomach, even in a small dose. It appears therefore to be impregnated with some of the finer parts of the regulus of antimony ; and probably, if the tincture was drawn with wine, it would prove as emetic as the infusion of crocus metallorum. The colour of this preparation is certainly owing to the sulphur, or rather hepar sulphuris.

^d This tincture is considerably improved, by increasing the quantity of its three capital ingredients.

^e The process for making this tincture, is ordered with great skill and judgment, though the ingredients are certainly liable to objection. But perhaps it is better to let medicines of this class, whose

Tinctura castorei.

Tincture of castor.

Take Ruffia Castor, an ounce and a half;

Rectified spirit of wine, a pint.

Digest them, in a gentle heat, for four days, and then strain the tincture.

Tinctura corticis Peruviani.

Tincture of Peruvian bark.

Take of Peruvian bark, in powder, three ounces ;
Virginian Snake-root,

whose virtues have been approved by experience, stand unaltered, than for the sake of reasons of no great weight, to make such alterations in them, as might make the medicine turn out otherwise than expected.

Tincture of cantharides of the hospital pharmacopœia.—Take of cantharides, half an ounce ; rectified spirit of wine, three pints. Digest them together in a very gentle heat, for two days ; then filter the tincture, and digest it again in a sand heat, with the addition of three ounces of balsam of Copaiba, till the balsam is dissolved : after which, add half an ounce of camphor.

† The college have thrown out the salt of tartar, which was certainly useless, if not prejudicial. It has been disputed, whether a weak is preferable to a rectified spirit, and cold maceration to warm digestion, for drawing this tincture. To determine this point, the following experiment has been brought : some fine Siberia castor was infused in good French brandy, in the proportion ordered above ; after twenty days maceration, the tincture proved very weak : on the same individual castor (the magma or residuum of the former tincture) the same quantity of rectified spirit was poured, as before of brandy ; and after a few hours warm digestion, a tincture was obtained much stronger than the other. But this experiment does not seem conclusive : for the maceration in a weak spirit might probably have opened and unlocked the oily texture of the castor, by dissolving its mucilaginous parts, and thus fitted it for the action of a rectified spirit. For farther satisfaction upon this head, the reader is referred to the experiments related in the note upon castor, in page 74.

Gentian, of each two drams;
French Brandy, a quart.

Let them steep together for four days, and afterwards
filtre the tincture ^g.

Tinctura croci.

Tincture of saffron.

Take English Saffron, one ounce;
French Brandy, a pint.

After digesting them for three days, let the tincture
be strained off for use ^h.

Tinctura cephalica.

Cephalic tincture.

Take Pœony-roots, two ounces;

Roots of Casmunair,

White Dittany, of each six drams;

Wild Valerian,

Mistletoe of the Oak, of each one ounce;

Peacocks dung,

Rosemary-flowers, of each half an ounce;

French white Wine, three quarts.

Digest them together for four days, and then filtre
the tincture ⁱ.

^g This promises to be an excellent medicine: the ingredients are few and efficacious: the menstruum is of a due strength, and its quantity well adjusted.

^h The college have justly rejected the tincture of saffron drawn with wine, as it does not keep long without growing weaker, and depositing a sediment.

ⁱ This composition is extremely singular, with regard to the choice of its ingredients. The roots of casmunair and wild valerian, and the rosemary flowers are indisputably well chosen. These coincide in one general intention, and seem to improve and heighten the taste, smell and virtue of each other. But the pœony roots, white dittany, and mistletoe of the oak, are mere expletives. The peacocks dung is too filthy and ridiculous an article, to deserve any further notice.

Tinctura

Tinctura cephalica purgans.

Purging cephalic tincture.

This tincture is made by adding to the former,
 Sena-leaves, two ounces;
 Black Hellebore-roots, one ounce;
 French white Wine, a quart.

Tinctura fuliginis.

Tincture of soot.

Take of Shining wood Soot, one ounce;
 Afa foetida, half an ounce;
 French Brandy, a pint.

After four days digestion, strain the tincture ^k.

Tinctura hellebori nigri.

Tincture of black hellebore.

Take of Black Hellebore-roots, four ounces;
 Cochineal, half a dram.

Pour on them, previously bruised, a quart of Spanish white Wine, and digest, with a very gentle heat, for four days; after which, the tincture is to be filtered for use ^l.

^k Fuller (in his *pharmacopœia domestica*) has a medicine under the title of *tinctura hysterica*, like this, only with the addition of half an ounce of myrrh, an ingredient which can be but of little use in this tincture: the quantity of the menstruum likewise is double to that here ordered, and the extraction is directed to be performed without heat. Here it is well worth observing, that most of the tinctures of the shops, being usually made with heat, and with much too scanty a portion of the menstruum, are apt to let fall a considerable quantity of what they had at first taken up, and thus are continually varying in their strength, an inconvenience which too much care cannot be taken to prevent.

^l It appears from M. *Boulluc's* experiments, that the roots of black hellebore are very little resinous: wine therefore is a well adapted menstruum to extract their virtue; but great care ought to be taken not to turn the wine sour by too long continued digestion, or too great a heat.

Tinctura jalappæ.
Tincture of jalap.

On three ounces of Jalap-root, in coarse powder, pour a pint of Rectified spirit of wine, and digest them together, in a gentle heat, for eight days; then strain off the tincture ^m.

Tinctura jalappæ composita.
Compound tincture of jalap.

Take of Jalap-root, six drams;
 Roots of black Hellebore, three drams;
 Juniper-berries,
 Shavings of Guaiacum, each half an ounce;
 French Brandy, a pint and a half.

Digest for three days, and then strain off the tincture.

Tinctura ipecacuanhæ.
Tincture of ipecacuana.

Take of Ipecacuana-root, in powder, one ounce;
 Cochineal, one scruple;
 Spanish white Wine, a pint.

After two days digestion, let the tincture be filtered for use ⁿ.

Tinctura

^m This tincture with rectified spirit has been for a long time in use with us. It is never given alone, but in mixtures of *tinctura sacra*, syrup of buckthorn, &c. which mixtures should not be very liquid, for fear of precipitation. The proper menstruum for drawing the tincture of jalap, when it is to be taken by itself, is weak spirit, as the London committee have judiciously directed, with the commentators approbation. See *Pharmacop. reform.* p. 221. The college of Edinburgh orders the same for the compound tincture: such a menstruum takes up as much of the saline and gummy parts as sufficiently corrects the griping quality of the resin.

ⁿ As this root is not resinous, wine and water are equally proper menstrua for extracting its virtues; but the former is preferable

Tinctura laccæ.
Tincture of gum-lac.

Take of Gum-lac, one ounce ;
 Myrrh, half an ounce.

Powder, and make them into a soft paste, with a sufficient quantity of Oil of Tartar per deliquium : exsiccate the mass with a gentle fire, and add to it a pint and a half of Spirit of Scurvy-grass. Digest the mixture in a sand-heat, for four days, and then strain off the tincture.

Tinctura martis.
Tincture of steel.

Take of Filings of Iron, unprepared, three ounces ;
 Dulcified spirit of Salt, two pounds.

Digest them, in a gentle heat of sand, for three days, and then filtre the tincture °.

on account of its keeping better. As the cochineal is here added merely for the colour, some choose to omit it, as finding several people to be alarmed at the colour of what they threw up, as if it proceeded from blood ; and it is, probably for this reason, left out in the hospital dispensatory.

° This tincture of steel is improperly so called, as it is nothing else than a real solution of the metal. That menstruum therefore is the best, which being safe and innocent, dissolves, and keeps suspended, the greatest quantity thereof ; for which purpose the dulcified spirit of salt, here ordered, or spirit of vinegar, bid fairest : the dulcified spirit of nitre, recommended by some authors, dissolves the metal readily, but does not keep it suspended. As, therefore, tinctures of steel differ only in point of strength, it is quite needless to burthen the shops with more than one : the strongest may be brought down to any degree of weakness, by dilution. In the last edition of the dispensatory, two tinctures of steel were ordered, one drawn with spirit, the other with wine, for different mixtures, to prevent precipitation. But upon examination, that called *Mynsichts*, drawn with wine, was found not to differ in strength from the *vinum chalybeatum* : and the other, with spirit, comes far short of this made with dulcified spirit of salt.

Tinctura menthæ.

Tincture of mint.

Take of Mint-water, a pint ;

Mint-leaves, dried, an ounce.

Let them steep, in a close stopt vial, set in a warm place, for four hours, and then strain the tincture.

Tinctura myrrhæ.

Tincture of myrrh.

Take an ounce and a half of Myrrh in powder ; and make it into a soft paste, with a sufficient quantity of Oil of Tartar per deliquium ; exsiccate the mass with a gentle fire ; pour on it a pint of Rectified spirit of wine, and digest the mixture in a sand-heat for six days, when the tincture is to be strained off for use ^p.

Tinctura

^p *Boerhaave* and the compilers of this dispensatory are of opinion, that no good tincture can be drawn from myrrh by spirit of wine, without the assistance of lixivial salts. But as several experiments have lately been brought to support the contrary opinion, an exact account of the whole dispute may perhaps settle this point to the readers satisfaction.

The gentlemen appointed to reform the London *pharmacopœia* observe, that myrrh, boiled in water, dissolves freely, and keeps almost entirely suspended while boiling hot ; and that only one third, or less, subsides upon the decoctions growing cold ; that the solution being strained and evaporated, leaves a gum dissolvable again in water, but not in spirit ; that spirit will take up a great part of what precipitates from the decoction, the rest seeming to be dregs. They observe likewise, that salt of tartar does not enable spirit to dissolve more of the myrrh than this resinous part. A quantity of myrrh, first powdered, being divided into two equal parts, one reserved by itself, and the other macerated with salt of tartar for more than half a year, were both set in the same heat with equal quantities of spirit ; each of these tinctures, being evaporated, were found to contain equal quantities of resin. But it has been objected that another kind of manage-
ment

Tinctura myrrhæ & aloes.
Tincture of myrrh and aloes.

Take of Myrrh, in powder, two ounces ;
 Rectified spirit of wine, a quart.

Digest them in a sand-heat, for eight days, and then add an ounce of Hepatic Aloes, in powder. Continue the digestion for two days longer ; after which let the tincture be strained off ^a.

ment of the myrrh and salt of tartar, than that observed in the above experiment, is directed by *Boerhaave*, and the *Edinburgh pharmacopæia* ; and that the success of the process depends upon the evaporation of the superfluous humidity, a circumstance neglected in the above experiment. Nevertheless, tincture of myrrh, prepared exactly according to *Boerhaave's* directions, appears of a more dilute milky colour, upon the addition of water, than a tincture made with alcohol and myrrh alone. It should seem likewise, that by the repeated evaporation, which *Boerhaave* orders, some of the fine oil, which myrrh yields upon distillation with water, should be dissipated ; and it is for this reason, that the evaporation is here ordered to be performed but once.

What perhaps has given occasion to the use of alkaline salts in these preparations is the fallacious, though common, method of judging of the strength of tinctures from the deepness of their colour. It is certain from many observations, that alkaline salts contribute greatly to promote this ; and it is equally certain from the experiment above, that they do not promote the solution of the myrrh, since no more appears taken up in the deeper coloured tincture than in the paler. — Upon the whole, if the aromatic resinous part of myrrh be wanted, a highly rectified spirit is the proper menstruum : and if some of the gummy, as well as the resinous parts, be required in the same tincture, a proof spirit is sufficiently able to extract them both, without the assistance of alkaline salts, as indeed succeeded with me upon trial.

^a The fixed salt is here left out, as being improper for surgical dressings, for which this tincture is designed : and for this reason, the myrrh is ordered in double the quantity of the aloes.

Tinctura opii, seu laudanum liquidum.

Tincture of opium, or liquid laudanum.

Take of Opium, unprepared, two ounces ;

English Saffron, one ounce ;

Canary Wine,

French Brandy, each ten ounces.

In a gentle heat of sand extract a tincture ; which is afterwards to be strained †.

† It is surprising, that none of the pharmaceutical writers take any notice of the defects of *Sydenham's* liquid laudanum ; yet it is certain, that after it has been kept for some time, about one fourth part of the opium contained in it is lost in a gross sediment. This loss is attended with great inconvenience ; for during the precipitation, the laudanum is growing always weaker, so that newly prepared laudanum is, perhaps, a fourth part stronger than the same laudanum, when it has stood for any time. To remedy this, brandy has been employed in some shops instead of wine ; but the laudanum, thus prepared, loses much the same proportion of opium, in time, as the other, which forms in a crust towards its surface all round the glass. By mixing wine and brandy in equal parts, as here directed, both inconveniencies are prevented, the tincture parting with so little opium either way, as to keep always an equal strength : it would however be convenient to increase the quantity of the menstruum, that the dose might be more easily ascertained, according to the observation in *Pharm. reform.* p. 121. The college have very justly thrown out the trifling quantity of the two spices, which could have no other effect than to absorb some of the scanty menstruum.—Several tinctures of opium may be seen in *Pract. Chem.* (p. 342, & seq) one in particular, (p. 345.) not liable to the objections usually formed against most of the preparations of this kind, with regard to the uncertainty of the dose ; for in that, it is so contrived as to be determined by weight.—The *hospital dispensatory* has rejected the saffron from this tincture : it certainly answers no manner of purpose, and makes the medicine more unpleasant, and apt to let fall some of the opium.

Elixir

Elixir pectorale.

Pectoral elixir.

Take of Balsam of Tolu, two ounces;
Benzoine, an ounce and a half;
English Saffron, half an ounce;
Rectified spirit of wine, a quart.

Digest them, in a sand-heat, for four days, and then strain off the tincture^f.

Elixir polychrestum.

Elixir of many virtues.

Take of Gum Guaiacum, six ounces;
Balsam of Peru, half an ounce;
Rectified spirit of wine, a quart.

Digest them, in a sand-heat, for four days, strain out the tincture, and add to it two drams of distilled Oil of Sassafras^g.

Elixir proprietatis.

Elixir of property.

Take of Myrrh, in powder, two ounces. Make it

^f This elixir is reduced to a great degree of elegance and simplicity. The storax in the former composition, now rejected, was a supernumerary article; and so small a quantity of myrrh as three drams, could afford but little virtue to twenty ounces of menstruum, especially as not above one fourth, or one fifth part of it, is soluble in a rectified spirit. The long continued digestion, which was supposed necessary when myrrh was one of the ingredients, is now prudently reduced to half the time, and even less than this would suffice. It would, perhaps, be more convenient to extract a tincture first from the saffron by itself, and then to add the two other ingredients, which being almost resin would quickly dissolve in the menstruum here directed, if the vessel was now and then shaken.

^g In the last edition of this dispensatory, the quantity of the gum was by much too small; but it is here increased to double. The addition of oil of sassafras makes this pretty much such a medicine, as that called in the foreign pharmacopœias *essentia lignorum*.

into

into a soft paste, with a sufficient quantity of Oil of Tartar per deliquium. Exsiccate the mass with a gentle heat; pour on it a quart of Rectified spirit of wine¹, and digest in a sand-heat, for the space of four days; then add an ounce and a half of Succotrine Aloes, in powder, and an ounce of English Saffron; continue the digestion for two days longer, and then having suffered the feces to subside, pour off the clear elixir.

Elixir proprietatis cum acido.

Acid elixir of property.

Take of Myrrh, in powder, an ounce and a half;
Succotrine Aloes, in powder, an ounce;
English Saffron, half an ounce;
Rectified spirit of wine, twenty-four ounces;
Dulcified spirit of Vitriol, six ounces.

Digest them, in a sand-heat, for the space of four days; and having then suffered the feces to subside, pour off the clear elixir^u.

Tinctura rhabarbari.

Tincture of rhubarb.

Take of Rhubarb, cut and bruised, one ounce;
Vitriolated Tartar, half a dram;
Cochineal, one scruple;
Cinnamon-water without spirit, a pint.

Digest them for a night, in a warm place, and then strain out the tincture for use.

¹ A tincture of myrrh made with a lower spirit than that here directed, is, I presume, preferable to one made with a high rectified spirit, for reasons already alledged in the note on the article *myrrh*, in page 45, and on *tinctura myrrhæ*, page 134.

^u This was ordered, in the last edition, to be made with spirit of sulphur: but upon adding this acid, as directed, it occasioned a copious precipitation, to the great detriment of the elixir, which is prevented by the alteration here made. The sal ammoniac is justly rejected as useless.

Tinctura rhei amara.

Bitter tincture of rhubarb.

Take of Rhubarb, one ounce ;
 Gentian root, a dram and a half.
 Virginian Snake-root, a dram ;
 Cochineal, a scruple ;
 French Brandy, a pint.

Digest for two days, and then strain the tincture.

This tincture may be likewise made with Spanish white wine ^w.

Tinctura rhei dulcis.

Sweet tincture of rhubarb.

Take Choice Rhubarb,
 Liquorice sliced, of each two ounces ;
 Raisins of the sun, stoned, one ounce ;
 Canella alba,
 Lesser Cardamoms, of each two drams ;
 French Brandy, a quart.

Digest for two days, and then, having strained out the tincture, add to it three ounces of white Sugar candy in powder, and digest again till the sugar is dissolved ^x.

Tinctura rosarum.

Tincture of roses.

Take Red Roses cleared of the white heels, one ounce ;
 Spirit of Vitriol, one dram ;
 Boiling Water, two quarts.

^w The compilers of the *hospital pharmacopœia*, have thought proper to throw out the cochineal from this composition.

^x This tincture is taken from *Bates* ; but the substituting canella alba and cardamoms, to the aniseeds ordered by that author, greatly improves the medicine, particularly in point of taste. As the liquorice and raisins are of no other use than to sweeten, and as they must absorb a great deal of the menstruum, they might be thrown out, and the quantity of sugar doubled.

Infuse

Infuse them together for four hours ; then filtre the tincture, and add to it four ounces of white Sugar ^y.

Tinctura sacra.

The sacred tincture.

Take Succotrine Aloes, in powder, one ounce ;
 Lesser Cardamom-seeds,
 Virginian Snake-root, of each a dram ;
 Cochineal, a scruple ;
 Spanish white Wine, a pint and a half.

Digest in a very gentle heat for two days, and then strain off the tincture ^z.

Elixir sacrum.

The sacred elixir.

Take Succotrine Aloes in powder,
 Choice Rhubarb, cut small,

^y The compilers of this *pharmacopæia* have all along directed the acid liquor to be weighed, not measured by drops. This alteration has also been received by the committee of the college of London, who have likewise judiciously ordered the oil of vitriol to be mixed with the water, before the roses are put in ; for the undiluted spirit will burn and destroy the texture of such of the roses as it falls upon. If a common glazed earthen vessel be employed, the acid will corrode the glazing ; therefore a glass, or stone-ware one (as it is called) should be chosen for this purpose.

^z This celebrated medicine, as now reformed, has a just title to elegance and simplicity, and due regard has been paid to the intention in which it is generally prescribed. The galangal and zedoary, two useless ingredients in the tinctura sacra of the former editions, are now judiciously dropt. The snake-root, which is introduced instead of asarum, is a warm root, of very subtil and penetrating parts, by which the action of this medicine is extended to further purposes, than those of a simple purgative. See *Pharm. reform.* p. 158.

Tinctura sacra of the *hospital pharmacopæia*.—Take of succotrine aloes, two ounces ; canella alba and ginger, each two drams ; French brandy, three pints. Digest for two days, and then strain the tincture.

Bay-berries bruised, of each an ounce ;
French Brandy, a quart.

Digest for two days, and then strain the elixir.

Elixir salutis.

Elixir of health.

Take Sena leaves, two ounces ;
Choice Rhubarb ^a,
Sweet Fennel-seeds,
Juniper-berries,
Shavings of Guaiacum wood, of each one ounce;
French Brandy, three pints.

Digest for the space of four days, and then to the liquor strained add four ounces of white Sugar candy, in powder ^b.

Tinctura salutifera.

Tincture of health.

Take Angelica-roots,
Calamus aromaticus,
Galangal,
Gentian-root,
Zedoary,
Bay-berries,
Lesser Cardamom seeds,
Cinnamon,

^a In the hospital dispensatory, jalap is put in the place of rhubarb.

^b This medicine is much improved, as to its purgative virtues, by the addition of rhubarb, and in point of taste, by throwing out some unnecessary ingredients, and introducing such as are more grateful : but, possibly, this medicine might be still further improved, in both these respects, by entirely throwing out the rhubarb, and increasing the quantity of sena. The guaiacum is deservedly retained ; as it is found to have very good effects, when joined with purgatives. Two drams of sena, infused in half a pound of decoction of guaiacum, work as briskly, and more easily than three drams infused in plain water.

Long-

Long Pepper, of each one dram ;
French Brandy, a quart.

Let them steep together for three days, and then
filtre the tincture ^c.

Tinctura serpentariæ composita.
Compound tincture of snake-root.

Take of Virginian Snake-root, two ounces ;
Theriaca, one ounce ;
Cochineal, a dram ;
Spanish white Wine, a quart.

Digest them in a gentle heat for four days, and then
strain off the tincture.

Tinctura ad stomachicos.
Stomachic tincture.

Take Roots of Calamus aromaticus,
Galangal,
Gentian,
Zedoary,
Orange-peel,
Peruvian bark, of each two ounces ;
Tops of Wormwood,
Lesser Centaury,
Camomile flowers,
Seeds of Carduus benedictus, of each one ounce ;
Filings of Iron, unprepared, tied up in a bag, six
ounces ;
French white Wine, two gallons.

^c This composition has escaped, unaltered, through the several
editions of the pharmacopœia : but nevertheless the ingredients are
too numerous ; and several of them might be left out, to the real
advantage of the medicine ; such are the calamus aromaticus, galan-
gal, gentian and bay-berries : some of these render it too nauseous,
for the purposes it seems intended.

Digest

Digest for the space of four days, and then filtre the tincture ^d.

This tincture may likewise be made without iron.

Elixir stomachicum.

Stomachic elixir.

Take Gentian-root,

Outward part of fresh Orange-peel, of each
two ounces;

Cochineal, half a dram;

French Brandy, a quart.

Let them steep for three days, and then filtre the elixir.

Tinctura succini.

Tincture of amber.

To two ounces of yellow Amber, in powder, add a sufficient quantity of Oil of Tartar per deliquium to make it into a paste; gently exsiccate the mass, and pour on it twenty ounces of Rectified spirit of wine. Digest the mixture in a sand-heat for eight days, and then filtre the tincture for use.

Tinctura sudorifica.

Sudorific tincture.

Take of Virginian Snake-root, five drams;

Cochineal, half an ounce;

Russia Castor, one dram;

English Saffron, two scruples;

Opium, one scruple;

Spirit of Mindererus, a pint.

Digest them for three days in a gentle heat, and then strain off the tincture ^e.

Tinctura

^d This is a prescription of the late famous Dr. *Pitcairn*. Though none of the materials are improper, yet the exuberancy of the composition might have been reduced, without any loss to its virtues. The galangal, zedoary, wormwood and carduus seeds, may very well be spared.

^e This seems to promise fair to be a most excellent medicine; and

Tinctura Tolutana.

Tincture of balsam of Tolu.

Take Balsam of Tolu, an ounce and a half;
Rectified Spirit of wine, a pint.

Digest in a sand-heat, till the balsam is dissolved,
and then let the tincture be strained out for use.

Elixir vitrioli.

Elixir of vitriol.

Into two pounds of dulcified Spirit of Vitriol, gradually drop of

Distilled Oil of Mint, half an ounce;

Lemon-peel,

Nutmegs, each two drams.

Mix the whole well together †.

Vinum chalybeatum.

Steel wine.

Take Filings of Iron, unprepared, three ounces;

Cochineal, half a dram;

Rhenish white Wine, a quart.

and although the virtues of cochineal and castor should be disputed, yet the snake-root, saffron and opium are of the most powerful kind; the menstruum is such as will not only extract those parts of the ingredients, in which their virtue consists, but at the same time, is capable of greatly promoting the efficacy of the whole.

† This formula has undergone so great a change, as to become a medicine of a quite different class from that usually intended under the appellation of *elixir vitrioli*; for in this, there is no perceptible acid, if the *spiritus vitrioli dulcis* be made as it ought to be; and if otherwise, it will not dissolve the essential oils, as here supposed. †Tis extremely probable, that the contrivers of this alteration intended by it to avoid the inconveniencies, which the common elixirs of vitriol are subject to, such as the precipitation of such parts of the aromatics, as the spirit has at first extracted. In the form it now bears, it is an agreeable and powerful medicine; and may be made to answer the intentions of the acid elixir of vitriol, by occasionally adding a few drops of the acid spirit.

Digest

Digest in a sand-heat for ten days, and then filtre the wine for use ^ε.

Vinum emeticum.

Emetic wine.

Put an ounce of Crocus Metallorum into a pint of Spanish white Wine: stir them well together; then let the mixture stand till it has perfectly settled, and carefully pour off the wine.

Vinum millepedatum.

Wine with millepedes.

Upon two ounces of live Millepedes, bruised, pour a pint of Rhenish white Wine. Infuse them together for a night, and afterwards press and strain out the liquor.

Spiritus vini camphoratus.

Camphorated spirit of wine.

Dissolve an ounce of Camphor in a pint of Rectified spirit of wine.

^ε The college follow *Boerhaave's* way of making this wine. The Rhenish is an excellent menstruum with regard to steel, and takes up a considerable quantity of it. The committee of the college of physicians of London, prefer this wine to the Mountain formerly ordered in their book, and accordingly have inserted it in the plan. The form, which these gentlemen have given, differs considerably from this, and is as follows.—Take filings of iron, four ounces; cinnamon, mace, of each half an ounce: steep them for a month in two quarts of Rhenish wine, frequently shaking the mixture, which is afterwards to be strained.

GENERAL RULES *for extracting*
TINCTURES.

I. The vegetable substances ought to be moderately and newly dried, unless they are expressly ordered otherwise. They ought likewise to be cut and bruised, before the menstruum is poured on them.

II. If the digestion is performed in balneo, the whole success depends upon a proper management of the heat, which ought to be all along gentle, unless the hard texture of the subject should require it to be augmented; in which case, the heat may be increased so as to make the menstruum boil a little, towards the end of the process.

III. Very large circulatory vessels ought to be employed for this purpose; which should be heated, before they are luted together.

IV. The vessel is to be frequently shaken during the digestion.

V. All tinctures should be suffered to settle, before they are committed either to the filtre or strainer.

VI. In the tinctures (and distilled spirits likewise) designed for internal use, no other spirit (drawn from malt, melasses, or other fermented matters) is to be used, than that expressly prescribed.

SECTION VII.

DECOCTIONS, &c.

Decoctum album.

The white decoction.

TAKE of Calcined Hartshorn, (*finely levigated*) one ounce;

Water, three pints.

Boil to two pints; then add to the decoction unstrained,

Of Cinnamon-water, made without spirit, one ounce;

White Sugar, two drams.

Mix them together ^a.

Decoctum album compositum.

The compound white decoction.

Take of Calcined Hartshorn, six drams;

Crabs eyes, three drams;

Roots of the greater Comfrey,

Tormentil, each two drams;

Water, three pints.

Boil till there remains a quart of liquor after straining; to which, while turbid, add

^a There seems to be no necessity of boiling the water at all, unless it be to preserve the old name to this medicine. Calcined hartshorn contains nothing in it soluble by such treatment, nor is the water enabled thereby to support any more of the calx than cold water will take up. Some are accustomed to add a small proportion of gum Arabic, to enable the liquor to keep more of the powder suspended; but perhaps a little starch would be a more eligible ingredient for this purpose.

Of Cinnamon-water, made without spirit, one ounce ;
 Syrup of Meconium, half an ounce.
 Mix them all well together ^b.

Decoctum commune pro clystere.
The common decoction for glisters.

Take Leaves of Mallows,
 Mercury,
 Camomile-flowers, of each half an ounce ;
 Fennel-feed,
 Linseed, of each two drams ;
 Water, a pint and a half.

Boil them together to the consumption of one third
 of the liquor, then strain off the decoction ^c.

Decoctum diascordii.
Decoction of diascordium.

Take of Diascordium, one ounce ;
 Japan earth, two drams ;
 Water, a pint and a half.

Let them be boiled together till only a pint of li-
 quor remains after straining; to which, while turbid,
 add an ounce of Cinnamon-water made with spirit, and
 the same quantity of Syrup of Meconium. Mix them
 together.

Decoctum emolliens pro fotu.
Emollient decoction for fomentations.

Take of Mallow-leaves, one ounce ;
 Camomile-flowers,
 Melilot-flowers,

^b This is an extremely well contrived composition for the pur-
 poses it is designed. The decoction of the roots is so tenacious as
 to support a large quantity of the powders, to which the syrup
 considerably contributes.

^c The camomile-flowers and fennel-feed should be added towards
 the end of the decoction, to prevent their volatile parts from flying
 away.

Elder-flowers, each half an ounce ;
Fœnugreek-feed, one ounce.

Boil them in two quarts of Water.

This decoction may likewise be prepared without the Fœnugreek-feed.

Decoctum ad ictericos.

Icteric decoction.

Take Roots and leaves of the greater Celandine,
of Turmeric,
Madder, of each one ounce ;
Water, three pints.

Boil them till only a quart of liquor remains after straining ; to which, when grown cold, add the juice of two hundred Millepedes, and two ounces of the Syrup of the five roots ; then mix them all together ^d.

Decoctum lignorum.

Decoction of the woods.

Take Shavings of Guaiacum-wood, three ounces ;
Stoned Raisins of the sun, two ounces ;
Water, a gallon.

Let them boil over a gentle fire, to the consumption of one half, adding, towards the end of the decoction, an ounce of shavings of Sassafras-wood, and half an ounce of sliced Liquorice. Strain out the liquor, and having suffered it to rest for some time, pour off the clear from the feces ^e.

Decoctum

^d The ingredients of which this decoction is composed, have been long held by many, as specifics for the cure of the disease expressed in the title. The medicine is extremely unpleasant ; but seems well calculated to answer many useful purposes, if well managed, and properly assisted.

^e This decoction is well contrived, unless the raisins, which are perhaps an exceptionable article, be objected to. Great part of the virtue of the sassafras-wood depends upon its essential oil. This ingredient therefore is prudently ordered not to be put in till towards

DECOCTIONS.

Decoctum ad nephriticos.

Nephritic decoction.

Take Marshmallow-roots,
 Liquorice,
 Roots of Rest-harrow, of each half an ounce;
 Linfeed,
 Seeds of wild Carrot, each three drams;
 Pellitory of the wall, one ounce;
 Four fat Figs;
 Stoned Raisins of the sun, two ounces;
 Water, three quarts.

Boil them till there remains only two quarts of liquor after straining.

Decoctum nitrosum.

Nitrous decoction.

Take of Purest Nitre, half an ounce;
 White Sugar, two ounces;
 Cochineal, a scruple;
 Water, two pints and a half.

Boil to a quart; then suffer the whole to rest for some time, and pour off the clear decoction^f.

Decoctum pectorale.

The pectoral decoction.

Take Stoned Raisins of the sun,
 Barley, of each an ounce;

the end of the coction, to prevent the avolation of its most valuable part. The contrivers of this formula have given another instance of their skill in pharmaceutical chemistry, by directing the guaiacum wood to be boiled for a time suitable to its compactness and tenacity, while liquorice-root, which stands not in need of such treatment, but would be rather injured by it, and render the composition slimy, is ordered to be put in with the saffras.

^f This is an elegant way of disguising nitre, and making it agreeable to the patient, both which intentions are fully answered by the sugar and cochineal, for which purpose alone they seem to be inserted.

Four fat Figs ;
Water, three quarts.

Boil them till two quarts of liquor remain, adding, towards the end of the coction,

Florentine Orrice-root,
Liquorice, of each half an ounce ;
Leaves of Harts-tongue,
Flowers of Coltsfoot, of each one ounce.

Strain out the decoction for use ^z.

Decoctum serpentariæ compositum.

Compound decoction of snake-root.

Take of Virginian Snake-root six drams ;
Water, a quart.

Boil to the consumption of one half, adding towards the end of the coction, half an ounce of Venice Treacle, and a scruple of Cochineal. Strain the decoction off thick, and mix with it an ounce and a half of the syrup of Meconium.

This decoction is only to be made in defect of the tincture.

Decoctum tamarindorum cum sena.

Decoction of tamarinds with sena.

Take of Tamarinds, six drams ;
Crystals of Tartar, two drams ;
Water, a pint and a half.

Boil them together in an earthen vessel, till there remains a pint of liquor when strained ; in which, while hot, infuse a dram of Sena-leaves, for the space of a night. Afterwards strain off the liquor, and add to it an ounce of syrup of Violets.

This decoction may be also prepared with a double, triple, &c. quantity of Sena.

^z This decoction is made more pleasant and simple than the old one, by the rejection of the most exceptionable ingredients, without at all impairing any of its medicinal virtues.

Infusum amarum.

Bitter infusion.

Take of Gentian-root, half a dram ;
Tops of the lesser Centaury, one dram ;
Boiling Water, four ounces.

Infuse them for four hours, and then filtre the liquor for use ^h.

Infusum amarum cum sena.

Bitter infusion with sena.

Add to the former infusion, a dram of Sena, and half a dram of sweet Fennel-seeds.

This infusion likewise may be prepared with a double, triple, &c. quantity of Sena.

Infusi senæ uncix quatuor.

A four-ounce infusion of sena.

Take of Sena, three drams ;
Leaves of the greater water Figwort, two
drams ;

Vitriolated Tartar,

Ginger, each ten grains ;

Boiling Water, four ounces.

Infuse them for four hours, and then strain off the liquor for use ⁱ.

Emulsiõ communis.

The common emulsiõ.

Take of the four greater cold Seeds, one ounce ;
Sweet Almonds blanched, half an ounce.

^h This infusion is reduced to a very great degree of elegance and simplicity. The camomile-flowers and cardus benedictus were exceptionable ingredients, and therefore are judiciously thrown out. In short, there seems to be no room for any further amendment of this medicine.

ⁱ A neutral salt is introduced in this composition, instead of the alkaline one formerly directed. This makes the infusion more agreeable and not less efficacious.

Beat

Beat them well in a marble mortar, and gradually pour on them a quart of Water, working the whole well together. Then strain off the liquor, and add to it an ounce of Cinnamon-water made without spirit, and two drams of white Sugar ^k.

Emulſio Arabica.

The Arabic emulſion.

This emulſion is made after the ſame manner as the former; only in this a dram of bruifed gum Arabic is to be previously boiled in the Water till perfectly diſſolved¹.

G E N E R A L R U L E S *for making*
D E C O C T I O N S.

I. The firſt rule above laid down for the extracting of tinctures, is likewiſe to be obſerved in the making of decoctions.

II. Woods, Roots, Seeds, and all thoſe ingredients which are dry and of a compact texture, are to be put in firſt; and the others added towards the end of the boiling. Among the latter, liquorice is to be reckoned.

III. All decoctions are to be ſtrained, and after reſting for ſome time, poured off from the feces, unleſs they are expreſſly ordered to be turbid; and even in this caſe they ought to be paſſed through a coarſe ſtrainer.

^k Great care ſhould be taken, that neither the ſeeds nor the almonds are become rancid by keeping, which will not only render the emulſion extremely unpleaſant, a circumſtance of great confequence in a medicine which requires to be taken in large quantities, but likewiſe give it ſome injurious qualities little expected from preparations of this claſs.

¹ *Milk of gum ammoniacum.*

Diſſolve an ounce and a half of gum ammoniacum in a quart of hyſſop-water. *Pharmacop. Pauſer.*

SECTION VIII.

S Y R U P S.

Syrupus de althæa.
Syrup of marshmallows.

TAKE of Marshmallow-roots, three ounces;
 Eryngo-roots, one ounce;
 Liquorice, half an ounce;
 True (or English) Maiden-hair,
 Pellitory of the wall, each one ounce;
 Water, three quarts.

Boil to the consumption of one third part of the liquor; then strain out the remaining decoction, and suffer it to rest for some time. The clear liquor being poured off from the feces, is to be boiled, with four pounds of white Sugar, over a gentle fire, and kept continually stirring, till it becomes a syrup^a.

^a This syrup seems to be a sort of favourite among the dispensatory writers, who have taken great pains to alter and mend it; but have been wonderfully tender in lopping off any of its articles. (See *Pharm. reform.* p. 127.) The formula above consists of five less than that in the former editions of this book, and one of the old ones is exchanged for a much more suitable ingredient, eryngo root. If we might be allowed to lop off the two last, the syrup might pass for one that is sufficiently and usefully reformed.

The following alteration has been lately made by the compilers of the *hospital dispensatory*: Take marshmallow-root, three ounces; liquorice, one ounce; English maiden-hair, two ounces; water, three quarts; white sugar, four pounds. Make them into a syrup, according to the directions above.

Syrupus e cortice aurantiorum.

Syrup of orange-peel.

Infuse six ounces of the outward part of fresh Orange-peel in three pints of boiling Water, for the space of a night, in a close stopped vessel. Let the liquor, after straining, be suffered to rest for some time; when it is to be poured from the feces, and with twice its weight of white Sugar made into a syrup, without boiling.

Syrupus e succo aurantiorum.

Syrup of orange-juice.

Take of Orange-juice depurated, one pound;
White Sugar, two pounds.

Make them into a syrup, without boiling, according to art.

Syrupus balsamicus.

Balsamic syrup.

Take a quart of the Syrup of Sugar, just made, and warm from the fire. When it has grown almost cold, stir into it, by little and little, an ounce of the Tincture of balsam of Tolu, shaking them well together, till they are perfectly united. Let the mixture be kept in the heat of a water-bath, till the spirit is exhaled^b.

^b The college first took up this manner of making the balsamic syrup with the tincture, in the second edition of their *pharmacopœia*, in the year 1722. It was dropt in the last edition, on a complaint that the spirit spoiled the taste of the syrup, which it did in an eminent degree, when the tincture was made with malt spirits; particular care therefore should be taken that the spirit employed for this tincture be perfectly clean, and well rectified from its phlegm. The preparation, as now directed, seems to be quite unexceptionable, as a greater proportion of the balsam is kept suspended in the syrup, than can be effected by any other method, and the taste preserved by the evaporation of the spirit: To which may be added, that this is the most frugal way of managing an article almost always too dear for the purposes of a common syrup.

Syrupus caryophyllorum.

Syrup of clove-july-flowers.

Take of Clove-july-flowers, fresh gathered, and
picked from the heels, one pound;
Boiling Water, three pints,

Let them steep together for a night; then strain off
the liquor, and with twice its weight of white Sugar,
make it into a fyrup, according to art, without boiling.

Syrupus kermesinus.

Syrup of kermes.

Take a pound of the juice of Kermes grains, and two
pounds of white Sugar. Make them into a fyrup with-
out heat.

The fyrup of Kermes, which is brought to us, ready
made, from the southern parts of France, is to be pre-
ferred, especially if it has been prepared without heat.

Syrupus e succo limonum.

Syrup of lemon-juice.

This fyrup is made of the juice of Lemons, in the
same manner as that of the juice of oranges.

Syrupus papaveris albi, seu de meconio,
vulgo diacodiôn.*Syrup of white poppies, or of meconium,
commonly called diacodium.*

Take of the heads of white Poppies just ripe, (but
before they are fully so) and moderately dried, fourteen
ounces; boiling Water, a gallon. Let them steep to-
gether for a night, and then boil them, till half of the
liquor is wasted; strain and strongly press out the
remainder, and boil it, with the addition of four pounds
of white Sugar, to the consistence of a fyrup^c.

Syrupus

^c Notwithstanding the pains which several writers have bestowed
upon this favourite fyrup, it still remains liable to several objections;
for if it be regarded as an opiate, it will be subject to great variations
in point of strength. The difference of seasons will make the poppy
heads

Syrupus papaveris rhæados.

Syrup of wild poppies.

Take fresh Flowers of wild Poppies, one pound ;
Boiling Water, three pints.

Steep the flowers in the water for a night ; then strain off the liquor, and, adding two pounds of white Sugar, boil it into a syrup ^c.

Syrupus pectoralis.

Pectoral syrup.

Take Roots of Florentine Orrice,
Elecampane, of each an ounce and
a half ;

Liquorice, two ounces ;

Flowers of Coltsfoot,

True (or in its stead, English) Maiden-hair,

Leaves of Ground-ivy, of each an ounce,

Twelve fat figs ;

Water, a gallon.

Boil to the consumption of a fourth part ; strain out the liquor which remains ; add to it six pounds of white Sugar ; and boil them into a syrup ^d.

Syrupus

heads more or less strong, so that the same weight of heads shall not yield at all times the same quantity of extract. Other circumstances likewise will occasion the same alteration. If therefore a syrup of this kind be really wanted in the shops, it may be more scientifically composed of the extract of opium and syrup of sugar, as is observed in *Pharmacop. reformat.* p. 133.

^d This syrup is much less compounded than formerly ; six of its most exceptionable ingredients are lopt off, and the proportions of those which remain better adjusted to each other. Nevertheless its ingredients are still too numerous and discordant.

^e This syrup was in former editions ordered to be made with double the quantity of flowers, and two pints only of water, in order, I suppose, to impregnate the syrup as much as possible with the virtue of the flowers. But the learned reformers of this dispensatory have rejected continuing this unnecessary trouble and expence ; probably
from

Syrupus pœoniæ.

Syrup of pœony.

This fyrup is made of the infusion of fresh-gathered Pœony-flowers, in the same manner as that of wild poppies.

Syrupus quinque radicum.

Syrup of the five roots.

Take two ounces of each of the five opening Roots ; and three quarts of Water. Boil them together till one third of the liquor is wasted ; then strain and press out the remainder, and dissolving in it four pounds of white Sugar, boil them into a fyrup.

Syrupus rosarum pallidarum.

Syrup of pale roses.

This is made of a double infusion of fresh-gathered pale Roses, in the same manner as the fyrup of wild poppies.

Syrupus e rosis ficcis.

Syrup of dry roses.

Infuse half a pound of red Roses in two quarts of boiling Water, for the space of a night ; then let them boil a little ; strain out the liquor ; add to it four pounds of white Sugar, and boil the mixture into a fyrup.

from a full persuasion, that no stress whatever is to be laid upon these kinds of preparations ; and that the great difficulty, if not impossibility, of rendering syrups nearly of one standard strength, together with the alterations they must necessarily undergo in keeping, however cautiously prepared, renders them absolutely unfit for any medicinal purposes of consequence : and perhaps this is the reason that little more is done to this section than throwing out the disagreeable compositions, and such as are out of use, introducing some new ones, which are commonly found in the shops, retrenching others of their most exceptionable ingredients, and abridging the labour of the apothecary in general.

Syrupus facchari.

Syrup of sugar.

Take white Sugar, and Water, of each equal quantities.
Boil them to the consistence of a syrurp.

Syrupus scilliticus.

Syrup of squills.

Take of Vinegar of Squills, a quart ;
White Sugar, four pounds.

Make them into a syrurp without boiling.

Syrupus de fena & rheo.

Syrup of fena and rhubarb.

Take of Sena-leaves, two ounces,
Choice Rhubarb, one ounce,
Sweet Fennel-seeds,
Cinnamon, each two drams,
Boiling Water three pints.

Let them steep together for a night in a close stopp'd vessel. The liquor being strained out, and (after it has settled for some time) poured off from the feces, is to be boiled with three pounds of white Sugar over a gentle fire, into a syrurp.

Syrupus de spina cervina, seu rhamno cathartico.

Syrup of buckthorn.

Take of the depurated juice of ripe Buckthorn berries,
fix pounds ;

Brown Sugar four pounds.

Boil them over a gentle fire into a syrurp ; with which, while warm, mix a dram of the distilled Oil of Cloves, previously ground with a little Sugar.

Syrupus e symphyto.

Syrup of comfrey.

Take fresh Roots of the greater Comfrey,
Fresh Leaves of Plantane, of each half a pound.
Bruise them both together, and strongly press out the juice ; on the magma pour a quart of Water, and boil

to

to the consumption of one half; then strain off the liquor; and having added it to the expressed juice, boil the mixture, with an equal weight of white Sugar, into a syrup.

Syrupus violarum.

Syrup of violets.

Take Fresh flowers of March Violets one pound;
Boiling Water, three pints.

Steep them together for a night in a glazed earthen vessel close covered. In the liquor strained out, dissolve twice its weight of white Sugar, so as to make a syrup without boiling^f.

G E N E R A L R U L E S *for making* S Y R U P S.

I. The sugar which is employed for such syrups as are prepared without coction, is to be previously boiled in water to the consistence of candy, the solution being clarified with whites of eggs, and carefully skimmed during the boiling.

II. Although in making these syrups, a double weight of sugar to that of the liquor is directed, yet less will generally be sufficient. First therefore dissolve in the liquor an equal quantity of sugar, then gradually add some more in powder, till a little remains undissolved at the bottom, which is to be afterwards dissolved, by setting the syrup in a water-bath.

^f Syrups which were in the former edition of this book, but omitted in this———syrupus de artemisia, *syrup of mugwort*; de cichoreo cum rheo, *of succory with rhubarb*; hederæ terrestris, *of ground-ivy*; myrtinus, *of myrtle*; capillorum veneris, *of maiden-hair*; e floribus persicorum, *of peach flowers*; e peto, *of tobacco*; e pulegio, *of penny-royal*; e rosis siccis, *of dry roses*; e stachade, *of stachas*.

III. Copper vessels, unless well tinned, should not be employed in the making of acid syrups, or such as are composed of the juices of fruits [§].

IV. All the rules laid down for making decoctions, are likewise to be observed in the decoctions for syrups. Vegetables, both for decoctions and infusions, ought to be dry, unless they are expressly ordered otherwise.

V. The syrups which are prepared by coction, ought to be clarified with whites of eggs; except the syrup of meconium, which therefore requires the purest sugar.

[§] The confectioners, who are the most dextrous people at these kinds of preparations, to avoid the expence of frequently new tinning their vessels, rarely make use of any other than copper ones untinned, in the preparation even of the most acid syrups, such as that of lemons, barberries, and the like. Nevertheless, by taking due care that their coppers be well scoured, and perfectly clean, and that the syrup remain no longer in them than is absolutely necessary, they avoid giving any ill taste to it from the metal.

SECTION IX.

HONIES, GELLIES, JUICES, and their FÆCULÆ.

Mel mercuriale.

Honey of mercury.

TAKE Juice of Mercury,
Honey, of each three pounds.

Boil them together to the consistence of honey, taking off the scum which rises a-top.

Mel rosatum.

Honey of roses.

Take Red Roses, dried, half a pound ;

Boiling Water, two quarts.

Steep the roses for a night ; then strain out the liquor, add to it four pounds of Honey, and boil the whole to the consistence of honey.

Oxymel pectorale.

Pectoral oxymel.

Take Elecampane-roots,

Florentine Orrice-roots, of each half an ounce.

Boil them, (being previously cut and bruised) in a quart of Water, till it is reduced to a pint and a half ; then strain off the liquor, and add to it

Of Gum Ammoniac, unprepared, one ounce,
dissolved in

Vinegar, a quarter of a pint ;

Honey, eight ounces.

Boil the whole together, taking off the scum as it arises, and then strain

Oxymel scilliticum.

Oxymel of squills.

Take of Honey, three pounds ;

Vinegar of Squills, two pints.

Boil

Boil them, (taking off the scum as it arises) to the consistence of a syrup.

Oxymel simplex.

Simple oxymel.

Take of Honey, two pounds ;
Vinegar, a pint.

Boil them according to art ^a.

GELLIES.

Gelatina berberorum.

Gelly of barberries.

Take Barberries, clean picked from the stalks,
White Sugar, of each one pound.

Boil them, with a gentle heat, to a due consistence ;
then pass the gelly through a flannel cloth.

Gelatina cornu cervi.

Gelly of hartshorn.

Take Shavings of Hartshorn, half a pound ;
Water, three quarts.

Boil with a gentle heat, in a glazed earthen vessel,
till two parts are wasted ; strain out the remaining li-
quor, and add to it

Of White Sugar candy, in powder, six ounces ;
Spanish white Wine, a quarter of a pint ;
Orange or Lemon juice, one ounce.

^a The decoction ordered in the three last preparations should be performed with a very gentle and equable heat, that only the aqueous parts of the vinegar may exhale, and that the acid may be entirely united to the honey.———These, and all such compositions as contain any thing of acid in them, should be boiled in well glazed earthen vessels, to prevent the inconveniencies which attend the use of metalline ones. Iron vessels are apt to turn the matters black ; copper to give a disagreeable taste and emetic quality ; though the latter may be safely enough made use of if well tinned, and the operator be careful not to let the composition stand in them longer than is necessary.

Boil the whole over a gentle fire, to the consistence of a soft gelly.

Gelatina seu miva cydoniorum.

Gelly of quinces.

Take of Quince-juice depurated, three pints ;
White Sugar, a pound.

Boil them together according to art.

Gelatina ribesiorum.

Gelly of currants.

This is made from Currants, in the same manner as the gelly of barberries.

J U I C E S.

Succus glycyrrhizæ.

Juice of liquorice.

Upon any quantity of Liquorice-root bruised, pour as much boiling Water as will cover it to the height of three inches. Let them steep together for three days: then boil them a little, and having pressed out and strained the liquor ^b, evaporate it with a gentle heat ^c to a due consistence.

^b If the strained liquor be suffered to stand in the cool for a day or two, it will let fall a considerable deal of sediment, from which it should be carefully decanted before the evaporation.

^c It is extremely difficult to boil this juice down so low as is required, without giving an empyreuma, or at least a bitter taste to it. This difficulty is owing to the manner of placing the fire underneath the evaporating pan; and may be entirely removed, by carrying on the inspissation after the common manner no further than to the consistence of a syrup, when the matter is to be poured into shallow tin pans, and placed in an oven moderately heated, which acting uniformly on every part of the juice, will soon bring it to any degree of consistence required.

Succus

Succus prunorum fylvestrium, seu acacia Germanica.
Juice of sloes, or German acacia.

Inspissate any quantity of the juice of unripe Sloes, over a gentle fire.

Succi antiscorbutici.
Antiscorbutic juices.

Take Juice of Garden Scurvygrafs,
 Oranges, of each a pint and a half ;
 Water-creffes,
 Brooklime, of each a pint ;
 White Sugar, ten ounces.

Mix and depurate them, according to art ; then add half a pint of the Compound Water of Horse-radish ^d.

Sapa five rob sambuci.
Sapa or rob of elder-berries.

Take Juice of ripe Elder-berries, two quarts ;
 White Sugar, half a pound.

Evaporate over a gentle fire, or in a water-bath, to the consistence of honey.

Fæcula cucumeris afinini, elaterium dictum.
The fæcula of wild cucumber, called elaterium.

Take any quantity of unripe wild Cucumbers: press out the juice, and let it rest till the grosser part has subsided ; the upper thin part being then poured off, the remainder is to be committed to the filtre, and the thick matter, which remains on the paper, dried by the heat of the sun.

^d The best and most effectual way of preserving these juices in perfection, is to let them stand mixed together in a cool place for a few days, till the feces are partly subsided, and then to pass them gently, several times, through a strainer, until perfectly fine, to be preserved for use in small bottles, a little oil being poured on the surface. By this means they may be preserved for a considerable time in a great degree of perfection ; without the assistance of either sugar or spirit.

SECTION X.

PRESERVES, CONSERVES,
and SUGARS.

Radix angelicæ condita.
Candied angelica.

SLICE any quantity of fresh Angelica roots; and throwing away the pith, steep the cortical part for two days in several fresh parcels of water. After this, let them boil a little; then pour off the water, and put to the roots as much Syrup of Sugar, as will cover them to the height of two inches. After a day or two they may be again gently boiled, if there is occasion, that the superfluous moisture may exhale, and the syrup remain of a due consistence.

In the same, or a similar manner, may be candied

Rad. Eryngii,	<i>Roots of Eryngo:</i>
Helenii,	<i>Elecampane.</i>
Satyrii,	<i>Satyrion.</i>
Scorzoneræ,	<i>Scorzonera.</i>
Symphyti majoris,	<i>Greater Comfrey.</i>

Cort. Aurantiorum,	<i>The peel of Oranges.</i>
Citriorum,	<i>Citrons.</i>
Limonum,	<i>Lemons.</i>

Nutmegs and Ginger are brought to us ready candied from India.

All forts of Fruits, Flowers, and Seeds, may likewise be preserved, either by adding fyrup, or by crusting them over with sugar; but this rather belongs to the business of confectionary, than that of pharmacy.

Iron likewise may be made the subject of this operation.

Mars saccharatus.

Sugared steel.

Put any quantity of clean filings of Iron, unprepared, into a brass kettle suspended over a very gentle fire. Add to them, by little and little, twice their weight of white Sugar boiled to the consistence of candy, agitating the kettle continually, that the filings may be crusted over with the sugar, and taking great care to prevent their running into lumps^a.

C O N S E R V E S .

Confervæ	<i>Conserves of the</i>
Fol. Absinthii Romani,	<i>Leaves of Roman Wormwood.</i>
Cochleariæ hortensis,	<i>Garden Scurvygrass.</i>
Lujulæ,	<i>Wood-sorrel.</i>
Menthæ,	<i>Mint.</i>
Rutæ, &c.	<i>Rue, &c.</i>
Flor. Anthos,	<i>Flowers of Rosemary.</i>
Malvæ,	<i>Mallows.</i>
Rosar. rubr. &c.	<i>Red Roses, &c.</i>
Cort. ext. Aurantiorum,	<i>Outward peel of Oranges.</i>
Fruct. Cynosbati.	<i>Hips.</i>

Conserves are to be made from each of these substances, according to art; by beating them into a pulp (the

^a This is a pretty preparation of steel, and an agreeable form of giving this metal in. But it needed not have been inserted into the dispensatory, as the apothecaries never make it. The confectioners follow the proportions directed here; but they employ, besides, a certain medium, without which the matter runs into masses and lumps; and of this they make a secret.

stalks, leaves, &c. being first separated) and gradually adding thrice their weight of white Sugar, during the operation. The moister simples require only double their weight of sugar; and for the pulp of hips still less is sufficient.

SUGARS.

Saccharum hordeatum feu penidiatum.

Barley-sugar.

This is made by boiling white Sugar in Barley-water, (that is, decoction of barley) till it acquires a ductile consistence, so as that it can be drawn out, and twisted into threads or strings.

Saccharum rosatum rubrum.

Red-sugar of roses.

Take of White Sugar one pound;

Juice of red Roses, four ounces.

Boil them over a gentle fire, till the juice is almost evaporated; then throw in an ounce of red Roses, dried, and reduced to very fine powder. Pour out the matter upon a marble, and form it into lozenges, according to art^b.

Tabellæ diatragacanthi.

Lozenges of the compound powder of gum tragacanth.

Take of White Sugar, one pound;

Rose-water, four ounces.

Set them over a gentle fire; and when the sugar is dissolved, throw in three ounces of the compound powder of gum Tragacanth; then pour out the matter upon a marble, and form it into lozenges.

^b The college of London have directed a more simple and less troublesome way of making these lozenges, by first powdering the sugar and the roses separately, then mixing them well together, and afterwards forming the compound into tablets with a little water, which are to be dried with a very gentle heat.

SECTION XI.

P O W D E R S.

Pulvis antiepilepticus, de gutteta dictus.
Antiepileptic powder, called pulvis de gutteta.

TAKE Roots of White Dittany,
 Pœony,
 Wild Valerian,
 Mistletoe of the Oak, of each equal parts.
 Mix, and make them into a powder ^a.

Pulvis antilyffus.
Powder against the bite of a mad dog.

Take of Ash-coloured ground Liver-wort ^b, one ounce,
 Black Pepper, half an ounce.
 Mix, and beat them into a powder ^c.

Pulvis

^a This powder has undergone a considerable change since its last appearance. The form above contains seven less ingredients than the old one; most of the articles that are rejected favour too much of superstition, or appear upon other accounts evidently exceptionable; and it is probable, a severer scrutiny had thrown out the mistletoe of the oak, whose virtues are greatly to be suspected. However, as the powder now stands, it may well be looked upon as a medicine of some use; the testacea, which are in many compositions of this kind, are here prudently omitted, as they may be more conveniently added occasionally.

^b See a description of this plant in page 41.

^c This powder was first published in the *Philosophical Transactions*, No. 237. from Mr. Dampier, and afterwards put, in the year 1721, into

Pulvis ari compositus.

Compound powder of arum-root.

Take of Arum-roots, newly dried, two ounces ;
 Calamus aromaticus,
 Roots of Burnet Saxifrage, of each one ounce ;
 Crabs eyes, half an ounce ;
 Cinnamon, three drams ;
 Salt of Wormwood, two drams.

Mix, and make them into a powder according to art ^d.

into the *Pharmacopœia Londinensis*, under the title it bears in this place, at the desire of Dr. Mead, who had great experience of its good effects. Some years afterwards, the same gentleman, from a principle of benevolence to mankind, the distinguishing mark of a truly great mind, published and dispersed a paper, containing the method of cure, which he had constantly found successful in a very great number of instances, for the bite of a mad dog. In this paper, the directions were to the following effect :

Let the patient be bled nine or ten ounces ; and afterwards take a dram and a half of the above powder every morning fasting, for four mornings successively, in half a pint of cows milk warm. After these four doses are taken, the patient must go into the cold bath, or a cold spring, or river, every morning fasting for a month. He must be dipt all over, but not stay in (with his head above water) longer than half a minute, if the water be very cold. After this he must go in three times a week, for a fortnight longer.

In 1745, the world was favoured with a new and most elegant edition of Dr. Mead's *Mechanical Account of Poisons*, in which we have the satisfaction to find this method of cure again recommended *, as having never failed of success, where it had been followed before the *hydrophobia* begun, in a course of thirty years experience.

^d This powder stands exactly as it was in the preceding edition of this dispensatory, and is a powerful medicine for the intention it is designed ; nevertheless the roots of burnet saxifrage and the crabs eyes, are liable to objection, as supernumerary articles, increasing rather the bulk, than adding any thing to the virtue of the medicine.

Pulvis cephalicus.

Cephalic powder.

Take Leaves of Asarabacca,
Betony,
Marjoram, of each equal parts.

Beat them all together into a powder.

Pulvis e chelis cancrorum compositus.

Compound powder of crabs claws.

Take Crabs eyes,
Red Coral, of each one ounce ;
Black tips of Crabs claws, two ounces.

Mix and make them into a powder °.

Pulvis contrayervæ compositus.

Compound powder of contrayerva.

Take of Contrayerva, half an ounce ;

° This powder is greatly abridged, and much to its advantage ; the pearls and bezoar added a great deal to the price, but nothing to the real value of the medicine ; since it appears from M. Hombergs experiments on alkaline absorbents, that they are among the weakest of the class. Amber is neither alkaline nor absorbent, and is quite indigestible ; calcined hartshorn is good for as little ; these therefore are deservedly rejected. But this composition, even as now reformed, does not seem superior, if equal, in virtue, to prepared oyster-shells. See the *Memoirs of the royal academy of sciences* for the year 1700. However, as there is still some demand for the compound powder, especially for family receipts, the apothecaries are obliged to the college for this convenient abridgement of it. See some further remarks in *Pharm. Reformat.* p. 154.

Compound testaceous powder of the Hospital Dispensatory.

Take of oyster-shells prepared, one pound ; white chalk, half a pound. Mix them together.

Testaceous powder with wax of the Hospital Dispensatory.

Into any quantity of yellow wax liquefied over a gentle fire, sprinkle in (diligently stirring them together) a sufficient quantity of prepared oyster-shells, that is, till the wax will receive no more of the powder.

Virginian Snake-root, a dram and a half;
 Cochineal, one dram;
 English Saffron, half a dram;
 Bole Armenic, three drams;
 Compound powder of Crabs claws, seven
 drams.

Make them into a powder ^f.

Pulvis Cornachini.
Cornachines powder.

Take Diaphoretic Antimony,
 Creme of Tartar,
 Scammony, of each equal parts.
 Make them into a powder.

Pulvis diaromatôn.
Aromatic powder.

Take Canella alba,
 Lesser Cardamom feeds,
 Mace,
 Ginger, of each equal parts.
 Beat them all together into a powder ^g.

^f This powder, made into a bolus or electuary with a proper syrup, may serve for all the intentions designed to be answered by the *confectio Raleighana*, a medicine, which, as I am informed, has never been in use in *Scotland*.

The *Hospital Dispensatory* has exchanged the compound powder of crabs claws, in this composition, for prepared oyster-shells.

^g This powder is reduced to a considerable degree of elegance and simplicity; the galangal roots and feeds of bishopf-weed gave a disagreeable taste, without making any amends by their other qualities, these two articles were therefore justly thrown out, and the ginger as judiciously introduced in the room of them; and likewise of the cinnamon and cloves, which were not at all wanted in this composition.

Aromatic powder of the Hospital Dispensatory.

Take canella alba, ginger, of each equal parts. Mix them together.

Pulvis

Pulvis diafennæ.

Compound powder of sena.

Take Sena-leaves,
 Creme of Tartar, of each two ounces;
 Scammony,
 Ginger, of each half an ounce.
 Make them into a powder.

Pulvis diateffaron.

Powder of four ingredients.

Take Round Birthwort-roots,
 Gentian-roots,
 Bay-berries,
 Myrrh, of each two ounces.

Make them into a powder, to which if two ounces
 of shavings of Ivory be added, it becomes

Pulvis diapente,

Powder of five ingredients.

Pulvis diatragacanthi.

Compound powder of gum tragacanth.

Take of Gum Tragacanth, one ounce ;
 Gum Arabic, five drams ;
 Liquorice,
 White Poppy-seeds,
 Starch, each two drams ;
 Marshmallow-roots, half an ounce.
 Beat them all together into a powder.

Pulvis hieræ picræ.

Powder of hiera picra.

Take Succotrine Aloes, four ounces ;
 Lesser Cardamom-seeds,
 Virginian Snake-root, of each half an ounce.
 Mix, and beat them into a powder.

Pulvis ad partum.

Powder to promote delivery.

Take of Borax, half an ounce ;

Castor

Castor,

Saffron, each a dram and a half.

Beat them all together into a powder; to which add
of the

Distilled oil of Cinnamon, eight drops;

Amber, six drops.

Mix the whole well together.

Pulvis stypticus.

Styptic powder.

Take Roch Alum half an ounce;

Dragons-blood two drams.

Mix, and make them into a powder ^h.

Pulvis vermifugus.

Powder against worms.

Take Leaves of Lavender-cotton,

Tansy-flowers,

Worm-feed,

Coralline, of each half an ounce.

^h This powder has been long in repute as an astringent, under the title of *Pulvis Stypticus Helvetii*. Some have supposed the dragons-blood to be a whimsical ingredient (see *Pharmacop. Reformat.* p. 157.) and to have no share in the effects of this medicine. Whatever truth there may be in this, a learned physician * assures us, from his own experience, that he never found any medicine so much to be depended on, in uterine hæmorrhagies, as a mixture of equal parts of alum and dragons-blood, whether to correct the too frequent return of the menses, or their too great abundance; to stop the flooding which women with child are subject to; or to moderate the flow of the lochia. The quantity he gave was more or less, according to the exigencies of the patient. In violent bleeding, he gave half a dram every half hour; and seldom or never missed to stop the flux before three drams or half an ounce had been taken. The success of this medicine in these evacuations, encouraged him to prescribe it in the fluor albus, in which it had surprising good effects.

* See *Medical Essays abr.* vol. 1. p. 172.

Beat them into a powder ; to which add

Diffilled oil of Rue,

Savin, of each, received upon
Sugar, twenty drops.

Mix the whole well together ⁱ.

G E N E R A L R U L E S *for making.*
P O W D E R S.

I. Particular care ought to be taken, that nothing carious, worm-eaten, or impure, be mixed in the composition of powders: the stalks and corrupted parts of plants are to be separated.

II. The dry aromatics ought to be sprinkled, during their pulverization, with a few drops of any proper water.

III. Let the moister aromatics be dried with a very gentle heat, before they are pounded.

IV. Gums, and such other substances as are difficultly pulverable, are to be powdered along with the drier ones, that they may pass the sieve together.

V. Powders are to be prepared only in small quantities at a time, and kept in glass vessels, very closely stoppt.

ⁱ *Powder against worms of the Hospital.*

Take tansey-flowers, worm-feed, of each three drams ; salt of steel, one dram.

Mix, and make them into a powder.

Purging powder against worms of the Hospital.

Take of choice rhubarb, three drams ; scammony, calomel, each one dram.

Make them into a powder.

SECTION XII.

ELECTUARIES, CONFECTIONS, ANTIDOTES,
and LOHOCHS.

Confectio alkermes.

The confectio of kermes.

EVAPORATE three pounds of the Syrup of Kermes, with a gentle heat, to the consistence of honey : then mix into it the following ingredients reduced to a very fine powder :

Of Cinnamon,

Yellow Saunders, each six drams ;

Cochineal, three drams ;

Saffron, a dram and a half.

Electuarium antidyfentericum.

Antidyfenteric electuary.

Take of Diascordium, two ounces ;

Locatelli's Balsam, one ounce.

Mix, and make them into an electuary.

Electuarium e baccis lauri.

Electuary of bay-berries.

Take Conserve of Rue, two ounces ;

Candied Ginger, one ounce ;

Bay-berries, half an ounce ;

Zedoary, two drams ;

Russia Castor, one dram ;

Distilled Oil of Fennel, ten drops ;

Syrup of Orange-peel, as much as is sufficient.

Mix them into an electuary, according to art.

Electuarium

Electuarium cardiacum.
Cordial electuary.

Take Conserve of Rosemary-flowers,
Red Roses, of each one ounce and
a half;

Candied Orange-peel,
Citron-peel,
Nutmegs, of each one ounce;
Ginger, six drams;

Confection of Kermes, half an ounce;
Distilled oil of Cinnamon, twenty drops;
Syrup of Clove-july-flowers, as much as is
sufficient.

Mix them into an electuary, according to art.

Diacassia.

Electuary of cassia.

Take Pulp of Cassia fistula, twelve ounces;
Tamarinds, six ounces;
Calabrian Manna, eight ounces;
Syrup of pale Roses, one pound.

Dissolve the manna in warm Water, strain the solution, and evaporate it along with the syrup, over a gentle fire, to the consistence of honey: then mix in the pulps, so as to make the whole into an uniform electuary, according to art ^a.

^a The college have adopted this electuary from the *London pharmacopœia*, (somewhat altered for the better) in place of the *catholicon*, which was so seldom prescribed, as to be kept in very few shops. Such an electuary as this is a very necessary officinal, to serve as a basis for purgative electuaries, &c. as the pulping a small quantity of the fruits for extemporaneous prescriptions is very troublesome. The tamarinds give this medicine a pretty taste, and do not subject the composition to turn sour, as might be expected, for after standing four months, it was found to be no sourer than when first made up.

Diacordium.

Electuary of scordium.

Take Leaves of Scordium,
 Cinnamon,
 Nutmegs,
 Japan earth,
 Gum Arabic;
 Olibanum, of each one ounce ;
 Tormentil-roots,
 Bole Armenic, of each one ounce and a half ;
 Opium (dissolved in a sufficient quantity of
 Canary Wine) one dram and a half ;
 Syrup of dry Roses, boiled down to the con-
 sistence of honey, thrice the weight of the
 powders.

Mix, and make them into an electuary, according
 to art ^b.

Electuarium lenitivum pro clystere.

Lenitive electuary for glisters.

Take Roots of Polypody of the Oak, two ounces ;
 Leaves of Mercury,
 Fœnugreek-seeds,
 Linseed, of each one ounce ;
 Water, three quarts.

^b This composition seems to be very reasonably reduced. The tormentil is increased in place of the bistort and gentian, which last gave the medicine a disagreeable taste, without promising any suitable advantage. Nutmeg is certainly a properer spice than the pepper and ginger ; and the olibanum is preferable in many respects to the storax and galbanum. The scordium, which gives name to the composition, seems to be the most insignificant ingredient left in it.

Strengthening confectiion of the hospital dispensatory.

Take of bole Armenic prepared, three ounces ; tormentil-roots, nutmegs, olibanum, of each two ounces ; opium, a dram and a half ; syrup of dry roses, thrice the weight of the powders. Mix them according to art.

Boil

Boil them to the consumption of one half of the liquor, adding, towards the end of the coction,
of Sena leaves, two ounces;

Coriander-seeds, half an ounce.

Strain and press out the decoction, and adding to it two pounds of Honey; boil the mixture to the consistence of a thick syrup. To this add,

Of the Pulp of Damask Prunes, one pound;
Cassia fistula, half a pound.

Mix the whole into an electuary ^c.

Mithridatium Damocratis.

Mitbridate.

Take of Myrrh,
Saffron,
Agaric,
Ginger,
Cinnamon,
Spikenard,
Male Frankincense,

^c This lenitive electuary is preferable to such as have powders in their composition, which frequently render them useless for the purposes which they are here intended for. The mercury and seeds might have been left out, and the quantity of polypody increased: perhaps sugar may be better than honey, as it is less apt to turn sour. Melasses or common treacle is an excellent ingredient in electuaries intended for long keeping, as it is not only unapt of itself to ferment, but likewise prevents such substances as are this way disposed, from running into fermentation.

Lenitive electuary of the Hospital Dispensatory.

Take three ounces of polypody roots, and three quarts of water. Boil till two quarts are wasted, adding towards the end of the coction, two ounces of sena, and half an ounce of coriander seeds. Strain out the liquor, add to it four pounds of white sugar, and boil to the consistence of a thick syrup; with which mix a pound of the pulp of French prunes, half a pound of pulp of cassia, and the same quantity of that of tamarinds. Make the whole into an electuary.

ELECTUARIES.

Seeds of Treacle-mustard, of each ten drams;
 Hartwort,
 Opobalsamum (or balsam of Peru)
 Camels-hay,
 Flowers of Arabian Stæchas,
 Costus (or Zedoary)
 Galbanum,
 Turpentine of Cyprus,
 Long Pepper,
 Castor,
 Juice of Hypocistis,
 Styrax calamita,
 Opoponax,
 Indian leaf, of each one ounce;
 Cassia lignea,
 Poley-mountain,
 White Pepper,
 Leaves of Scordium,
 Seeds of the Carrot of Crete,
 Carpobalsamum, (or Cubebs)
 The Troches called Cyphi,
 Bdellium, of each seven drams;
 Celtic Nard,
 Gum Arabic,
 Seeds of Macedonian Parsley,
 Opium,
 Lesser Cardamom-seeds,
 Fennel-seeds,
 Gentian-root,
 Red Roses,
 Dittany of Crete, of each five drams;
 Aniseeds,
 Roots of Asarabacca,
 True Acorus,
 Phu (or wild Valerian)
 Sagapenum, of each three drams;
 Roots of Spignel,
 True Acacia, (or the German)
 Bellies of Scinks,

Seeds of St. Johns-wort, of each two drams
and a half ;
Clarified Honey, triple the weight of the
powders ;
Canary Wine, as much as is sufficient to dissolve
the gums and juices.

Mix them all together into an electuary, according
to art.

Electuarium pectorale.

Pectoral electuary.

Take Conserve of Roses, two ounces ;
Compound powder of gum Tragacanth, half
an ounce ;
Flowers of Benzoin, one dram ;
Balsamic Syrup, as much as is sufficient.

Make them into an electuary.

Theriaca Andromachi.

Venice treacle.

Take Troches of Squills, six ounces ;
Vipers,
The magma, or troches, called Hedychron,
Long Pepper,
Opium, of each three ounces ;
Roots of the Illyrian (or Florentine) Orrice,
Red Roses,
Scordium leaves,
Agaric,
Opobalsamum (or balsam of Peru)
Juice of Liquorice,
Seeds of wild Navew,
Cinnamon, of each one ounce and a half ;
Myrrh,
Saffron,
Ginger,
Rhapontic, (or Tormentil-root)
Roots of Cinquefoil,

Roots of the bushy-rooted (or long) Birth-
wort,

Jews Pitch, (or Amber)

Galbanum,

Opoponax,

Sagapenum,

Castor, of each two drams;

Clarified Honey, triple the weight of the
powders;

Canary Wine, as much as is sufficient to dis-
solve the gums and juices.

Mix them all together, so as to make an electuary,
according to art.

Theriaca Edinensis.

Edinburgh treacle.

Take of Virginian Snake-root, six ounces;

Wild Valerian-root,

Contrayerva-root, of each four ounces;

Aromatic powder, three ounces;

Resin of Guaiacum,

Russia Castor,

Myrrh, of each two ounces;

English Saffron,

Opium, of each one ounce;

Clarified Honey, thrice the weight of the
powders;

Canary Wine, as much as is sufficient to dis-
solve the opium.

Make them, according to art, into an electuary; to
which some Camphor may be added occasionally^d.

^d *Theriaca of the Hospital Dispensatory.*

Take of Virginian snake-root, eight ounces; wild valerian-root,
six ounces; leaves of scordium, four ounces; cloves, and myrrh,
each three ounces; galbanum, two ounces; saffron, one ounce; o-
pium, half an ounce; honey, thrice the weight of the powders.
Mix them together according to art.

L O H O C H S.

L O H O C H S.

Lohoch ex amylo.

Loboch of starch.

Take of Starch, two drams;
 Japan earth, one dram;
 Syrup of Comfrey,
 Whites of Eggs, beat into a thin liquor,
 each one ounce.

Mix them together, so as to make a lohoch.

Lohoch commune.

Common loboch.

Take fresh drawn Oil of sweet Almonds,
 Pectoral (or Balsamic) Syrup, of each one ounce;
 White Sugar, two drams.

Mix, and make them into a lohoch.

Lohoch diatragacanthi.

Loboch of the compound powder of gum tragacanth.

Take Compound powder of gum Tragacanth, two
 drams;

Japan-earth, one dram;
 Whites of Eggs, beat up into a liquor, one ounce;
 Syrup of Meconium, two ounces.

Mix, and make them into a lohoch.

Lohoch de lino.

Loboch of linseed.

Take fresh drawn Linseed-oil,
 Balsamic Syrup, of each one ounce;
 Flowers of Sulphur,
 White Sugar, of each two drams.

Mix them, so as to make a lohoch.

Lohoch de manna.

Loboch of manna.

Take of Calabrian Manna,

Oil

Oil of Sweet Almonds, fresh drawn,
Syrup of Violets, each equal quantities.

Mix them into a lohoch.

Lohoch saponaceum.

Saponaceous lohoch.

Take of Spanish Soap, one dram ;
Oil of Almonds, one ounce ;
Pectoral (or balsamic) Syrup, an ounce and a
half.

Make them into a lohoch, according to art.

Lohoch de spermate ceti.

Lohoch of sperma ceti.

Take two drams of Sperma Ceti. Rub it with as much
Yolk of Eggs, as will fit it to mix with half an ounce
of fresh drawn Oil of Almonds, and an ounce of Bal-
samic Syrup, into the consistence of a lohoch.

G E N E R A L R U L E S *for composing* E L E C T U A R I E S.

I. The rules already laid down for decoctions and
powders in general, are likewise to be observed in ma-
king the decoctions and powders for electuaries.

II. The gums, inspissated juices, and such other sub-
stances as are not pulverable, should be dissolved in the
liquor prescribed, then the powders added by little and
little, and the whole kept briskly stirring, so as to make
an equable and uniform mixture.

III. Astringent electuaries, and such as have pulps
of fruits in their composition, should be prepared in
small quantities at a time ; the superfluous moisture of
the pulps must be exhaled over a gentle fire, before the
other ingredients are added to them.

SECTION XIII.

P I L L S.

Pilulæ æthiopicæ.
Æthiopic pills.

TAKE Pure Quick-silver,
 Golden Sulphur of Antimony,
 Refin of Guaiacum, of each half an ounce.
 Grind them together in a glass mortar, till the mercurial globules entirely disappear; then add
 Of Spanish Soap, half an ounce;
 Balsamic Syrup, as much as is sufficient.
 Make the whole into a mass for pills ^a.

Pilulæ cocciaæ.
The pills cocciaæ.

Take Succotrine Aloes,

^a These pills seem to be much more effectual than those of the last edition, the æthiops mineral being so slow and unactive a medicine, that many have doubted whether it enters the lacteals. The present form resembles much Dr. Plummers pills in the *Medical Essays*, abr. vol. 1. p. 206. to which they are preferable in one respect, that they are less apt to run off by stool. The soap seems to be added purely to promote their dissolution in the stomach; for pills made up of resins, and substances not easily dissoluble, frequently pass through the body entire; which sometimes happened to the last form of these pills.

Aloetic pills.

Take Succotrine aloes, white soap, of each equal parts; thin honey, as much as is sufficient. Make them into a mass. *Pharm. Paup.*

Colocynth,

Colocynth,
 Scammony, of each one ounce ;
 Vitriolated Tartar, two drams ;
 Distilled oil of Cloves, one dram ;
 Syrup of Buckthorn, as much as is sufficient.

Beat them up into a mass.

Pilulæ communes, vulgo Rufi.

The common pills, vulgarly called Rufus's pills.

Take of Succotrine Aloes, two ounces ;
 Myrrh, one ounce ;
 Saffron, half an ounce ;
 Syrup of Orange-peel, a sufficient quantity.

Mix, and beat them into a mass for pills.

Pilulæ de duobus.

Pills of two ingredients.

Take of Colocynth,
 Scammony, each one ounce ;
 Vitriolated Tartar, two drams ;
 Distilled oil of Cloves, one dram ;
 Syrup of Buckthorn, as much as is sufficient.

Reduce them into a mass, according to art.

Pilulæ ecphracticæ cum aculeo.

Ecphractic pills.

Take Succotrine Aloes,
 Extract of black Hellebore,
 Scammony, of each one ounce ;
 Gum Ammoniacum,
 Resin of Guaiacum, of each half an ounce ;
 Vitriolated Tartar, two drams ;
 Distilled oil of Juniper, one dram ;
 Syrup of Buckthorn, a sufficient quantity.

Beat them into a mass^b.

Pilulæ

^b The name of this pill is improper, since the college has obliged us by dropping the *pil. ecphracticæ sine aculeo*, which were never prescribed. But as this pill, or one of the same strength containing several

Pilulæ ephrasticæ chalybeatæ.

Ephrastic pills with steel.

Take of the mass of Common Pills, an ounce and a half;
 Gum Ammoniacum,
 Resin of Guaiacum, each half an ounce;
 Salt of Steel, five drams,
 Elixir Proprietatis, as much as is sufficient.
 Make them into a mass ^c.

Pilulæ foetidæ.

Fetid pills.

Take of Afa foetida, one dram and a half;
 Russia Castor, one dram;
 Camphor, half a dram;
 Distilled oil of Hartshorn, a sufficient quantity.

Beat them all together into a mass.

Pilulæ de gambogia.

Pills of gamboge.

Take Succotrine Aloes,
 Extract of black Hellebore,

ral superfluous ingredients, has been much in use in Scotland, and for a long time prescribed under that title, the college have studied convenience rather than propriety, in keeping the old name.

Purging ephrastic pills of the Hospital.

Take Succotrine aloes, extract of black hellebore, scammony, of each two ounces; vitriolated tartar, three drams; distilled oil of juniper, a dram and a half; syrup of buckthorn, as much as is sufficient to make the whole into a mass.

^c *Chalybeat pills of the Hospital.*

Take gum ammoniacum, extract of gentian, salt of steel, myrrh, of each one ounce; syrup of sugar, as much as is sufficient. Make them into a mass for pills, according to art.

Ephrastic chalybeat pills of the Hospital Dispensatory.

Take Succotrine aloes, extract of black hellebore, galbanum, myrrh, of each one ounce; syrup of sugar, a sufficient quantity. Beat them into a mass.

Gamboge,
Calomel, of each two drams ;
Distilled oil of Juniper, half a dram ;
Syrup of Buckthorn, as much as is sufficient.

Make them into a mass.

Pilulæ gummosæ.

Gum-pills.

Take Gum Ammoniacum,
Sagapenum, of each half an ounce ;
Ruffia Castor,
Myrrh, of each three drams ;
Afa foetida,
Galbanum, of each two drams ;
Distilled oil of Amber, half a dram ;
Elixir Proprietatis, as much as is sufficient.

Beat them together into a mass ^d.

Pilulæ mercuriales.

Mercurial pills.

Grind an ounce of pure Quicksilver, in a glass mortar, with a sufficient quantity of Honey, till the globules of quicksilver cease to appear : then add two ounces of Gum Ammoniacum, and make the whole into a mass, according to art ^e.

Pilulæ mercuriales laxantes.

Laxative mercurial pills.

Grind an ounce of pure Quicksilver with a sufficient quantity of Honey, till the quicksilver disappears ; then add

^d *Gum-pills of the Hospital Dispensatory.*

Take afa foetida, shining foot, myrrh, each two ounces ; distilled oil of amber, a dram and a half ; syrup of sugar, a sufficient quantity. Mix, according to art.

^e These pills were in the last edition ordered to be made up with gum guaiacum and balsam of Copaiba ; but after keeping some time, they grew hard and indissoluble, passing often through the body entire.

Gum

Of Gum Ammoniacum,
 Extract of black Hellebore,
 Choice Rhubarb, each half an ounce.
 Beat them into a mass, according to art ^f.

Pilulæ pacificæ, vulgo Matthæi.
The pacific pills, commonly called Matthews's pills.

Take of Russia Castor, two ounces ;
 English Saffron,
 Opium, each one ounce ;
 Soap of Tartar, three ounces ;
 Balsam of Copaiba, as much as is sufficient.
 Mix, and make them into a mass, according to art ^g.

Pilulæ pectorales.

The pectoral pills.

Take of Gum Ammoniacum, half an ounce ;
 Benzoine, three drams ;
 Myrrh, two drams ;
 English Saffron, one dram ;
 Anisated Balsam of Sulphur, half a dram ;
 Balsamic Syrup, a sufficient quantity.
 Make them into a mass, according to art ^h.

Pilulæ, seu extractum Rudii.

The pills, or extract of Rudiis.

Take roots of black Hellebore,

^f *Laxative mercurial pills of the Hospital.*

Take of quicksilver, an ounce and a half ; thin honey, as much as will be sufficient. Rub them together, till the mercury disappears ; then add an ounce of the mass of pil. cocciaë, and the same quantity of gum ammoniacum. Mix, according to art.

^g *Pacific pills of the Hospital Dispensatory.*

Take galbanum, myrrh, white soap, of each two ounces ; opium, one ounce ; syrup of sugar, as much as is sufficient to make the whole into a mass fit for pills.

^h *Pectoral pills of the Hospital.*

Take of gum ammoniacum, an ounce and a half ; myrrh, one ounce ; balsam of sulphur terebinthinated, one dram ; syrup of marshmallows, as much as will make the whole into a mass.

Colocynth,

Colocynth, of each two ounces.

Bruise them very well, and pour on two quarts of Water; boil to the consumption of one half. Pass the decoction through a strainer, and evaporate it to the consistence of honey; then add the following ingredients reduced to fine powder;

Of Succotrine Aloes, two ounces;

Scammony, one ounce.

When the mass is taken from the fire, mix into it

Of Vitriolated Tartar, two drams;

Distilled Oil of Cloves, one dram ⁱ.

Pilulæ scilliticæ.

Scillitic pills.

Take of Spanish Soap, one ounce;

Gum Ammoniacum,

Prepared Millepedes,

Fresh Squills, each half an ounce;

Balsam of Copaiba, as much as is sufficient.

Reduce them into a mass, according to art ^k.

ⁱ According to the experiments of *Monf. Boulduc*, water is the proper menstruum for black hellebore and colocynth. See the note on these two articles, in the former part of this book, p. 24, and 131. Boiled in water, they yield a considerable quantity of gummy extract, which purges sufficiently, without any inconvenience; while the resinous extract obtained from them by spirit of wine, is not only in very small quantity, but likewise occasions intolerable griping pains, without proving at all cathartic.

^k These pills are pretty much prescribed in *Scotland*, for promoting urine and expectoration, and in general for attenuating the viscosity of the fluids. As their virtue is chiefly from the squills, the other ingredients are often varied in extemporaneous prescriptions; the soap is frequently omitted, as being of little use in the small quantity here ordered, and needlessly increasing the bulk of the medicine; and other powders, as the lesser cardamom-seeds, substituted to the millepedes. In any of these forms, if the squills are fresh and juicy, there is no need of balsam; but as the mass soon hardens, it must be formed immediately into pills.

Pilulæ

Pilulæ stomachicæ.

Stomachic pills.

Take of Succotrine Aloes, one ounce ;
 Rhubarb, six drams ;
 Gum Ammoniacum, three drams ;
 Extract of Gentian,
 Myrrh, each two drams ;
 Vitriolated Tartar, one dram ;
 Distilled Oil of Mint, half a dram ;
 Syrup of Sena and Rhubarb, as much as is
 sufficient.

Make them into a mass ^l.

Pilulæ e styrace.

Storax-pills.

Take of Storax calamita, five drams ;
 Gum Tragacanth, one ounce ;
 Olibanum,
 Opium, of each half an ounce ;
 Syrup of Meconium, a sufficient quantity.

Make them into a mass, according to art ^m.

G E N E R A L

^l The rhubarb is certainly more eligible than the sena in these pills ; though in such a small quantity it is but of little use ; and perhaps the extract of gentian is superfluous in a pill containing aloes. The salt is added probably for a gentle stimulus, and to promote the dissolution of the pill, which is both a slow and a weak purge.

Stomachic pills of the Hospital.

Take of Succotrine aloes, an ounce and a half ; gum ammoniac, myrrh, each half an ounce ; vitriolated tartar, two drams ; distilled oil of mint, half a dram ; syrup of sugar, a sufficient quantity.

Mix according to art.

^m In a former edition of this book, balsam of Tolu was substituted to juice of liquorice, on account probably of the difficulty of mixing the latter, and consequently the opium, equally with the other ingredients. But as the pills became by that means too resinous, they often passed undissolved

GENERAL RULES *for the making of*
PILLS.

I. Let the three first rules above laid down for the making of powders, be here likewise carefully observed.

II. The gums and inspissated juices are to be first softened with the prescribed liquor; the powders are then to be added, by little and little, and the whole beat well together till perfectly mixed.

III. The masses for pills are best kept in bladders, which should be moistened now and then with some of the same kind of liquor with which the masses were made up.

undissolved through the stomach; for this reason, gum tragacanth is now put in place of the balsam and myrrh. The trifling quantity of saffron is justly thrown out; nor, considering the smallness of the quantities of all the ingredients, is any alteration in them very material, provided the proportion of opium to the whole is continued the same.

SECTION XIV.

T R O C H E S.

Trochisci albi Rhafis, feu fief album.

White troches of Rhafes, or white fief.

TAKE of Cerufs, ten drams ;
 Sarcocolla, three drams ;
 Tragacanth,
 Starch, each two drams ;
 Camphor, half a dram ;
 Rose-water, as much as is sufficient.

Make them into troches, according to art ^a.

Trochisci bechici albi.

White pectoral troches.

Take of White Sugar candy, one pound and a half ;
 Florentine Orrice-root, one ounce and a half ;
 Liquorice, one ounce ;
 Starch, half an ounce ;
 Mucilage of gum Tragacanth, as much as is
 sufficient.

Make them up into troches.

Trochisci bechici nigri.

Black pectoral troches.

Take of Liquorice-juice, two ounces ;

^a *White troches of the Hospital Dispensatory.*

Take of cerufs, ten drams ; gum Arabic, starch, each three drams ;
 camphor, half a dram. Make them into troches, with a sufficient
 quantity of rose-water.

Balsam

Balsam of Tolu, one dram ;
 Gum Tragacanth, half an ounce ;
 White Sugar, four ounces ;
 Hyffop-water, as much as is sufficient.

Let them be made into troches, according to art.

Trochifci cardialgici.

Cardialgic troches.

Take of Oifter-shells ^b,
 White Chalk powdered, each two ounces ;
 Gum Arabic, half an ounce ;
 Nutmegs, half a dram ;
 White Sugar, ten ounces ;
 Balm-water, a sufficient quantity.

Make them into troches, according to art.

Trochifci cypheos, pro mithridatio.

Troches called Cyphi, for mithridate.

Take Pulp of stoned Raisins of the Sun,
 Turpentine of Cyprus, of each three ounces ;
 Myrrh,
 Squinanth, of each one ounce and a half ;
 Cinnamon, half an ounce ;
 Saffron, one dram ;
 Bdellium,
 Spikenard,
 Cassia lignea,
 Roots of the round (or long) Cyperus,
 Juniper-berries; of each three drams ;

^b M. Homberg found prepared oister-shells very effectual in removing some disorders of the stomach, and ascribes their virtue in part to a saline substance, which he thinks is different from sea-salt, and suspects to be from the animal, or at least much altered by it. Considering that crabs eyes are liable to sophistication, perhaps oister-shells or egg shells would be a better standard absorbent for the shops. Homberg has omitted in his list egg-shells, crabs-claws, and white chalk: (*Mem. de l'acad. des scienc. pour l'an. 1700.*)

Aspalathus (or yellow Saunders) two drams and
a half;

Calamus aromaticus, nine drams;

Clarified Honey, as much as is sufficient.

Grind the bdellium and myrrh with as much Canary Wine, as will reduce them to the consistence of honey; then add the pulp of the raisins, the turpentine, and the honey; and lastly the other ingredients, reduced to a very subtile powder. Make the whole into troches, according to art.

Trochisci diafulphuris.

Troches of sulphur.

Take Flowers of Sulphur, one ounce;

Benzoine, one dram;

White Sugar, four ounces;

Mucilage of Gum Tragacanth, as much as is
sufficient.

Mix, and make them into troches, according to art.

Trochisci dicti magma hedychroi,
pro theriaca Andromachi.

*Troches, called the mass hedycbroom,
for Venice-treacle.*

Take Leaves of Marum,

Marjoram,

Aspalathus (or yellow Saunders)

Roots of Asarabacca, of each two drams;

Camels-hay,

Calamus aromaticus,

Pontic Phu (or wild Valerian-root)

Xylobalsamum (or Agallochum)

Oprobalsamum (or balsam of Peru)

Costus (or Zedoary)

Cinnamon, of each three drams;

Myrrh,

Indian leaf (or Bay-leaves)

Indian Nard,

Cassia lignea,

Saffron,

Saffron, of each six drams ;
 Amomum (or Cloves) one ounce and a half ;
 Mastich, one dram ;
 Canary Wine, as much as is sufficient.

Make them into troches, according to art.

Trochisci e terra Japonica.

Troches of Japan earth.

Take of Japan earth, two ounces ;
 Gum Tragacanth, half an ounce ;
 White Sugar, one pound ;
 Rose-water, a sufficient quantity.

Make them into troches.

Trochisci de minio.

Red-lead troches.

Take of Red Lead, half an ounce ;
 Sublimate Mercury corrosive, one ounce ;
 Crumb of the finest Bread, four ounces.

Make them up with Rose-water into oblong troches.

Trochisci e myrrha.

Troches of myrrh.

Take of Myrrh, half an ounce ;
 Madder roots,
 Leaves of common Penny-royal,
 Ruffia Castor, of each three drams ;
 Cummin-seed,
 Afa foetida,
 Galbanum, of each two drams ;
 Distilled Oil of Rue,

Savin, each twenty drops ;

Elixir Proprietatis, as much as is sufficient.

Let the gums be softened with the elixir, into a mass of the consistence of honey ; then add the oils and powders, and make the whole into troches, according to art.

Trochisci scillitici, pro theriaca Andromachi.

Troches of squills, for Venice-treacle.

Take a whole Squill, after the leaves and stalk are withered. Having taken off the outward skin, inclose

the squill in a paste of Wheat-flower, and bake it in an oven, till the paste is dried into a hard crust.

Let three ounces of Squills, thus baked tender, be beat in a mortar, with two ounces of the meal of white Vetch (or of Wheat) into a paste; which form into troches, to be afterwards dried in the shade.

But the Squill itself, moderately dried, is justly preferred to these troches.

Trochisci viperini, pro theriaca Andromachi.

Troches of vipers, for Venice-treacle.

Take of Vipers flesh, (first freed from the skin, intestines, fat, heads, and tails; then boiled in water, with a little dill and salt, till it has grown soft; and afterwards separated from the back-bone,) eight ounces.

Bisket, pounded and passed through a sieve,
two ounces.

Beat them together, with a sufficient quantity of the Liquor in which the Vipers were boiled, into a mass; which form into troches, according to art.

These troches are brought to us ready made from abroad; but the Vipers Flesh itself, dried, is justly preferred to them.

G E N E R A L R U L E S *for making* T R O C H E S.

I. The three first rules laid down for making powders, are also to be observed in the powders for troches.

II. If the mass proves so glutinous, as to stick to the fingers in making it up, the hands may be anointed with any convenient sweet or aromatic oil; or else sprinkled with powder of starch, or that of liquorice.

III. In order to dry the troches thoroughly, put them on an inverted sieve, in a shady, open place, through which the air freely passes; and turn them frequently.

IV. Troches are to be kept in glass vessels or in earthen ones well glazed.

SECTION XV.

O I L S.

O I L S *by* E X P R E S S I O N.

Oleum amygdalarum dulcium.
Oil of sweet almonds.

TAKE any quantity of Sweet Almonds, newly dried.

Having bruised them in a marble mortar, include them in a canvas bag, and gradually force out the oil by means of a press, without the assistance of fire.

Oleum Amygdal. amar.	<i>Oil of Bitter Almonds.</i>
Juglandium,	<i>Walnuts.</i>
Macis,	<i>Mace.</i>
Nucis moschatae,	<i>Nutmegs.</i>
Sem. Lini,	<i>Linseed.</i>
Sinapi,	<i>Mustard-seed.</i>

These oils are obtained in the same manner as that from sweet almonds, only here the iron plates of the press are to be moderately heated.

Oleum Olivar. maturum,	<i>Ripe Oil of Olives.</i>
Omphacinum,	<i>Unripe Oil of Olives.</i>
Laurinum,	<i>Oil of Bays.</i>

These are brought to us ready-made from other places.

O I L S *by* I N F U S I O N *and* D E C O C T I O N.

Oleum absinthites.
Oil of wormwood-tops.

Take of the Tops of common Wormwood, fresh-gathered, and bruised, one pound ;
Ripe.

Ripe Oil-Olive, three pints.

Boil them gently together, till the herb is almost crisp; then strain and press out the oil.

In the same manner are prepared,

Oleum Anethinum,	<i>Oil from Dill-Leaves.</i>
Chamæmelinum,	<i>Camomile-flowers.</i>
Hyperici,	<i>Tops of St Johns wort</i>
Liliorum alb.	<i>Flow. of white Lily.</i>
Rosarum rub.	<i>Red Roses.</i>
Rutaceum.	<i>Leaves of Rue.</i>

Oleum lumbricorum.

Oil of earth-worms.

Take of Earth-worms, well washed, half a pound ;

Ripe Oil-Olive, a quart ;

White Wine, half a pint.

Boil them together in balneo mariæ, till the wine is evaporated ; then press out the oil, and afterwards strain it for use.

Oleum mucaginum.

Oil of mucilages^a.

Take fresh roots of Marsh-mallows (or white Lily) bruised, four ounces ;

Fresh Squills, bruised, two ounces ;

Fœnugreek-feed,

Linseed, of each one ounce and a half.

Steep these ingredients in a sufficient quantity of Water, then gently boil them till they give out a thick viscid mucilage, which, being strongly pressed out, and strained, is to be boiled with half a gallon of Oil-Olive, in balneo mariæ, or over a very gentle fire, till the aqueous humidity is exhaled, continually stirring the mixture, to prevent its burning.

^a This oil has a very improper Name, since the mucilaginous Part of the ingredients is entirely thrown out towards the end of the Decoction.

SECTION XVI.

B A L S A M S.

Balsamum anodynum, vulgo Guidonis.
The anodyne (commonly called Guido's) balsam.

TAKE of Galbanum,
 Tacamahacca, each half a pound ;
 Venice Turpentine, one pound.

Put them into a retort, whereof they may fill two thirds, and distill, with a fire gradually increased. Separate, according to art, the red oil, or balsam, from the liquor which swims above it.

Balsamum ad apoplecticos.
Apoplectic balsam.

Liquefy one ounce of expressed Oil of Nutmegs, in a silver vessel ; and when taken from the fire, mix into it, according to art,

Of Distilled Oil of Cloves,
 Lavender,
 Rosemary, each half a dram ;
 Amber, half a scruple ;

Balsam of Peru, one dram.

Balsamum Locatelli.
Balsam of Locatellus.

Melt a pound of yellow Wax, over a gentle fire, in a pint and a half of the best Olive-Oil. Then add a pound and a half of Venice Turpentine ; and having taken them from the fire, mix in two ounces of Balsam of Peru, and one ounce of Dragons blood in powder, keeping

keeping the whole continually stirring, till the balsam has grown cold.

Balsamum saponaceum, vulgo oppodeltoch.

The saponaceous balsam, commonly called oppodeltoch.

Dissolve a pound of Spanish Soap, in two quarts of Rectified Spirit of Wine, by digesting them together in a gentle heat. To this solution add,

Of Camphor, two ounces ;

Distilled oil of Rosemary,

Origanum, each half an ounce.

Shake them well together, till they are perfectly mixed.

By occasionally adding Tincture of Opium to this balsam, it becomes

Balsamum anodynum Bateanum.

Bates's anodyne balsam^a.

Balsama fulphuris.

Balsams of sulphur.

See these under the chemical preparations.

Balsamum traumaticum.

Vulnerary balsam.

Take of Powdered Benzoine, two ounces ;

Balsam of Peru, one ounce and a half ;

Hepatic Aloes in powder, half an ounce ;

Rectified Spirit of Wine, one quart.

Digest them in a sand-heat for four days, and then strain out the balsam^b.

Balsamum

^a The *anodyne balsam* of the *hospital* is made by mixing half a pound of liquid laudanum with a pound and a half of saponaceous balsam.

^b This is what is commonly called *Wades balsam*, from an extraordinary cure said to have been performed by it upon that gentleman. It is a French composition, and was handed about as a secret, under the name of *Baume de commendeur*. It was first published

Balsamum viride.
Green balsam.

Take Linseed oil,
 Oil of Turpentine, of each one pound ;
 Verdigrease in powder, three drams.

Boil and stir them well together, till the verdigrease is dissolved ^c.

in the *Strasburgh* dispensatory, with the title of *Balsamum Persicum*, and afterwards in the *Parisian* pharmacopœia, under that of *Balsamum commendatoris*. The *Edinburgh* college had reduced the exuberancy of this composition pretty much in the last edition of their *pharmacopœia* ; and still more in this, without any loss to it, considered as a medicine.

In the *hospital dispensatory*, olibanum is substituted to the balsam of Peru.

^c *Balsamum piceum*, tar-balsam.

Take two ounces of tar, and a pint of rectified spirit of wine. Digest them together in a sand-heat for three days ; then pour off the balsam from the feces. *Pharm. paup.*

SECTION XVII.
OINTMENTS^a.

Unguentum Ægyptiacum.
Ægyptian ointment.

TAKE of Verdigrease finely powdered, five ounces ;
Honey, fourteen ounces ;
Vinegar, seven ounces.

Boil them over a gentle fire, to the consistence of an ointment.

^a In this section and the following, the college have been very sparing of their emendations, especially of such ointments and plasters as are used by the surgeons in their dressings. They were at no other pains about them, as I am informed, than to enquire of the surgeons what forms they followed in making them up. For this reason, such an exuberant composition, as the *emplastrum defensivum* still remains unaltered, as they were assured, that some surgeons of the greatest practice continued still to make it after the old prescription, without the omission of any one juice. It would have been very easy, no doubt, to have made a plaster of four or five ingredients as good as this for the purpose ; but I am of opinion that neither one nor other would have answered any useful end. It is for the same reason the college have inserted the *compound epispastic plaster*, which has been in use for a long time in many of the shops, as the most infallible blister. The *unguentum basilicon nigrum* is still much in use, the *flavum* is employed by very few, no difference being found between it and the *linimentum Arcæi*. Some ointments are left which are near worn out of use, as the *diapompholygos*, and *desiccativum rubrum*. As some shops keep the *diachylon simplex*, others the *diapalma*, both are retained, though one of them might have been very well expunged.

Unguentum

Unguentum album.

White ointment.

Take of Unripe Oil-Olive, three pints;
 Cerufs, one pound;
 White Wax, nine ounces.

Mix, and make them into an ointment, according to art.

Unguentum album camphoratum.

Camphorated white ointment.

This unguent is made, by mixing with the foregoing, when taken from the fire, one ounce of Camphor, previously ground with a few drops of Oil of Almonds.

Unguentum antipforicum.

Ointment against the itch.

Take roots of Elecampane, and those of Sharp-pointed Dock, of each, cut small and bruised, three ounces. Boil them in a mixture of three pints of Water, and one pint of Vinegar, till half of the liquor is wasted; strongly press and strain out the remaining half, and add to it ten ounces of the leaves of Water-creffes, fresh-gathered and bruised, and four pounds of Hogs Lard. Let them all boil again till the moisture is exhaled; then press out the ointment, and dissolve in it four ounces of yellow Wax, and the same quantity of Oil of Bays. Mix the whole well together.

Sulphur may be occasionally added to this ointment.

Unguentum antipforicum, cum mercurio.

Ointment against the itch, with mercury.

This ointment is made, by adding to the foregoing four ounces of Quicksilver, killed with a sufficient quantity of Venice Turpentine, and mixing them together, according to art, into an unguent.

Unguentum, seu linimentum Arcæi.

The ointment, or liniment of Arcæus.

Take of Hogs Lard, one pound,

Goats Suet, two pounds,
 Venice Turpentine,
 Gum Elemi, of each one pound and a half.

Melt and strain them together, so as to make an ointment, according to art.

Unguentum basilicon.

The ointment called basilicon.

Take Yellow Wax,
 Goats Suet,
 White Resin,
 Pitch,
 Venice Turpentine, of each half a pound ;
 Olive-Oil, two pints and a half.

Melt all the other ingredients in the oil, stirring them well together ; and then strain off the ointment.

Unguentum e lapide calaminari.

Ointment of calamine stone.

Melt eighteen ounces of yellow Wax in a quart of Olive-Oil. Gradually sprinkle in ten ounces and a half of Calamine stone ; and mix and stir them well together, till the ointment grows cold.

Unguentum citrinum.

Yellow ointment.

Take of Quicksilver, one ounce ;
 Spirit of Nitre, two ounces.

Digest them in a sand-heat till the quicksilver is dissolved ; and while the solution is very hot, mix with it a pound of Hogs Lard, which has been previously melted, and is just beginning to coagulate. Stir these ingredients briskly together in a marble mortar, so as to form the whole into an ointment.

Unguentum desiccativum rubrum.

The red desiccative ointment.

Take of Oil-Olive, a pint and a half ;
 White Wax, half a pound.

Melt them together ; and having taken them from the fire, gradually sprinkle in

Of Calamine stone, six ounces ;
 Litharge of gold,
 Bole Armenic, each four ounces ;
 Camphor, first ground with a little oil of
 Almonds, three drams.

Stir them briskly together into an ointment.

Unguentum dialthææ.

Ointment of marshmallows.

Take Oil of Mucilages, two pounds ;
 Yellow Wax, half a pound ;
 White Refin, three ounces ;
 Venice Turpentine, one ounce and a half.

Mix and make them into an ointment, according to
 art.

Unguentum diapompholygos.

Ointment of Pompholyx.

Take of Unripe Oil of Olives, twenty ounces ;
 Juice of the berries of common (or deadly)
 Night-shade, eight ounces.

Boil them over a gentle fire till the juice is exhaled ;
 and, towards the end of the coction, melt in the oil five
 ounces of white Wax. Then take the mixture from
 the fire ; and add to it, while hot, the following in-
 gredients reduced to powder :

Of Cerufs, four ounces,
 Burnt Lead,
 Pompholyx, each two ounces ;
 Pure Frankincense, one ounce.

Mix and make them into an ointment ^b.

Unguentum epispasticum.

Blistering ointment.

Take Hogs Lard,
 Venice-Turpentine, of each three ounces ;

^b *Emollient ointment, of the hospital.*

Take of palm-oil four pounds ; yellow wax, half a pound ; linseed
 oil, two pounds. Liquefy them together.

Yellow

Of Yellow Wax, one ounce,
Cantharides, three drams.

To the lard and wax melted together, add first the cantharides reduced to powder, and then the turpentine. Lastly, mix the whole into an ointment.

Unguentum mercuriale.
Mercurial ointment.

Take of Hogs Lard, two ounces ;
Quicksilver, half an ounce.

Beat them diligently together, till the quicksilver disappears.

This ointment may likewise be made with a double, triple, &c. quantity of quicksilver ^c.

Unguentum nervinum.
Nerve-ointment.

Take Male Southernwood,
Marjoram (or Origanum)
Mint,
Penny-royal,
Rue,

Rosemary, of each fresh-gathered, six ounces.

Let them be well bruised, and boiled in a mixture of five pints of Neats-foot-oil and three pounds of Beef-suet, till the moisture is exhaled. Then press and strain out the liquor, and adding to it half a pint of Oil of Bays, make the whole into an ointment ^d.

^c This is the most simple mercurial ointment extant in any dispensatory. It requires indeed a great deal more labour to extinguish the mercury in the lard alone, than when turpentine is joined to it ; but the latter, by frequent rubbing, is apt to fret tender skins. Some choose to stiffen this ointment with a fourth part of suet, (diminishing the lard) which gives it a better consistence for rubbing.

Mercurial ointment of the hospital.

Take of quicksilver, two ounces ; hogs lard prepared, three ounces ; suet, one ounce. Work them well together.

^d *Nerve ointment of the hospital dispensatory.*

Take of oil of bays, three pounds ; suet, two pounds ; distilled oil of amber, two ounces. Mix them according to art.

Unguentum

Unguentum nutritum.

The ointment called nutritum.

Take of Litharge of Gold,
 Vinegar, of each half a pound ;
 Unripe Oil-Olive, a pint and a half.

Rub them together in a mortar, adding the oil and vinegar alternately by little and little at a time, till the vinegar ceases to appear, and the ointment becomes uniform and white.

Unguentum ophthalmicum.

Ophthalmic ointment.

Take of Ointment of Tutty, one ounce and a half ;
 Saturnine Ointment, half an ounce ;
 Camphor, half a dram.

Mix, and make them into an ointment, according to art.

This ointment may likewise be made with a double, triple, &c. quantity of camphor.

Unguentum populeon.

Ointment of poplar-buds.

Take fresh buds of black Poplar, bruised, one pound ;
 Fresh Hogs Lard, four pounds.

Let them be well mixed together, and kept close covered up in a glazed earthen vessel, till the following herbs can be gathered :

Hemlock leaves,
 Black Henbane,
 Garden Poppy,
 Nightshade, of each six ounces.

Bruise the herbs, and boil them with the lard and poplar buds, over a gentle fire, till the moisture is exhaled ; then strongly press out and strain the ointment ; and melt in it four ounces of white Wax.

Unguentum rosaceum, vulgo pomatum.

Ointment of roses, commonly called pomatum.

On any quantity of Hogs Lard cut into small pieces, and placed in a glazed earthen vessel, pour as much Wa-

ter as will rise above it some inches; and digest them together for ten days, renewing the water every day. Then liquefy the lard in a very gentle heat, and pour it into a proper quantity of Rose-water; work them well together, and pouring off the water, add some drops of Oil of Rhodium.

Unguentum sambucinum.

Ointment of elder.

Take of the inward Bark of green Elder, and the Leaves of the same tree fresh-gathered, of each four ounces. Let them be well bruised, and boiled in a quart of Linseed Oil, till the humidity is evaporated. Having then pressed and strained out the oil, melt in it six ounces of white Wax, so as to make the whole into an ointment.

Unguentum saturninum, vulgo Balsamum universale.

Saturnine ointment, commonly called The universal balsam.

Take of Sugar of Lead, two ounces;

White Wax, three ounces;

Olive-Oil, one pint.

To the oil and wax melted together add gradually the sugar of lead, keeping continually stirring them, till, growing cold, they unite into an ointment.

Unguentum tutiæ.

Ointment of tutty.

Liquefy three ounces of White Wax, over a gentle fire, in ten ounces of the best Olive-Oil; then gradually sprinkle in two ounces of Tutty, and one ounce of Calamine-stone, continually stirring them till the ointment grows cold.

This ointment may likewise be made extemporaneously, by mixing the calamine and tutty with four times their quantity of fresh butter^e.

Unguentum

^e This ointment made with butter, with which it is usually directed, turns so soon rancid, as to be improper for an officinal. The college

Unguentum vermifugum.
Ointment against worms.

Take Leaves of Lavender-cotton,
 Common Wormwood,
 Rue,
 Savin,
 Tansey; of each fresh-gathered, two
 ounces.

Bruise, and boil them in a mixture of a pint and a half of Olive-Oil and a pound of Hogs Lard, till the aqueous moisture is evaporated. Then press out and strain the liquor; melt in it three ounces of Yellow Wax; and afterwards add

Ox-gall,
 Succotrine Aloes, of each one ounce and a half;
 Coloquintida,
 Worm-feed, of each one ounce.

Boil and stir them together, so as to make an ointment.

The aloes, coloquintida and wormfeed, ought to be previously reduced into a very subtile powder.

college have therefore directed two ways of making it; the former for the shops, which if sweet Florence oil be employed, is inoffensive to the eyes. Those who choose it with butter, may order the latter to be fresh made, in extemporaneous prescription.

SECTION XVIII.

P L A S T E R S.

Emplastrum adhæsivum.

Adhæsive plaster.

TAKE of simple Diachylon plaster, two pounds ^a ;
Burgundy Pitch, one pound.
Melt them together, so as to make a plaster.

Emplastrum anodynum.

Anodyne plaster.

Take of White Refin, eight ounces ;
Tacamahacca in powder,
Galbanum, of each four ounces.

Melt them together, and add
of Cummin-seeds, powdered, three ounces ;
Black Soap, four ounces.

Make the whole into a plaster, according to art.

Emplastrum antihystericum.

Antihysterie plaster.

Take of Galbanum twelve ounces ;

^a Instead of the simple diachylon plaster, the hospital dispensatory orders common plaster.

Common plaster of the Hospital.

Take of litharge prepared, three pounds ; oil of olives, six pounds.
Boil them up to a due consistence.

Wax plaster of the Hospital.

Take of yellow wax, four pounds ; white refin, two pounds ;
suet, a pound and a half. Melt them together.

Taca-

Tacamahacca in powder,
 Yellow Wax, of each six ounces ;
 Afa foetida,
 Cummin-feed in powder,
 Venice Turpentine, of each four ounces.
 Mix, and make them into a plaster, according to art.

Emplastrum cephalicum.

Cephalic plaster.

Take of Yellow Wax, three ounces ;
 White Refin,
 Tacamahacca, each two ounces ;
 Myrrh,
 Castor, each two drams ;
 Venice Turpentine, three ounces ;
 Distilled Oil of Lavender,
 Amber, each one dram.

Add the distilled oils to the other ingredients previously made into a plaster, and grown almost cold.

Emplastrum de cicuta cum ammoniaco.

Plaster of hemlock, with gum ammoniacum.

Dissolve eight ounces of Gum Ammoniacum in a sufficient quantity of Vinegar of Squills, and add to the solution four ounces of the Juice of Hemlock-leaves. Pass the liquor through a strainer, and afterwards boil it down to the consistence of a plaster.

Emplastrum defensivum.

Defensive plaster.

Take Juice of Shepherds-purse,
 Knot-grass,
 Horsetail,
 Milfoil,
 Plantane,
 Greater Housleek,
 Common Nightshade,
 Greater Comfrey, of each half a pint ;
 Olive-Oil, three pints ;
 Hogs Lard, two pounds ;

P L A S T E R S.

Litharge of Gold, two pounds and a half;
Red Lead, half a pound.

Boil them till they come almost to the consistence of a plaster; then mix in

Yellow Wax,

White Refin, of each four ounces.

When these are liquefied, add

Olibanum,

Venice Turpentine, of each four ounces;

Powdered Bole Armenic, one pound;

Comfrey-roots,

Granate-peels,

Balaustines,

Mastich,

Dragons-blood,

Red Saunders, of each two ounces.

Mix, and make the whole into a plaster, according to art.

This plaster may likewise be made without the juices ^b.

Emplastrum diachylôn simplex.

The simple diachylon plaster.

Take of Oil of Mucilages, four pints;

Litharge of Gold, a pound and a half.

Boil them into a plaster.

Emplastrum diachylôn cum gummi.

Diachylon plaster with gums.

Take of Oil of Mucilages, two quarts;

Litharge of Gold, two pounds.

Boil them to the consistence of a plaster, to which add

^b *Defensive plaster of the Hospital Dispensatory.*

Take of litharge prepared, two pounds; oil-olive, four pounds; boil them almost to the consistence of a plaster, in which liquefy six ounces of yellow wax, and four ounces of olibanum. Then add six ounces of bole armenic prepared; two ounces of dragons-blood in powder; and four ounces of Venice turpentine.

Gum

Gum ammoniacum,
Galbanum,
Venice Turpentine,
Yellow Wax, of each half a pound.

Make them into a plaster according to art ^c.

Emplastrum diapalmæ dictum.

The plaster called diapalmæ.

Take of Litharge of Gold,
Olive-Oil, each three pounds;
Hogs Lard, two pounds.

Boil these ingredients together, and stir them till the mixture has acquired the due consistence of a plaster.

Emplastrum epispasticum.

Blistering plaster.

Take of Melilot-plaster,
Burgundy Pitch, each eight ounces;
Venice Turpentine, three ounces;
Cantharides, five ounces.

Reduce the cantharides to a very subtile powder, and add them to the other ingredients previously melted together, so as to make the whole into a plaster, according to art ^d.

Emplastrum epispasticum compositum.

Compound blistering plaster.

Take of Burgundy Pitch, ten ounces;
Yellow Wax, four ounces;
White Resin, two ounces.

Melt them together, and add,
of Venice Turpentine, eighteen ounces.

^c *Gum-plaster of the Hospital.*

Take of palm-oil, four pounds; litharge prepared, one pound and a half. Boil them almost to the consistence of a plaster; then add of gum ammoniacum and galbanum, each half a pound.

^d *Epispastic plaster of the Hospital.*

Take of Burgundy-pitch, twenty ounces; Venice turpentine, cantharides in powder, each six ounces.

When the whole is liquefied, sprinkle in the following ingredients, first powdered and mixed together, keeping constantly stirring the matter ;

of Mustard-feed,

Black Pepper, each one ounce ;

Verdigrease, two ounces ;

Cantharides, twelve ounces.

Make the whole into a plaster, according to art.

Both the blistering plasters are to be kept in oiled bladders.

Emplastrum e meliloto.

Melilot-plaster.

Boil six pounds of Melilot, fresh gathered and previously well bruised, in three pounds of melted Beef-Suet, till the Herb is almost crisp. Strongly press out the Suet, and add to it eight pounds of white Resin, and four pounds of yellow Wax. Boil them a little together, so as to make them into a plaster.

Emplastrum mercuriale.

Mercurial plaster.

Melt a pound and a half of the Diachylon plaster^e with gums ; and having taken it from the fire, add eight ounces of Quicksilver, one ounce of Venice Turpentine, and an ounce and a half of liquid Storax, which should be previously ground together in a mortar until perfectly mixed, and the quicksilver ceases to appear.

Emplastrum de minio simplex.

Simple red-lead plaster.

Take of Red lead, one pound ;

Oil of Olives, a pint and a half ;

Vinegar, half a pint.

Boil them over a gentle fire, until they unite into a plaster.

Emplastrum de minio cum sapone.

Red-lead plaster with soap.

This is made by adding to the foregoing plaster taken

^e Gum-plaster is substituted to diachylon in the *Hospital Pharmacopœia*.

from the fire as soon as the humidity is evaporated, and whilst hot, half a pound of Spanish Soap, cut into thin slices; stirring the whole strongly together, until the soap is dissolved, and a plaster formed, according to art ^f.

Emplastrum oxycroceum.
The plaster called oxycroceum.

Take of Yellow Wax, one pound;
Pitch,
Galbanum, each half a pound.
Melt them over a gentle fire, and then add
of Venice Turpentine,
Myrrh,
Olibanum, each three ounces;
Saffron, two ounces.
Make them into a plaster, according to art.

Emplastrum stomachicum.
Stomach plaster.

Take of Yellow Wax, eight ounces;
Tacamahacca in powder, four ounces;
Melt them together, and add of
Venice Turpentine, six ounces;
Bay-berries in powder, two ounces;
Cubeb in powder, one ounce;
Expressed Oil of Mace, one ounce and a half;
Distilled Oil of Mint, two drams.
Make them into a plaster, according to art ^g.

^f *Soap-plaster of the Hospital.*

Take of gum-plaster, three pounds; white soap sliced, half a pound. Melt the plaster, and mix into it the soap.

^g *Stomach-plaster of the Hospital.*

Take of yellow wax, eight ounces; tacamahacca in powder, palm-oil, each four ounces; melt them together, and add of cloves in powder, two ounces; expressed oil of mace, one ounce and a half. Mix, and make them into a plaster, which is to be moistened, when fresh spread, with some drops of distilled oil of mint.

Emplastrum

Emplastrum volatile.

Volatile plaster.

Beat an ounce of Venice Turpentine in a mortar, pouring on it by little and little the same quantity of Spirit of Sal Ammoniac. When they are thoroughly mixed, throw in by degrees half an ounce of Tacamahacca in powder, and mix the whole well together.

G E N E R A L R U L E S *for making*
O I N T M E N T S *and* P L A S T E R S.

I. The ointments and plasters, in which plants are ingredients, are to be boiled till the herbs are almost crisp, taking care to prevent their contracting a black colour. After straining, they are again to be set on the fire, that all the humidity may exhale. The plants therefore ought to be fresh-gathered, juicy, and well bruised, unless they are ordered otherwise.

II. The metallic powders are to be boiled first with the oils and fat ingredients, till they are duly united: But plasters require the addition of some water, till they have acquired a due consistence. Such gums as are readily soluble, powders, and also turpentine, are to be added towards the end of the operation.

III. Neither ointments or plasters are all of the same thickness; some compositions of a middle consistence deserve the name of cerates. But as the manner of compounding all of them is various, we have subjoined to most of the articles particular directions.

SECTION XIX.

CATAPLASMS.

Cataplasma discutiens.

Discutient cataplasms.

TAKE of Bryony-roots, two ounces ;
 Common Orrice-root, one ounce ;
 Camomile-flowers,
 Elder-flowers, of each half an ounce.

Boil them in a sufficient quantity of Water, till they become tender, and having bruised the magma, add to it of

Gum Ammoniacum, dissolved in vinegar, half
 an ounce ;

Crude Sal ammoniac, two drams ;
 Camphorated Spirit of Wine, one ounce.

Mix and make them into a cataplasm.

Cataplasma suppurans.

Suppurating cataplasms.

Take of White Lily (or Marshmallow) roots, four
 ounces ;

Fat Figs, one ounce.

Boil them in a sufficient quantity of Water, till they grow tender ; then bruise, and add to them

of Raw Onions bruised, six drams ;
 Galbanum, dissolved in the Yolk of an Egg,
 half an ounce ;

Basilicon Ointment,

Oil of Camomile, each one ounce ;

Linseed-meal, as much as is sufficient.

Mix them into a cataplasm, according to art.

Sinapisms

Sinapismus simplex.

The simple sinapism.

Take of Mustard-feed, in powder,
 Crumb of Bread, each equal parts;
 Strongest Vinegar, as much as is sufficient.
 Mix them together.

Sinapismus compositus.

Compound sinapism.

Take of Mustard-feed in powder;
 Crumb of Bread, each two ounces;
 Garlick bruised, half an ounce;
 Black Soap, one ounce;
 Strongest Vinegar, as much as is sufficient.
 Mix and make them into a cataplasm, according to
 art.

CHEMICAL MEDICINES.

CLASS THE FIRST.

Chemical Preparations of Vegetables.

SECTION I.

DISTILLED OILS^a.

^a The chemists distribute the oils obtained by distillation from vegetable matters, into two classes. The first contains such as keep the smell, and sometimes the taste, of the subject from which they were drawn: these are usually called *Essential*; several of these oils, some from spices in particular, contain in an eminent degree all the medical virtue of the plant; others, as that of wormwood, have it only in part. Essential oils are generally drawn along with water, though some of the more odoriferous resinous juices yield these kinds of oils in tolerable perfection, if distilled alone with a very gentle heat.—The second class takes in those oils which have little or no resemblance of the original; but which are so altered from the treatment they have undergone, as to appear to the senses the same, and have one common burnt smell or taste, whence they are called *Empyreumatic*. Although these oils should possibly, upon a strict examination, be found to differ from one another in some respects, yet as their medical virtues are generally thought to be similar, and as the shops have been long accustomed to make one supply the place of all, the college of *Edinburgh* have prudently retained only one, drawn from a suitable cheap substance, and thus prevent putting a gross deceit upon the patient, and avoid giving any countenance to sophistications.

Oleum absinthii.

Oil of wormwood.

TAKE of Wormwood ^b, gently dried ^c in the shade and cut in pieces, what quantity you please ;

^b It has been particularly remarked of this plant *, that it yields a larger quantity of thin, limpid, essential oil, in wet seasons than in drier ones, which seem best suited to other plants designed for distillation. Some vegetables, balm for instance, give out a considerable portion of oil in great droughts, when the plant to common appearance does not seem to promise near so well as that of the growth of moister soils and rainy seasons, which nevertheless affords very little or no oil at all, however skilfully the exsiccation, maceration and distillation may be conducted.

^c It has been observed by the most expert in chemical pharmacy †, that a considerably larger quantity of oil may be obtained from flowers and herbs, after they have been exposed for some time to the action of a dry air, in a shady place, than can possibly be got from them, if they are, immediately after being gathered, either macerated or committed to the still: The reason of which seems to be this, while the plant is turgid, and full of aqueous juice, the oily particles are so finely divided, as to be blended and intimately united with it; whence, upon the watery part gently exhaling, the oil collects into sensible moleculæ, no longer miscible with an aqueous fluid. To which may be added, that the gentle exsiccation here directed (which must by no means be continued too long, otherwise the flavour and colour of the oil will be injured) perfectly elaborates, and brings the juices to their due state of maturity. Upon this circumstance, the success of the process greatly depends, as is well known to those who have imprudently distilled such vegetables for their oils, as were either the growth of very moist places, the product of wet, unfavourable seasons, or gathered before they had arrived to a proper degree of maturity.

* Geoffr. *Mem. de l'Acad. roy. pour l'ann. 1721.*

† Hoffm. *Observat. Physico-Chym. Lib. 1. obs. 1.*

Water,

Water, as much as will conveniently keep
the herb afloat ^d;

Sea-salt ^e, as much as will give the liquor
a slight saline taste.

Let them steep together for the space of eight days ^f ;
then commit them to the still, applying a somewhat
greater heat than what is necessary for the distillation of
simple waters. The oil will come over along with the
water, from which it is to be separated ^g according to
art.

Oleum hyssopi.

Oil of the plant hyssop ^h.

Oleum

^d The proportion which the water ought to bear to the vegetable
cannot be exactly determined : Particular regard must be had herein
to the capacity of the body of the still. If the whole plant, mode-
rately dried, be used, or the shavings of woods, as much of either
may be put into the still, as, lightly pressed, will occupy one half of
its cavity, and as much water may be added, as will arise up to two
thirds of its height. But it is impossible to give rules which shall
exactly quadrature with every substance that is here directed to be di-
stilled for its oil : A great deal must still be left to the operator. It
is sufficient to observe in general, that the water and ingredients all
together, should never take up more than three fourths of the vessel ;
that there be liquor enough to prevent an empyreuma, and yet not
so much as to be too apt to boil over into the recipient.

^e The sea-salt seems here directed to prevent the putrefaction which
so long a maceration as eight days would subject the matter to.

^f Half the time here ordered, or even twenty-four hours if a di-
gesting heat be applied, is sufficient fully to unlock the texture of
the wormwood, so as to make it yield all its essential oil with great
ease.

^g As a large quantity of water comes over along with the oil, a
particular contrivance is usually employed to separate them, as they
run together from the nose of the still. This is effected by means
of an instrument made either of glass or pewter, and known by the
name of a spout receiver. See *Pract. Chemistry*, plate 5.

^h The oil of hyssop, distilled from the whole plant in flower,
fresh-gathered, is of a yellowish colour, with a slight cast of green ;

in

Oleum majoranæ.
Oil of the plant marjoram ⁱ.

Oleum menthæ.
Oil of the plant mint.

Oleum origani.
Oil of the plant origanum.

Oleum pulegii.
Oil of the plant penny-royal ^k.

Oleum rorismarini.
Oil of the plant rosemary ^l.

Oleum rutæ.
Oil of the plant rue ^m.

&c.

Oleum

in keeping it turns brownish. The smell of this oil most exactly resembles that of the original herb.

ⁱ Oil of marjoram is of a yellow colour, unless distilled with too great a heat, which turns it reddish; this colour it likewise acquires in keeping. *Teichmeyerus* * says, that this oil becomes more fragrant than at first, by distilling it a second time, when it leaves a considerable portion of gross resinous parts at the bottom of the distilling vessel. The smell of this oil, though ever so carefully drawn, is not near so agreeable as that of the herb itself.

^k This plant affords a larger quantity of oil than hyssop. It is pretty much of the same colour and appearance with it, and retains, in great perfection, the smell of the herb.

^l The oil distilled from the tops of rosemary, fresh-gathered, in full flower, without any previous maceration, with an exceeding gentle and well managed heat, is very light and thin, almost as pale and colourless as water, and of very great fragrancy. If the whole plant be used, a maceration for three or four days employed, and the distillation conducted with a vehement fire, the oil which comes over will be thicker, of a yellow colour, and its odour not near so agreeable as the foregoing.

^m This plant yields very little oil, though it is probable that if it were gathered when the flowers begin to fall off (which *Teich-*

* *Institut. Chem.* p. 65.

Oleum flor. chamæmeli.

Oil of camomile flowers ⁿ.

Oleum flor. lavendulæ.

Oil of lavender-flowers ^o.

&c.

Oleum

meyerus * observes to be the best time) and its viscous texture previously unlocked by fermentation, as is directed hereafter in the process for the oil of juniper-berries, a larger quantity might be obtained. *Hoffmann* † describes this oil as of a brown colour, an acrid taste, and a penetrating smell. But the colour and smell of these oils depends so much upon the season, the management of the operator, the different circumstances of the plant itself, the age of the oil, and the manner in which it has been kept, that little can be drawn from them. Thus from this very plant, distilled while green; we have obtained an oil of a yellowish colour, which in time indeed became brown.

ⁿ Camomile flowers yield an extremely small quantity of oil.— This oil retains in great perfection the peculiar smell of the flowers, and is, when fresh drawn, of a most elegant sky-blue colour, which gradually decays by age, and turns at length into a dark yellow, especially if great care is not taken to keep the bottles in which it is preserved, always full, and close stopt, so as perfectly to exclude the air. *Hoffmann* † observes, that the delicate colour of this oil affords an infallible criterion of its genuineness; for if the colour remains for above a year, it is a certain sign of the oils being adulterated. This observation is certainly just, though not so useful as could be wished, the length of time required for making the experiment, being a standing objection to it. We shall therefore refer the reader to the general remark on distilled oils at the end of this section, for shorter and more practicable methods of discovering abuses in these kinds of preparations.

^o To gain this excellent oil with the greatest advantage, both with regard to the quantity and quality, the flowers should not be collected

* *Institut. Chem.* p. 62.

† *Obs. Chémico-Phys.* lib. i. obs. 1.

‡ *Ibid.*

Oleum feminum anifi.

Oil of aniseed ^P.

Oleum

still they are arrived at the utmost state of perfection, just before they begin to fall off spontaneously, when the seed begins to shew itself; for at this time they yield not only almost thrice as much oil (according to the observations of *Teichmeyer* * and *Geoffroy* †) but the oil is far more fragrant than that distilled from the whole plant, or the buds alone, before the flowers are fully opened. The college of *Edinburgh* direct only the flowers to be distilled, and with great judgment; for the rest of the plant affords scarce any essential oil, and therefore takes up room in the distilling vessel to no manner of purpose. The flowers may be easily separated from the plant, by drying it a little, and gently beating it: they should be immediately put into the still, and a suitable quantity of water being added, distilled with a gentle and well regulated fire. Too great a heat is carefully to be avoided in this process; for this will not only change the colour of the oil, but likewise make a disagreeable impression on its smell.

The oil of lavender, when in its utmost perfection, is very limpid, of a pleasant yellow colour, extremely odoriferous, and possesses in an eminent degree the peculiar smell generally admired in the flowers.

^P The oil drawn by distillation from aniseeds, most exactly resembles the seeds both in taste and smell, and is not so pungent and hot as most other essential oils are. This oil coagulates even when the air is not sensibly cold: Mr *Geoffroy* † has remarked, that it loses this property by long keeping.

With regard to the choice of this and all other seeds designed for distillation, care should be taken, that they are not mixed with such as have lost their smell, or been otherwise damaged; that they are fully ripe, dry, and not too long kept—With regard to the process for obtaining these oils, the seeds should be previously bruised, and being put into the still with five or six times their quantity of water, digested for a few hours with a gentle heat, when the distillation may

* *Ubi supra.*

† *Mem. de l'acad. roy. 1721*

‡ *Ibid. 8^e ann. 1728.*

Oleum feminum carvi.

Oil of caraway-seed.

Oleum feminum cumini.

Oil of cummin-seed.

Oleum feminum fœniculi.

Oil of fennel-seeds,
&c.

Oleum corticum limonum.

Oil of lemon-peel ^q,
&c.

Oleum caryophyllorum.

Oil of cloves ^r.

Oleum

be performed in the common manner. But it behoves the operator not to be over solicitous in keeping the water in the refrigeratory too cool: he ought rather to let it grow somewhat warm, particularly towards the end of the process; otherwise the oil, from its known property of coagulating in the cold, may so stop up the worm, as to endanger blowing off the head of the still, at least a considerable quantity of oil will remain in it.

^q This is one of the lightest essential oils we have, perfectly limpid, and almost colourless: its smell is very near as agreeable as that of the fresh peel. Our chemists rarely draw this oil, it being imported from abroad, in great perfection, at a much cheaper rate. Nevertheless, care should be taken in chusing this commodity; for the foreign sorts differ greatly in goodness; and though it can hardly be supposed worth the while of the maker to adulterate it, some of the venders seem to have thought otherwise.

^r This oil, when fresh drawn, is limpid, and perfectly colourless; and retains these properties, if the bottles containing it are kept always full, and closely stopp'd; but if these precautions are not observed, it acquires in time a yellowish colour, which by degrees grows deeper and deeper. This oil readily sinks in water, and is so extremely pungent and acrimonious, as not to be safely tasted without great care: its smell very much resembles that of the fruit it is obtained from.

Oleum cinnamomi.

Oil of cinnamon.

Oleum macis.

Oil of mace.

Oleum nucis moschatae.

Oil of nutmegs.

Oleum ligni sassafras.

Oil of sassafras-wood^s.

&c.

All

As this oil is very ponderous, a somewhat brisker fire is necessary in its distillation, than for any of the foregoing: The still employed likewise should be low, its mouth wide, and the head so contrived, as not to suffer any part of the oil which may condense against its sides, to slide down into the body again, but convey it immediately into the recipient. See a description of a commodious apparatus for this purpose, and sundry useful cautions for conducting these kinds of processes to advantage, in *Pract Chem.* pl. 5. fig. 1. 6. and pag. 253 — 267.

The excellent *Hoffmann* * has given us several practical hints and remarks, with regard to the distillation of this oil in particular, which highly deserve being carefully attended to. He directs the cloves to be first powdered, and then digested for five or six days in a gentle heat, with at least six times their quantity of water, and a little common salt, to prevent putrefaction, which, as he observes, spices infused in water are particularly subject to. He cautions the operator against putting too much into the still at once; and directs the water which comes over along with the oil, to be separated and poured back on the residuum, and the distillation repeated a second or third time: by this means sometimes will be obtained near one third of the quantity of oil afforded by the first distillation, though the product of these last operations will be considerably grosser and more ponderous.

* Sassafras affords on distillation a very elegant oil, which is the most ponderous of all the known essential oils: its smell exactly re-

* *Observ. Physico-Chym. Lib. i. Obs. 3.*

All these oils are to be distilled in the same manner as directed for that of wormwood.

Seeds and spices ought to be bruised before maceration.

All the vegetables which are proper subjects for distillation, give out their oil upon being treated in the same manner, only the length of the maceration is to be varied according to the difference of their texture and compactness. The most tender subjects scarce require any steeping; those of a soft and loose texture may be steeped for two or three days; but the more viscous ones require as many weeks. The longer the maceration is intended to be continued, the greater should the quantity of sea-salt be; in the room of which, Nitre, or any fixed acid spirit may be substituted.

The

sembles that of the wood. *Hoffmann* * is full of the virtues of this oil, and makes a pretty singular remark, that if the decoction which remains after the distillation of it be passed through a strainer, and inspissated with a gentle heat, an extract may be obtained of a bitterish subastrigent taste, which proves a medicine of no contemptible virtue. He assures us, that he has often given it with remarkable success, in the quantity of a scruple at a time, to strengthen the tone of the viscera in cachexies, as also in the decline of intermitten fevers, and in hypochondriacal spasms.

The sea-salt, nitre, and fixed acid liquor, one of which are here directed to be added to the water wherein the subject designed for distillation is to be macerated, seem principally intended to prevent the putrefaction which most of these substances are liable to, during the long time of maceration prescribed. A very small proportion of these matters may be of some little use, though we should conceive, that such additions as prohibit this propensity of the ingredients to run into putrefaction, hinder the resolution here aimed at. It is in the power of the operator, when he perceives the process coming near this pitch, to put a stop to it, by immediately proceeding to distillation. By this means, the whole affair will be finished

* *Ibid.* Lib. i. Obs. 3.

The water which arises along with the oil, in the distillation of any of these substances, may be reserved apart, and advantageously employed in future distillations of the same subject^u.

Oleum baccarum juniperi.

Oil of juniper-berries.

Take of Juniper-berries, bruised *, what quantity
you please ;
Half

in a little time, with at least equal advantage in every other respect, provided the manual operations of pounding, rasping, and the like, which are equally necessary in all cases, be scientifically complied with.

Some chemists pretend, that by the addition of acid spirits, &c. they have been enabled to gain more essential oil from certain vegetable substances, than can possibly be got from them without such assistance. But experiments made on purpose to settle this point, seem to prove the contrary. This we have constantly found to be true, that where we have had any reason to think our yield greater than expected, the quality of the oil was in proportion debased.

^u The water employed in this process, as a medium for the fire to act through, and as a vehicle for the essential oil, takes up always a certain portion of the oil, as is evident from the smell, taste and colour, which it acquires ; and consequently the produce is by this means defrauded of its due account. But as water retains only a certain quantity thereof, instead of common water, such as has been already used, and which has almost saturated itself, is usefully employed in a second, third, or any future distillation of the same subject, as growing always less and less capable of injuring the product.

Some * recommend the water which remains in the still to be used a second time ; but this should seem less proper, as being saturated only with such parts of the vegetable, as are not capable of rising in distillation, and which serve only to impede the action of the water considered as a menstruum, and to endanger an empyreuma.

‡ Mr. Geoffroy, in his excellent memoirs upon the subject of essential oils †, among a variety of useful remarks, takes notice, that the

* Boerb. Elem. Chem. process. 29.

† Mem. de l'Acad. pour l'ann. 1721 and 1728.

Half that quantity of Water ;

A little Yeast.

Set them by to ferment for some days, taking care not to continue the fermentation too long. Then add of Water, a sufficient quantity, and distill the whole in an alembic. The oil is to be separated from the water, according to art ^y.

In

oil of juniper-berries is partly contained in vesicles spread through the substance of the fruit, and partly in little cells or canals contained in the seeds which are surrounded with the pulp ; and that when the berry is dry, and the oil hardened into a resinous substance, it becomes, upon the seeds being broken, visible, in little, transparent, oval drops.

From these observations, this judicious chemist informs us, that in order to obtain this particular oil, we ought, previous to the distillation, to bruise the berry thoroughly, so as to break the seeds, and entirely lay open the oily receptacles. The justness of this conclusion appeared to us directly from experiment ; for having slightly bruised a quantity of choice juniper-berries, and digested them for twelve hours in a gentle heat, with a suitable quantity of water, we proceeded to distillation, and obtained so very inconsiderable a proportion of oil, as scarce to deserve separating from the water. But upon carefully pounding (which is no easy matter) the magma that remained at the bottom of the still, which we had separated from the more liquid part, until the seeds were not to be discerned, so notable an alteration, in point of smell, soon grew perceptible, as seemed to warrant the success which followed. We therefore returned to the still the water which came over, and the whole matter which remained after the first operation, and proceeded directly to distillation, when we obtained about five drams of oil from the same juniper-berries which by our first treatment did not afford so many drops.

^y It may be not amiss in this place to take notice of what remains in the still, after the oil is drawn from the berries, since it promises to be a medicine of great utility, and in many cases is perhaps preferable to the oil or berry itself. *Hoffmann* * is expressly of this opinion, and strongly recommends it in debility of the

* *Ibid.* Lib. i. Obs. 3.

In the same manner are obtained

Oleum baccarum lauri.

Oil of bay-berries,

&c.

Oleum herbæ sabinæ.

Oil of the plant savin^z,

&c.

and the oils of all such substances as are of a viscous and compact texture.

Oleum terebinthinæ.

Oil of turpentine.

Take of Turpentine, melted over a gentle fire, any quantity at pleasure.

Pour it into a glass retort, of which it may fill one half; a receiver being then fitted on, the distillation may be conveniently performed in sand: a gentle heat is to be at first applied, upon which an acid spirit will

stomach and intestines, and says it is particularly of service to old people who are subject to these disorders, or labour under a difficulty with regard to the urinary excretions. It may, after straining, be gently exhaled to the consistence of a rob, which fits it for keeping: it is of a dark brownish yellow colour, and a balsamic sweet taste, with a little of the bitter, though it will be more or less so, according as the seeds in the berry have been more or less bruised. Hence Mr. *Geoffroy* * rightly directs, that when the rich, aromatic, honey-like juice of the juniper-berry is the part solely wanted, the fresh berry should be committed to the press, without any previous bruising at all.

^z *Hoffmann* † observes, that savin yields a larger proportion of essential oil than any other vegetable, the turpentine tree alone excepted. The young shoots of this plant are to be preferred, for distillation, to such as are older, the more woody parts affording little or no oil.

* *Ubi supra.*

† *Observat. Physico-Chem. Lib. i. Obs. 1.*

come over, and on gradually increasing the fire, a limpid oil (commonly called the ethereal spirit of turpentine;) at length, a yellow oil will arise. In the bottom of the retort, there remains a resinous mass called Colophony, which if still further urged with successive degrees of heat to the highest, gives first a red oil, and afterwards a darker coloured one, which sinks through the other liquors, to the bottom of the recipient ^a.

Gum Ammoniacum,

Caranna,

Elemi,

Galbanum,

Sagapenum,

Styrax calamita,

Liquid storax,

Tacamahacca,

&c.

being distilled in the same manner, yield an acid liquor, and an empyreumatic oil ^b.

^a The distillation of turpentine in glass retorts is a very tedious process, attended with a good deal of danger, and answers no manner of useful purpose, as has been already observed by the author of the *Pharmacop. Reform.* * The oil which arises at first has no more propriety to the appellation of ethereal, than the much cheaper one obtained by the addition of water in a common still. The specific gravity of both seemed upon trial to be pretty nearly the same; nor did they smell or taste considerably different from each other.—As for the red and dark-coloured oil, they are at present in no manner of esteem, and become almost strangers to the shops.

^b It is surprising, that the above vegetable productions should keep a place here, since the use of their empyreumatic oils is generally exploded. Several of them, distilled in an alembic, with a suitable quantity of water, after the manner directed for turpentine, afford oils of great fragrancy, and which might undoubtedly be applied to good use as medicines, where the original resinous juice might not be so convenient or serviceable.

Turpentine, distilled in an alembic, with four times its quantity of water, affords a limpid oil. The colophony which remains at the bottom of the distilling vessel, may, after evaporating the water, be either kept for use in its proper form, or distilled in a retort, when it yields a yellow, a red, and a blackish red oil.

Oleum guaiaci.

Oil of guaiacum.

Take of Chips of Guaiacum-wood, what quantity
you please.

Put them into an earthen long-neck, or a glass retort, and distill either in a sand-bath or an open fire, increasing the heat by degrees. At first an acid liquor will come over, afterwards a light red oil; and at length, in the utmost degree of fire, a thick, black oil, which sinks through the other liquors, to the bottom of the receiver ^c.

Oils may be obtained, after the same manner, from every kind of wood.

Flores benzoini.

Flowers of benzoine ^d.

Take of Benzoine, reduced to powder, any quantity at pleasure.

^c The oil may be separated from the acid liquor, by pouring them both into a glass funnel lined with paper, which has been previously wetted with water. The aqueous liquor will pass through, leaving the oil behind in the filtre.

^d To gain these flowers with their due degree of whiteness and fragrance, is a very nice point, and little known, or at least little attended to. The whole secret consists in putting but a little benzoine at a time into the subliming vessel; and applying a very gentle and equable degree of heat: a shallow earthen pan is a more convenient instrument for this purpose, than the deep vessels usually employed. After one parcel of benzoine has parted with its flowers, it should be taken out before another is put in.

Put

Put it into a glazed earthen pot, and having fitted a conical paper cap to the mouth thereof, apply a gentle heat, so as to make the flowers sublime: Repeat this operation, till the paper becomes foul with oil.

* The preparation of these flowers is placed at the end of this section, probably from the affinity which they bear to essential oils, some of which they in many respects greatly resemble.

General Remarks on Essential Oils.

Essential oils in general are not so agreeable when just distilled, nor do they so exactly resemble the original from which they were drawn, as in some time after.

Essential oils exposed to the open air for two or three days before they are inclosed in bottles, improve in their odour, and become more clear and transparent, a considerable quantity of gross viscous matter often subsiding.

The oil which comes over first in distillation, is lighter, more limpid and odorous, than that which follows, and consequently in all respects preferable.

Essential oils differ greatly, according as the process for obtaining them is more or less skilfully managed: and are continually changing for the worse, if not kept from the injuries of the air, in bottles close stopt, which should likewise be quite filled.

These preparations are very liable to be adulterated; and their adulterations are not discovered without great difficulty. The methods proposed for this end by the pharmaceutical writers *, are attended with a great deal of trouble, or only serve to detect the grosser abuses: The best method yet perhaps known is, to dilute the suspected oil with a large portion of rectified spirit, and then to examine it by the taste and smell, comparing it with some of known goodness. By this means, one may not only distinguish whether the oil to be examined is mixed with any other; but also a judgment may be formed of the degree of goodness of the oil when unmixed.

Most of the essential oils directed to be drawn in the preceding section, are pretty much in use in the shops, and easily procurable,

* *Hoffmanni Observ. Physico-Chem. Lib. i. Obs.*

in a tolerable degree of perfection, except the oil of cloves, mace, cinnamon and nutmegs. The distilled oil of mace is scarce ever called for, and not directed in any officinal composition, as far as we can recollect. The other three oils are rarely distilled from the spices at home, by reason of their great price, but usually imported from Holland, and are generally so much adulterated, that it is somewhat difficult to meet with such as are at all fit for use. It therefore behoves the apothecary to be very circumspect and careful, with regard to the purchase of these oils, and rather at all events to draw them himself. The author of *Pharm. Reform.* † strongly recommends an essential oil drawn from pimento as a cheap substitute for these oils; and we could heartily wish, that physicians would introduce it in their prescriptions. Pimento is a cheap spice, the product of our own plantations, affords a considerable quantity of a very fine oil, which like that of the dearer spices sinks in water, and whose flavour is more agreeable than that of cloves, and does not fall far short of that of nutmegs.

Further remarks upon essential oils, with a table of the specific gravity of several of them, and of the quantity of oil obtained from certain vegetable substances, may be seen in *Pract. Chem.* p. 253—267.

† *Pract. Chem.* pag. 261.

‡ *Append.* pag.

SECTION II.

EXTRACTS and RESINS.

Extractum plantaginis.
Extract of plantane.

TAKE any quantity of the Juice of Plantane. Depurate it, by suffering it to rest till the feces have subsided, and then decanting off the clear juice; or passing it through a filtre; or clarify it with whites of eggs^a. Afterwards evaporate the juice

^a *Boerhaave* * has given us some general rules with regard to the purification of these liquors, which are well worth attending to — When the feculent part of the juice or liquor is so heavy as to fall to the bottom of itself, it is sufficient to let it rest in a cool quiet place, till it has thus purged itself clear, at which time the liquor is to be decanted or poured off from the sediment by inclination, before it has conceived any heat, or run into fermentation. If the impurities be light, and will not readily subside, so as to leave the liquor perfectly clear, it may be depurated by the filter, or by being passed several times through a fine flannel strainer, till it appear clear and transparent. When the juice or other liquor designed for the subject of this process is so unctuous, fat and gross, as not readily to sink itself down by standing in a quiet place, or does not easily pass thro' a strainer, it may be clarified by beating it up with the white of eggs, and gently boiling the mixture, till the scum which arises on the top, begins to break, when the vessel is to be removed from the fire, and the crust being taken off, the remainder is to be passed thro' a flannel bag, by which means the subject will be made perfectly fine and clear.

* *Elem. Chem. process. 3.*

in balneo mariæ ^b, to the consistence of honey ^c.

In the same manner extracts may be made from any acid, cold, juicy, or styptic plant.

Extractum absinthii.

Extract of wormwood.

Take any quantity of dried Wormwood ;
of Water, as much as is sufficient.

Boil them together, supplying fresh water occasionally, till the herb has given out all its virtue. Then pass the decoction through a strainer, and afterwards evaporate it, in balneo mariæ, to the consistence of honey ^d.

In

^b The aqueous part of the juice is too strongly retained by the proper vegetable substance, to easily give way to the gentle heat of a water-bath, so that the evaporation proceeds too slowly to answer any reasonable dispatch. It might indeed be somewhat forwarded by continually stirring the matter, but even with this assistance, the process would be extremely irksome and tedious. The apothecaries generally perform this operation over a naked fire: and by this means finish it in a reasonable compass of time. And provided the heat be well managed, and the matter, especially when it begins to grow thick, be kept stirring, and carefully hindered from sticking to the bottom and sides of the pan (which should be broad and shallow for this purpose) there seems to be no great danger of doing any real injury to the medicine by this way of managing the process, particularly as the college direct the juice to be exhaled, no longer than till it has acquired the consistence of honey.

^c If this, or any of the following extracts should occasionally be required harder than is directed above, they may be commodiously inspissated to any degree of consistence, by putting them into shallow tin pans, and exposing them to the uniform heat of a moderate oven, which acting upon the upper surface of the matter, as well as underneath the vessels, keeps the whole equally liquid, and hence evaporates faster, and with a far less degree of heat than an open fire.

^d The chemists usually prepare the extract of wormwood from what remains in the still after the distillation of the essential oil of wormwood.

In the same manner are prepared

Extract. rad. gentianæ.

Extract of gentian-roots.

Extract. rad. hellebori nigri.

Extract of the roots of black hellebore^e.

&c.

Extractum centaurii minoris,

Extract of the plant lesser centaury^f,

wormwood. And provided the decoction be fully deperated, and the inspissation duly conducted, this piece of frugality is not to be disapproved of; since whether we catch the exhaling vapour, or suffer it to exhale in the air, the extract will be exactly the same.

^e The judgment of the compilers of this dispensatory appears all along in the choice which they have made of proper liquors to act as dissolvents, in a manner suitable to the intention of the medicine. Thus it is certain from the experiments of Mr. *Bolduc* *, that water here directed, is the proper menstruum for black hellebore; and the extract prepared by its means is a safe and powerful cathartic, while the resinous extract drawn by spirit of wine, occasions great pain and disorder, without at all answering the purposes for which this drug is usually given.

^f This is the oldest extract we have any account of; its preparation is very accurately and circumstantially set down, in a book usually ascribed to *Galen*, *De Virtute Centaurææ*. The author of this treatise recommends this extract as a medicine of excellent service in many cases; and looks upon centaury as a specific against the bite of a mad dog, and other venomous animals.

These extracts, which are directed to be prepared from the decoctions of the subjects made in a large quantity of water, and deperated by colature through a flannel, are not so perfectly pure as could be wished; for simple colature, however often repeated, does not compleatly deperate the decoction: if the strained liquor be afterwards boiled away to one half, and then suffered to cool, a fresh sediment, which appears to be merely herbaceous, will fall to the bottom, from which the liquor should be decanted before the evaporation is finished, which may be more conveniently performed in the manner beforementioned, than in the heat of a water-bath.

* *Mem. de l'Acad. 1728.*

Extractum flor. chamæmeli.

Extract of the flowers of camomile,
&c.

and the extracts of all fixed aromatics.

Extractum jalappæ.

Extract of jalap.

Take of Jalap-root, very well bruised ^z, what quantity you please ;

Pour upon it

of rectified Spirit of Wine, as much as will cover the root to the height of four fingers.

In the heat of a sand-bath, extract a tincture ; which being poured off, put to the remaining magma

A sufficient quantity of Water, and

A little Salt of Tartar ^h.

^z All such dry vegetable substances as contain both resinous and gummy parts, and which are designed for making extracts, should, previous to the affusion of the menstruum be reduced to exceeding small parts, otherwise neither the water or spirit will be capable of dissolving entirely the parts they are designed to act upon. This caution, though the reason of it is sufficiently obvious, yet is not duly attended to, which makes the insertion of it here somewhat necessary.

^h In the first edition of this dispensatory, half a dram, or two scruples of fixt alkaline salt were directed to be added to each ounce of every kind of extract, in order to keep the composition the longer moist. The fixed salt seems here principally intended to promote the action of the water as a menstruum upon the root ; and therefore they are both added together : but water alone is sufficiently able to extract all the medicinal parts which remain in jalap after spirit of wine has duly performed its office. It should seem not quite so convenient, if the alkaline salt be thought an useful ingredient, to leave its quantity to be determined at the discretion of every compounder, since different quantities thereof, will not only alter the dose of this medicine, but vary its action more than perhaps may be at first suspected.

Boil

Boil them together for an hour: then pass the decoction through a strainer; and afterwards evaporate it to the consistence of honey, mixing in therewith, towards the end of the evaporation, the spirituous tincture, and keeping them continually stirring together, that the whole may be reduced to an uniform mass ⁱ.

After the same manner are to be prepared

Extractum corticis Peruviani.

Extract of Peruvian bark ^k.

Extractum

ⁱ The most commodious way, in all respects, of making this extract, is as follows: Upon a pound of jalap in powder, pour about three quarts of rectified spirit of wine; then gently boil these together, for an hour or two, in a small still placed in a water bath, pouring back such part of the spirit as comes over; after which, the menstruum, loaded with the resinous parts of the jalap, may be decanted from the feces, and passed through an hair sieve, to prevent any lighter feculencies from being mixed with the tincture. Upon the magma, or residuum, pour as much water as you have before used of spirit; and gently boil them together, over the fire, for about the same space of time; after which, the decoction is to be strongly pressed out, passed through a flannel strainer, and being afterwards gently evaporated to the consistence of honey, added to the spirituous tincture: the whole is then to be committed to distillation in a water-bath, and as much drawn off as that heat will elevate. What remains in the still will be found of a due consistence, and contain the whole purgative virtue of the jalap united in one uniform extract: the spirit, which by simple evaporation would be lost, is by this management saved, all danger of an empyreuma is avoided, and the process finished in a very short space of time.

This extract is preferable to the crude root; for herein the resinous and the gummy or saline parts are more equably and uniformly intermixed, and less of it is sufficient for a dose.—If the reader desires farther directions for making this extract, he may consult *Pract. Chem.* p. 242.

^k It has been disputed which is the best way of making the extract of bark, so as to retain its whole virtue, without any of the woody

or uselefs parts. Some have recommended water alone for this purpose ; others have employed spirit at first, and water afterwards. The following experiments were made in order to determine this affair.

A pound of bark, reduced to powder, was boiled for three hours in a gallon and a half of water : the decoction, passed through a coarse strainer, appeared reddish and turbid ; as it grew cold, it turned yellowish, and deposited a considerable quantity of a red sediment ; which being moderately dried on a chalk-stone, and digested with spirit of wine, communicated thereto a deep brown colour, a considerable quantity of it nevertheless remaining undissolved. The vapour which exhaled during the boiling, being caught, smelt very strongly of the bark, and had likewise a slight taste of it. Upon the magma, or residuum, of this decoction, the same quantity of water was poured as at first, the coction renewed, and this repeated with fresh parcels of water four times, when the feces were found almost insipid. The decoctions being all mixed together, and gently evaporated, gave six ounces and a half of a soft extract.

A pound of the same bark, treated with two quarts of spirit of wine, and a gallon of water, after the manner described in the preceding note upon the extract of jalap, yielded nearly the same quantity of extract as in the last experiment.

Upon comparing these two preparations together, that made with water alone was found much milder and far less styptic, than that prepared by spirit of wine and water ; the latter much more perfectly resembling the original bark. Upon boiling the first extract in water, and afterwards in spirit of wine, a considerable quantity remained indissoluble in either of the menstrua : the latter treated in the same manner scarce left any perceptible feces.

From these experiments it appears, that the extract prepared with water alone contains some of the woody parts of the bark ; that its taste is considerably injured, probably from the long decoction which that process requires ; that the taste, and probably the medical virtues of the bark, are better extracted and preserved when both spirit and water are employed ; that the process is greatly expedited by this means ; and that the dose of the medicine, a point principally aimed at in these preparations, is less.

Extractum ligni Campechensis.

*Extract of logwood*¹,

&c.

as also the extracts of all resinous substances.

Extracts are to be kept in bladders moistened with sweet oil.

Resina jalappæ.

Resin of jalap.

Take of the root of Jalap very well bruised, any quantity at pleasure.

Pour thereon

of Rectified Spirit of Wine, as much as will cover the root to the height of four fingers.

Digest them together in a sand-heat, till a tincture is extracted. Filter the tincture through paper, put it into a glass cucurbit, and distill off one half of the spirit.

Pour on the residuum,

A sufficient quantity of Water, and the resin will be precipitated to the bottom; which is afterwards to be dried for use, with a very gentle heat.

Resina guaiaci.

Resin of guaiacum.

Resina corticis Peruviani.

Resin of Peruvian bark.

Resina scammonii.

Resin of scammony,

&c.

¹ The extract of logwood is usually prepared with water alone; but here spirit of wine is judiciously called in, to assist in the extraction of the medicinal parts of this wood: by its means, the process, which is remarkably tedious, is greatly expedited, and at the same time the virtue of the preparation is improved.

These resins are prepared after the same manner as that of jalap.

The resin of Guaiacum may be more commodiously made from gum Guaiacum than from the wood ^m.

^m This preparation of gum guaiacum (as it is usually called) tho' neglected in some dispensatories, is of very great use: for it appears from experiment, that not above one half of the common sort of this drug is pure resin, the rest being feces which are dissoluble neither in water nor spirit. The college have therefore with great propriety directed this preparation instead of the impure gum, in the section of pills, and in some other compositions.

Full directions for preparing extracts and resins from vegetable substances, may be seen in *Pract. Chem.* p. 241. & seq.

SECTION III.

ESSENTIAL and FIXED
S A L T S,

WITH THE

Preparations of TARTAR.

Sal effentiale acetosæ.

Essential salt of sorrel.

TAKE of Juice of Sorrel ^a depurated by rest, and decantation from the feces, what quantity you please.

^a The plant destined for this purpose should be cut just when it is ready to burst out into flowers, for it is then fullest of well elaborated juice. Some pharmaceutical writers * direct it to be gathered early in the morning, and that the plant should be well washed in fair water: but these two particulars are of very little moment; the subsequent depuration renders the latter unnecessary; and the first direction has more of nicety in it than of real utility. In order to make the subject yield its juice readily, it should be chopt to pieces, and well bruised in a marble mortar, before it is committed to the press. The juice of sorrel is thick, turbid, especially that which runs at first, of a green colour, and very acid; when depurated, it becomes thin, limpid, and of a more gratefully acid taste. The magma of the plant which remains in the bag, still containing no inconsiderable quantity of saline matter, may be advantageously boiled in water, and the decoction added to the expressed juice. The whole may be afterwards depurated together, either by the method above directed, or by running the liquor several times through a linen cloth.

* Boerb. Elem. Chem. process. 7.

Evaporate ^b it until only one third remains; pass the remainder through an Hippocrates's sleeve, and repeat the evaporation till a pellicle ^c concretes upon the surface. The liquor is then ^d to be put into a glass vessel ^e, and a

^b These acid kinds of juices are particularly apt to corrode metallic vessels: the evaporation therefore should be performed either in shallow glass basons, or in such earthen ones as are of a compact close texture (placed in a sand-furnace) such are those which are usually called in the shops stone-ware. The common earthen vessels are subject to have their glazing corroded; and are so extremely porous, as readily to receive and retain a good quantity of the liquors boiled in them: these are therefore to be rejected, as utterly unfit for any nice purposes.

^c The directions here are not so easily observed as one could wish. These juices are so viscid, and abound so much with heterogeneous matters, of a quite different nature from any thing saline, that a pellicle, or pure saline incrustation upon the surface, is in vain expected. *Boerhaave* * therefore, and the more expert writers in pharmaceutical chemistry, with great judgment direct the evaporation of the superfluous moisture to be continued, until the decoction has acquired the consistence of cream.

^d The juice, though it should seem from the former depuration to be perfectly defecated and pure, will yet, if suffered to stand for an hour or two in a warm place, deposit a fresh sediment, from which it ought to be carefully decanted, before it is put into the vessel in which it is designed to be crystallized.

^e Some recommend an unglazed earthen vessel as preferable for this purpose to a glass one; the smoothness of the latter being said to hinder the salt from sticking thereto, while the juice, easily insinuating itself into the pores of the former, has a great advantage of shooting its saline spicula to the sides. Others previously slightly incrustate the sides and bottom of whatever vessel they employ, with a certain mineral salt, which greatly disposes the juice to crystallize, which of itself it is very averse to: but as this addition is, with regard to its medical virtue, quite different from the salt here intended, we forbear to recommend it.

* *Ubi supra.*

little olive-oil ^f being poured upon the top, set by in a cellar, till plenty of crystals ^g appear formed, which are to be gently washed ^h with fair water, and afterwards dried for use ⁱ.

In the same manner may be prepared

Sal centaurii minoris.

Salt of the lesser centaury.

Sal cichorii.

Salt of succory.

Sal euphrasæ.

Salt of eyebright.

Sal fumaris.

Salt of fumitory.

^f The use of the oil is to preserve the juice uncorrupted, and to keep it from running into fermentation or putrefaction, during the great length of time which this process requires. As much oil as will fully cover the surface of the liquor, is sufficient for this purpose.

^g The liquor which remains after the crystallization may be depurated by gentle colature, and after due inspissation set to shoot, when a further yield of crystals will be obtained.

^h The washing here directed is intended to cleanse the salt from the mucilaginous feculencies which adhere to its surface, and ought to be performed with the utmost caution, to prevent any of the salt itself being dissolved.

ⁱ The salt obtained by this means from sorrel is, according to *Boerhaave* *, of the same nature with the tartar of austere wines. But from some experiments related by Mr *Geoffroy* †, it appears rather to resemble a salt composed of the nitrous acid joined with a volatile salt; for the essential salt of our present process being thrown on burning coals, deflagrates almost in the same manner as common nitre; and being ground with salt of tartar, exhales an urinous odour, the known property of other ammoniacal salts.

* *Ubi supra.*

† *Mat. Med. tom. 3. p. 25.*

Sal plantaginis.

Salt of plantane.

Sal quercûs.

Salt of oak,

&c.

as also the salts of all such acid, austere, astringent and bitterish plants, as contain but a small quantity of oil ^k.

The

^k The process for obtaining these salts is very laborious, and so tedious, as scarce to be completed in less than seven or eight months; to which may be added, that the quantity of salt which any of these juices afford is extremely small. Hence they are hardly ever made, or expected in the shops. But as some chemists seem to have entertained very high notions of the medical virtues of these kinds of preparations (how justly founded we shall not pretend to determine) they have contrived several methods of expediting the process, among which the two following seem the most extraordinary and worthy of notice.

The first is that of *Spiessius* *—Take any quantity of wormwood, carduus benedictus, or the like plants, gently dried in the shade. Pour thereon a suitable portion of spirit of wine, and digest them together in a soft heat, till the menstruum has acquired a green colour: The tincture is then to be put into a glass cucurbit, and distilled with the gentle heat of a water-bath, till so much of the spirit is come over, as that the remainder may be left of the consistence of honey. The whole being now suffered to remain unmoved till grown perfectly cold, beautiful pyramidal crystals will be found to have shot from the sides of the distilling vessel towards its center. These crystals are of the nitrous kind, but of a more subtle taste than common nitre, giving only an agreeable coolness upon the tongue. The same gentleman relates, that having made an essence, or saturated tincture, of elecampane roots with spirit of wine, and kept it unmoved for a year, he found a great number of crystals shot from the bottom of the glass upwards, of the thickness of a quill, and about an inch long.

* *Miscellan. Berolin. continuat. ii. p. 91. 92.*

The waters of these plants, which are in vain endeavoured to be drawn over by distillation, may be obtained by dissolving

A suitable quantity of their Essential Salt in Common Water.

Sal fixum absinthii.

Fixed salt of wormwood.

The second process is from the celebrated Dr. Stahl *, and is as follows.—Take of brooklime, pellitory, mercury, soap-wort, wormwood, or of any other plants of the same kind, as much as may be convenient. Dry either of these quick in a shady place; then cut it small, and pour thereon a sufficient quantity of highly rectified spirit of wine. Digest them together till the menstruum becomes saturated with the oily or resinous parts of the herb: then pour off the tinged liquor, add a fresh parcel of spirit, and digest as before, continuing to add more of the menstruum, till such time as it is found no longer to extract any colour from the vegetable. Afterwards gently exsiccate the remaining plant; then add to it a suitable proportion of water, and boil them together till the liquor becomes fully impregnated with the saline parts of the vegetable: the decoction being then passed through a filtre, afterwards evaporated to a due consistence, and set by in a cool place, will shoot into saline crystals, which on examination appear manifestly nitrous.

The above processes are very uncommon and extraordinary, and do not quadrate very well with each other. As they are facts which we have not had an opportunity to try, we shall not presume to give our opinion of them; but only make this remark, that the latter appears well founded, and seems a good method of managing this process to advantage, particularly with regard to such vegetable substances as abound with oil; for oil so engages and retains the particles of salts, as to prevent their uniting and forming crystals; whence it being taken away by means of spirit of wine a regular crystallisation ensues.

* *Fundament. Chem. Dogmat. & Experiment. p. 68. & alibi.*

Take any quantity of the plant Wormwood, either fresh-gathered or gently dried ^l.

Put it into an iron pan, and with a gentle fire reduce it into white ashes ^m, which are afterwards to be boiled, so as to make a ley, in

A sufficient quantity of spring Water ⁿ.

^l Fixed salts are obtained much sooner and easier from dry subjects than from green ones; but care should be taken that they are not too dry or too old; for they will then, as *Boerhaave* * very well observes, afford but a small quantity of salt.

^m In this part of the process, care ought to be taken that the plant do not take flame; or, if it should, to put out the flame, by covering the pan; otherwise it, by carrying off the oily part of the vegetable, will deprive the salt of the saponaceous quality expected, and render it too fiery and corrosive. The trading chemists, indeed, are not very nice in this point; but instead of a slow and wary calcination, set fire to the plant in the open air, and burn it into white ashes: The salt obtained by this method proves not only different from that here intended, but likewise falls far short of the quantity which would be procured by the treatment recommended above.

ⁿ The most eligible method of performing this operation, where only a small quantity of salt is desired, seems to be that of *Tachenius*, who directs the plant to be burnt with a moderate fire, in a vessel covered with an iron plate, so as to exclude the air, till the subject is reduced to a black coal. The cover is then to be removed, and the matter kept continually stirring, till it is reduced into uniformly white ashes: if it should take flame, this may be easily extinguished by duly regulating the heat, and occasionally putting on the cover. After this, the ashes may be suffered to remain over the fire, and kept ignited for an hour or two longer.

ⁿ About six parts of water may be employed to one of the ashes, and the coction continued till the menstruum has fully saturated itself with the saline parts. Fresh water may be poured on the remainder, and the boiling repeated till all the salt is extracted.

* *Elem. Chem. process.* 10.

Filter the ley, and evaporate it ° over a gentle fire, till a brown ^p salt is left behind, which by repeated solutions, filtrations and coagulations, may be rendered pure and white.

In the same manner may be prepared

Sal fabarum stiptum.

Salt of bean-stalks.

Sal geniftæ.

Salt of broom,

&c. ^q.

Crystalli

° The evaporation may be commodiously performed in an iron vessel, and continued till the salt remains perfectly dry, observing towards the end of the process to keep the matter continually stirring with an iron spatula, to prevent its sticking to the bottom and sides of the vessel.

^p According to *Boerhaave*, the brown colour of the salt is a criterion of its having been duly prepared.

^q In former editions of this dispensatory fixed salts were directed to be prepared in the same manner as the salt of wormwood, from mugwort, cardus benedictus, lesser centaury, scordium and tamarisk. But as none of these salts were ever called for, or kept in the shops, they are now justly rejected, those here retained being abundantly sufficient to answer all the useful purposes that can be expected from this kind of preparations. And indeed, the place of all these salts might perhaps be commodiously enough supplied by one drawn from the cheapest subject; for all the salts obtainable from vegetables by the process above described, if reduced to the same degree of strength, and prepared exactly in the same manner, seem to be nearly one and the same, and not to be distinguished from each other, at least so far as they are considered as medicines. The differences usually observed in them depend entirely upon the manner in which the operation is conducted. Thus, if different degrees of heat be employed in the calcination of the vegetable matters, their salts acquire different degrees of acrimony; the more vehement and lasting the fire, the more acrid is the salt. The different circumstances of applying the water hot or cold to the ashes, likewise make a notable variation:

Cryftalli tartari.
Crystals of tartar.

Take of White Tartar, reduced to powder, as much
 as you please.

Boil it, till perfectly dissolved, in
 Twenty times its quantity of Water.

Let the solution, while it continues hot, be passed
 through filtering paper, and received in a wooden
 vessel :

tion: boiling water takes up more of the earthy and oily parts than cold water does; whence the salt extracted by means of the former, becomes somewhat saponaceous and of a brown colour: boiling water dissolves likewise a kind of neutral salt, of a quite different nature from fixt alkaline salts, though frequently found amongst the ashes of vegetables; while cold water extracts from them only the pure alkaline salts, unless it be used in too large a quantity, or imprudently suffered to stand too long upon them. See *Pract. Chem.* p. 270.

Some authors however are of opinion that there is a real essential difference in the fixed salts of plants, and Mr. *Gmelin* * has communicated to the publick a variety of experiments, from the diary of the royal laboratory in *Sweden*, to support this opinion. Upwards of forty different plants were calcined with the same degree of heat continued for the same lengths of time, and the ashes of each vegetable elixated apart with pure distilled water. The result was, that many of these salts afforded different phenomena upon mixture, and formed somewhat different mixts with spirit of vitriol, of nitre, of salt, solution of sugar, of alum, of sublimate corrosive, silver, blue vitriol, green vitriol, and the like. But as the dispute in this place is only with regard to their medicinal effects, and as physicians generally allow the virtues of all these kinds of salts to be one and the same, no fair objection can be brought from the above experiments, against the identity of these kinds of salts considered as medicines.

† The filtration of solution of tartar through paper succeeds very slowly, and unless managed with a good deal of address, not at all; for as soon as the boiling liquor begins to grow sensibly less hot, it deposits most of the tartar all over the surface of the paper, and thus effectually hinders the remainder from passing through. The

* *Comment. Acad. Petropolitan. tom. v. p. 277.*

vessel: then expose it, for a night or longer, to the cold air, that crystals may form themselves, and shoot to the sides of the vessel: the water being now poured off, the crystals are to be collected, and dried for use^s.

experienced *Zwelffer*, in his animadversions upon this process, in the *Augustan Pharmacopœia* *, directs the solution of tartar to be clarified by the admixture of whites of eggs, and simple colature through a fine linen cloth; he likewise judiciously orders the vessel to be close covered, and the crystallisation performed in a warm place: for if the solution be suffered to cool very fast, it is in vain to expect any appearance of crystals; the tartar will inevitably be precipitated to the bottom of the vessel in the form of sand.

* The business of refining and crystallising tartar is so extremely troublesome, and requires so large an apparatus, that scarce any of the apothecaries, or even of the trading chemists, are at the trouble of it, but either import it ready refined from *Holland*, or purchase it from some people here who make it their sole business. Mr. *Geoffroy* † informs us that they have another method of purifying tartar near *Montpelier*, at two places called *Calvifson* and *Aniane*. The refiners here pour a strong decoction of pulverized tartar, through a strainer, into proper vessels; the sides of which are soon crusted over with crystals; these are further cleansed from such feculencies as have passed the strainer, and which slightly adhere to them, by frequent ablutions with simple water. Afterwards they use a certain saponaceous earth, not unlike chalk, which is found at a place called *Merviel*: Of this earth they make a dilute solution in water, which looks like milk; and in this, by strong coction, they dissolve a considerable quantity of the already half purified tartar, and then perform the crystallisation in the common manner. By this means, they obtain fairer, larger and whiter crystals, at much less expence, than when the process is conducted in the usual method. The use of the earth here employed may be conjectured from the note on the article *Tartar* in the foregoing part of this book, p. 70.—We have been induced to give this note here, from an opinion that this kind of purified tartar will turn out, upon examination, a quite different thing from the preparation here expected, at least for some certain purposes, if not for medicinal use.

* *Pharmacop. August. Reform.* 4to. 1672. pag. 466.

† *Tract. de Mat. Med.* tom. ii. pag. 759.

This preparation differs not from

Cremor tartari.

Creme of tartar ^t.

Take of the Solution of Tartar, obtained as in the preceding process, and filtered, what quantity you please.

Let it boil over the fire, till a thick cuticle appears on the surface, which is to be taken off with a wooden skimmer bored full of holes: Continue the boiling, till a fresh cuticle arises, which is to be taken off as the former, and the operation repeated, till the whole quantity of liquor is thus consumed. Afterwards dry all the cuticles together in the sun.

Sal tartari.

Salt of tartar.

Take any quantity of White Tartar ^u.

Wrap it up in paper ^w somewhat wetted, and calcine it in a reverberatory furnace, till it becomes exceedingly white; then dissolve it in warm Water, filter the solution, and evaporate it in a clean iron vessel, till a salt is left behind perfectly dry, and white as snow; ob-

^t This process seems inserted only to retain a name long familiar to the shops; for the preparation itself in no respect differs from the crystals of tartar reduced to powder.

^u White tartar is here directed as being the purest kind; but any sort of tartar is equally fit for the purpose of making fixt salt. Mr. *Lemery* obtained four ounces of very white and well purified salt from sixteen ounces of red tartar; he likewise observes that a little more may be drawn from the white sort. This remark quadrates with our own experiments. See *Pract. Chem.* p. 299.

^w The use of the paper here is to prevent the smaller pieces of the tartar from dropping down into the ash-hole, through the interstices of the coals, upon its being injected into the furnace.

ferving, towards the end of the operation, to keep the matter continually stirring with an iron ladle, to prevent its sticking to the bottom of the vessel.

If a stronger salt of tartar is required, let the white salt be fused in a crucible, with the most intense degree of heat; and reverberated for some hours, till it has acquired a greenish or blue colour ^x.

Liquamen salis tartari,
vulgò oleum tartari per deliquium dictum.

*Liquor of salt of tartar,
commonly called oil of tartar per deliquium.*

Take any quantity of Salt of Tartar.

Having placed it in a flat glass dish, expose it to the air for some days, in a moist place, and it will run into a liquor, which is either to be filtered through paper, or separated from the feces by decantation ^y.

^x The greenish or blue colour, generally looked upon as an infallible mark of the degree of strength, which these kinds of preparations arrive to, upon being exposed to the action of a vehement fire continued for a long time, is fallacious and uncertain: for if the crucible, or melting vessel, be perfectly clean, close covered, and has stood the fire without cracking, the salt will turn out white and colourless, though kept fused and reverberated ever so long; whilst on the other hand, a slight accident, or dextrous management of the process, shall in a few minutes give the salt the colour admired.

^y One ounce of good salt of tartar will thus imbibe from the air near three ounces of aqueous moisture.

The solutions of fixed alkaline salts, effected by exposing them to the moisture of the air, are generally looked upon as preferable to those hastily made by dissolving them in water, with the assistance of heat, as practised in the shops: It appears directly from experiment, that these kinds of salts (however purified by solution in water and colature) upon being exposed to the action of the air, deposite a considerable quantity of terrestrial matter, and thus become more perfect and pure.

256 PREPARATIONS of TARTAR:

The higher the salt has been calcined, the more readily will it relent in the air.

Tartarus vitriolatus.

Vitriolated tartar.

Take of Oil of Tartar per deliquium, what quantity
you please.

Put it into a large glass vessel, and gradually drop
into it

Of Oil of Vitriol, diluted with equal its quantity of warm water, as much as is sufficient, that is, till the effervescence ceases. The liquor is then to be passed through a filter, and afterwards evaporated till a pellicle appears on its surface, that being set in a cold place, it may shoot into crystals^z.

Tartarus

^z The previous dissolution of the fixt alkaline salt, and the dilution of the acid spirit with equal its quantity of water, are circumstances which not only contribute to the success of the process, but likewise are marks of the great skill and judgment which the authors of this dispensatory have all along shewn in these matters; for by this means the mixture is made more equable, the point in which the effervescence ceases more easily marked, and the trouble of dissolving the concrete salt which results from the mixture of these two ingredients when no water is employed, prevented. Some have been accustomed to prepare vitriolated tartar from a solution of green vitriol made in about six times its own quantity of water: this process seems much less artfully and scientifically contrived than the above, upon many accounts; and it may so happen, that the salt, quite contrary to the intention of the prescriber, may participate of the metallic part of the vitriol, as well as the acid alone designed.—The wholesale dealers in medicine have long thrown aside both these methods of preparing this salt; and have substituted in its stead an article which has been almost useless in their shops: this is the caput mortuum of *Glauber's* spirit of nitre; which appears, upon examination, to be nearly one and the same thing: this piece of frugality therefore may well be admitted.—The crystallization directed above should be always complied with, to prevent the medicine being more acid

at

Tartarus solubilis.

Soluble tartar.

Take of Crystals of Tartar, as much as you please.
Boil them, till perfectly dissolved, in

Ten times their quantity of Water.

Into the solution, while boiling, drop by degrees,
of Oil of Tartar per deliquium, as much as is
sufficient,

that is, till the effervescence ceases; then filter the liquor,
while it continues hot, and evaporate it until a pellicle
appears on its surface, that being set in the cold, crystals
may form themselves ^a.

at one time than at another; which may easily happen, notwithstanding a good deal of care has been taken in the process.

^a This celebrated preparation has long been in great esteem, both as a medicine, and as a menstruum, to unlock the texture of other bodies, for sundry purposes. The process is exceeding plain and easy: But some chemists have rendered it very laborious and difficult, by a nicety that is not at all wanted, and which answers no purpose of any moment. Some insist upon hitting the very exact point of saturation; and caution the operator to be extremely careful when he comes near the mark, lest he imprudently, by dropping in too much of the alkaline lixivium, render the salt too alkaline; or for want of a due quantity thereof, make it too acid. If the liquor be suffered to cool a little before it is committed to the filter, and then properly exhaled and crystallized, no error of this kind can happen; for if too much of the crystals of tartar have been added, they will be left on the paper; if too much of the oil of tartar per deliquium, it will remain uncrystallized. But the crystallization of such salts as this, which are subject to flow in the air, is not effected without a good deal of trouble; it would therefore be more convenient to let the acid salt prevail (the superfluous quantity of which, as is remarked above, will be left upon the filter) and proceed to the total evaporation of the aqueous fluid, which will leave behind it the neutral salt required; care being taken, when the liquor grows very thick, to keep it continually stirring, over a very gentle fire, till the matter has acquired a due degree of ficcidity.

Tartarus regeneratus.

Regenerated tartar.

Take any quantity of dry Salt of Tartar ^b, in powder.
Put it into a large glass vessel, and pour thereon by
little and little,

Of Spirit of Vinegar ^c, as much as is sufficient
to saturate the salt ^d.

Filter

^b Instead of salt of tartar, any pure fixed alkaline salt may be employed for this purpose; but as most of the fixed salts which the shops are furnished with contain some portion of a neutral salt, this ought to be carefully separated by crystallisation, before the vinegar is added, especially if the salt be expected in the form of leaves, or thin plates, like talc, lying one upon another; a circumstance here not insisted upon, as occasioning a great deal of trouble, without the least foundation for it.

^c It is a piece of very ill husbandry to dephlegmate * the vinegar designed to be employed in this process; for however slowly or warily the exhalation be conducted, a considerable portion of the acid will arise along with the merely aqueous parts.

^d *Boerhaave* † gives very particular directions for managing this process; and if all the circumstances which he describes, be duly observed, it cannot fail of success. According to the observations of this curious operator, the degree of effervescence increases with the quantity of vinegar added, even till the saturation is completed: After about fourteen parts of strong distilled vinegar have been gradually poured upon one of the fixed salt, the addition of a little more of the acid will not occasion any further effervescence, in the cold; but if the mixture be now strongly stirred and well heated, the effervescence will appear afresh; upon which some more vinegar is to be added, till it again ceases. After this, he directs the whole to be kept warm for twenty-four hours; at the end of which time, if upon shaking the vessel no ebullition ensues, a little more of the acid is to be dropt in, and the vessel again shaken; and if no effervescence now arises, the exact point of saturation is hit: But in this we may be

* *Pag.* 124.† *Elem. Chem. process.* 76.

Filter the liquor, and exhale it ^e over a very gentle fire to dryness ^f, taking great care that the matter contract not an empyreuma ^g. On the salt which remains pour

of fresh Spirit of Vinegar, as much as is sufficient to saturate it.

Then deurate ^h the liquor, and carefully exsiccate it till a dry salt is left ⁱ.

Sapo

sometimes mistaken, as will appear in the subsequent note ^f. The liquor thus prepared is transparent, of a peculiar odour, of a taste neither acid nor alkaline, but particularly saline, and almost without acrimony.

^e The exhalation should be rather performed in glass vessels, than in earthen or iron ones. The first absorb into their pores a considerable quantity of this valuable salt; whilst the latter are apt to be corroded by the vinegar, particularly towards the end of the process. —The liquor upon evaporation soon becomes of a brown or blackish colour, and at length perfectly black and unctuous.

^f The salt which now remains is of a dark brown colour, of a highly penetrating saponaceous taste, and being dissolved again in distilled vinegar, effervesces with it; some more of the acid therefore should be prudently added to it, with the same cautions as above, till not the least effervescence is perceptible.

^g The whiteness and purity of this preparation depend in great measure upon the manner in which the exsiccation is performed. The committee appointed by the college of physicians of *London* to reform their *Pharmacopœia*, direct the impure salt to be melted in a crucible with a gentle heat, for a little while, but not too long. The salt being now dissolved in water, if the liquefaction has been rightly performed, will pass the filter limpid and colourless: but if there be any error committed in this part of the process (that is, if the salt be continued for too long or too short a time over the fire, or the heat not well managed) the liquor will be of a brown colour, and upon evaporation yield a salt of the same hue.

^h The nearer the mixture approaches to saturation, the greater plenty of black feces does it deposit; it should seem therefore unnecessary to filter it, as directed in the preceding part of the process; but rather to defer the depuration till this point is exactly hit.

ⁱ The pharmaceutical writers, as usual, extoll this salt as a wonder-

Sapo tartareus.

Soap of tartar.

Take of Salt of Tartar, very well calcined, and reduced to powder while still hot, as much as you please.

Immediately pour on it, in a broad glass vessel,
Twice its quantity of Oil of Turpentine.

Let them stand together in a cellar for some weeks, till the oil has penetrated the salt; then add more oil by degrees, till the salt has absorbed thrice its own quantity thereof, and both of them are united into a soap, which will happen in a month or two, if the matter is every day stirred ^k.

The

full medicine. This is certain, that it may be so dosed and managed, as to prove either a mild cathartic, or a powerful diuretic. It is really a most admirable salt for many purposes; it perfectly dissolves both in spirit and in water, without depositing any feces; and considered as a menstruum, is capable of producing extraordinary effects.

^k Various methods of making this celebrated preparation occur in the writings of the chemists; perhaps there is no one in the chemical pharmacy that has occasioned greater disputes. Some authors strongly contend, that the method which they deliver is the only one to be depended upon; and deny the possibility of effecting the union of the two ingredients, by any other means than those which they recommend: whilst others propose quite different processes, as the only practicable ones; and absolutely deny the positive assertions of their opponents. *Boerhaave* * recommends a process similar to that now before us; and says, that the secret consists in this, that the alkali be strong, pure and dry, and mixed immediately with an oil perfectly deprived of water; if the least water should enter, says he, the process will not succeed. On the other hand, *Wilson*, an expert operator, and a faithful relater of matters of fact, suffers his alkaline salt to grow moist from the air, before he puts the oil to it †. The committee appointed to review the *London Pharmacopœia*, favour the

* *Element. Chemicæ, process.* 74.

† *Pract. Chem.* pag. 306.

latter

PREPARATIONS of TARTAR. 261

The effect succeeds sooner, if the containing vessel be fixed to the sail of a windmill, or any other machine that turns round with great velocity ¹.

Lapis septicus, seu cauterium potentiale.

The septic stone, or potential cauterium.

Take of Quicklime, reduced to powder, half a pound. Put it into a crucible, and calcine it thoroughly: then sprinkle into it

of Potashes, half a pound.

Keep the whole in a wind-furnace, till the salt flows.

latter method; and inform us, that several pompous and tedious processes have been given for the making of this soap, with numerous cautions, which in reality are no better than so many endeavours to prevent success; for that no union can be brought about till some watery moisture is added, either by design or accidentally.

In order to satisfy ourselves with regard to this dispute, we tried the experiment both ways, with and without water; and succeeded in both trials. The processes which we followed, were those of Mr. *Wilson* * and Mr. *Geoffroy* †. With regard to the latter, the union of the oil and salt was completed in so short a time (a few minutes) and the ingredients so perfectly dry, that we had no reason to suspect the moisture of the air to have had any share in the success of the operation.

¹ The regular, uniform motion here recommended to facilitate this tedious process, seems not well calculated to answer the design. We should conceive from some analogous experiments, that the different degree of centrifugal force, which the oil and salt acquire from a rapid gyratory motion, should rather keep the two ingredients apart, than tend any ways to unite them. The irregular agitation, which so greatly promoted the union of the oil of turpentine with the fixed alkaline salt, in the experiment related by Dr. *Grew* ‡, must, no doubt of it, very much facilitate this process; and if vehement and continued, finish it in a short time.

* *Ubi supra.*

† *Mem. de l'Academ. roy. 1725.*

‡ *Of the nature, causes and power of mixture, chap. 4. sect. 6.*

262 PREPARATIONS of TARTAR.

Pour out the mass into an iron vessel, and add to it of Water, as much as will be sufficient.

Let them steep together for some days; afterwards filter the liquor, and inspissate it to the consistence of a stone ^m.

^m The above caustic requiring a wind-furnace and a good deal of trouble in making, we have inserted the following, which is not only more easily prepared, and at less expence, but the use of it is likewise free from several inconveniences which unavoidably attend the other, and the common lapis infernalis of the shops.

Take any quantity of fresh, well calcined, pure, fixed alkaline salt. Dissolve this with about equal its own weight of boiling water, in an iron vessel, over the fire: then sprinkle in, while boiling, as much fresh lime, flaked, and sifted, as will absorb all the liquor, and reduce the whole to the consistence of a paste; which is to be kept in glass bottles, close stopped, for use.

CLASS THE SECOND.

CHEMICAL PREPARATIONS

OF

A N I M A L S.

Spiritus, sal & oleum cornu cervi.

Spirit, salt and oil of hartshorn.

TAKE of Hartshorn cut into pieces, what quantity
you please.

Fill therewith an earthen or coated glass retort ^a up
to the neck ; place it in an open fire, and having fitted
on

^a The distillation of hartshorn, and such like animal substances, is usually performed in a large iron pot (placed in a proper furnace) with an earthen head almost like those of the common stills. *Boerhaave* * recommends a head with two pipes ; but these have been long laid aside, on account of their great expence, the inconveniency found in using them, and their answering no valuable purpose. Many of the wholesale dealers have these instruments of a prodigious size, and use for their recipients a couple of oil-jars, the mouths of which are luted to each other : the pipe which comes from the head enters the lowermost of these vessels, through a hole made in its side for that purpose. When a large quantity of these matters is to be di-

* *Element. Chem. process.* 120.

on a large receiver, proceed to distillation, with a gradual heat^b: at first a phlegm^c arises, then a spirit^d, afterwards an oily salt^e of a yellow colour; and last of all,

filled, it is customary to repeat the operation for several days successively, without unluting the receivers, only occasionally removing the head, to put in fresh materials. When only a small quantity of spirit or salt is wanted, a common iron pot, such as is usually fixed in sand-furnaces, may be employed to advantage, an iron head being fitted to it; between the pipe of which and a large receiver, a glass or rather tin adppter is to be inserted. With this apparatus, the distillation of dry animal substances may be performed far more commodiously, with less danger, expence and time, than with the earthen or coated glass retorts ordered above.

^b The distillation should be conducted with a gradual and slow augmentation of the heat, particularly when the white vapours begin to arise, which they sometimes do so suddenly, as to throw off or burst the recipient. To prevent this accident, it will be convenient to leave a small hole in the luting, which may be occasionally stopped with a wooden peg, or opened, as the operator shall find convenient.

^c The quantity of phlegm or aqueous fluid, which animal matters afford on distillation, varies with the degree of accidental dryness or moisture of the substances themselves. As this therefore is of no manner of use, it is extremely convenient to thoroughly dry them before they are put into the distilling vessel, which expedites the operation, and saves a great deal of trouble.

^d What is here called spirit is a solution of the volatile salt in phlegm. The more carefully therefore the exsiccation recommended in the foregoing note is performed, the less will be the yield of the spirit, and the greater the product of salt.

^e When the volatile salt begins to arise, white fumes are seen to pass into the recipient, which increasing, saline crystals form themselves, all over its sides, in variety of figures, which the strong imagination of some fanciful chemists has likened to the original horn, and ridiculously applied to establish the doctrine of substantial forms; not considering, that from whatever animal substance the salt is obtained, exactly the same phenomenon appears. The only use which

all, a reddish black coloured oil, along with some volatile salt. A black earth or coal ^f remains at the bottom of the distilling vessel, which being burnt ^g in an open fire, till it becomes white, is then called.

Cornu cervi calcinatum, *or*,
Calcined hartshorn.

Having poured out of the recipient all the different matters which have come over into it, they may be separated from each other in the following manner.

The oil separates from the phlegm and spirit in filtration; the two latter will pass through, and the oil remain upon the filter ^h.

The

we would make of the above observation is, that if the salt is desired in a dry form, the receiver should not be luted, till such time as these fumes arise, that the phlegmy part may be poured out before the salt comes over.

^f The black earth which remains at the bottom of the distilling vessel, still contains a portion of oil, which no fire can separate from it, while confined in close vessels. This coal retains nearly the form and texture of the animal substance; and upon examination, proves of little or no taste or smell; water, even with the assistance of heat, scarce makes any impression on it: reduced to powder, it has been given as a medicine: *Boerhaave* * recommends it as an excellent anthelmintic, and orders it to be given upon an empty stomach.

^g The exustion, here directed to be performed in an open fire, is with an intent to dislodge the remaining oil from the hartshorn, and to reduce it to the state of a mere animal calx or earth. Some recommend an intense degree of fire; others send the operator to the potter's furnace, as the only, or at least the most convenient one for this purpose. But surely any kind of furnace will serve, provided it be so open as freely to admit the air to the horns while burning. A small degree of fire will suffice, if this circumstance be duly observed; but the most intense heat will be utterly unable to produce this effect without it.

^h All the liquid matters being poured out of the receiver, the salt which remains adhering to its sides is to be washed out with a little

* *Ubi supra.*

The phlegm may be separated from the spirit, by committing them to distillation, in a tall vessel, applying only a gentle fire: the spirit will come over into the recipient; and the phlegm remain at the bottom of the distilling vesselⁱ.

The spirit may be divided into a volatile salt and phlegm, by distilling it in a very tall and narrow cucurbit; the salt will arise, and adhere to the head in a dry form; the phlegm remaining at the bottom^k.

The salt may be freed from the oil, by subliming it from six times its quantity of chalk, or calcined bones; for the oil is kept down by these substances, while the salt sublimes on high^l.

fair water, and added to the rest. It is convenient to let the whole stand for a few hours, that the oil may the better disengage itself from the liquor, so as to be first separated by a funnel, and afterwards more perfectly by filtration through paper wetted with water.

ⁱ The spirit may be distilled from the superfluous phlegm in a common retort placed in a sand-furnace, provided the distillation be conducted in a slow manner, with a very gentle degree of heat. At first the salt will arise, and fix itself to the upper part of the recipient, from which it will be soon washed down by the subsequent phlegm. As soon as the salt is almost all dissolved, the retort is to be raised out of the sand, and the fire suffered to decay. If any oil swims upon the spirit, it should be skimmed off.

This rectification will not sufficiently purify the spirit for medicinal use; and should therefore be repeated once or twice more.

^k The salt may be separated from the spirit, by sublimation in a tall body, with a glass head; care being taken to remove the vessels, as soon as any signs of phlegm appear.

^l The above method will render the salt very white, and tolerably pure. Nevertheless, upon keeping for some time, it turns yellowish, and acquires a fetid smell, so as to stand in need of a more perfect depuration; which may be obtained, by subliming it a second time from a small portion of highly rectified spirit of wine.

Spiritus, fal & oleum,
A spirit, salt and oil

may be distilled in the same manner from all the solid parts of Animals :

And from Blood, exsiccated by a very gentle heat ^m :

As also from Urine, previously evaporated to the consistence of honey, and putrefied ; or even from recent inspissated urine, mixed with four times its quantity of sand ⁿ, or an equal quantity of any fixt alkaline salt.

Urine distilled with the addition of Quicklime, yields only an exceeding pungent spirit ^o.

Sal

^m If the distillation of blood be performed in a retort, such an one should be made choice of as has a wide neck and orifice ; for unless great care be taken, towards the end of the process, the black matter which remains in the bottom of the retort is apt to rarefy and swell, so as to stop up the neck, and burst the distilling vessels to pieces, as *Boerhaave* * informs us from his own experience. This danger, we conceive, might effectually be prevented, by mixing the blood with three or four times its quantity of dry sand ; though, for medicinal purposes, the operation need not be continued so long as to give any room for an accident of this kind.

ⁿ The sand is not absolutely necessary †, as might at first sight be conjectured from its insertion here, and from the 96th process of *Boerhaave* ; but is a convenient addition, serving for the same purpose as it does in the distillation of blood, in the preceding note.

^o The distillation of urine with quicklime is an exceeding troublesome process, and requires a good deal of address in the operator to manage with success. Hence, this spirit in the shops is generally supplied with the spirit of sal ammoniac ; which, if well made, is sufficiently pungent to answer any useful purposes that can be expected from this.

* *Elem. Chem.* proc. 119.

† *Pract. Chem.* pag. 360.

General Remarks upon Volatile Salts and Spirits.

The apothecaries shops were formerly burthened with a vast number of volatile salts and spirits, drawn not only from different animals, but likewise from different parts of the same animal. These were supposed capable of producing different effects upon the human body: thus, the volatile salt and spirit, extracted from the human skull, were whimsically enough looked upon as medicines peculiarly adapted to remove diseases of the head: and thus, the salt obtained from vipers was accounted the only one to be depended upon, for the cure of the bite of that animal: while the spirit from human blood, carefully prepared, was esteemed the most sovereign remedy in all disorders, a medicine never enough to be extolled, to which all other preparations of this kind must give way; since this was drawn from the most perfectly elaborated juice of the noblest animal, and therefore consequently must be endowed with virtues superior to any other.

The modern practice of physick acknowledges no such different effect from these preparations, in the cure of diseases. Hence the first compilers of this dispensatory introduced but very few of them into their book.

There is indeed a difference in the smell, taste, degree of pungency and volatility, manifestly perceptible to the senses, in these salts and spirits; and without doubt their medicinal virtues vary, if not quite so much, yet considerably enough to deserve particular notice. But this difference all these preparations have in common, according as they are more or less loaded with oil, not as they are drawn from this or that animal substance. When first distilled, they may be looked upon as a kind of volatile soap, in which the oil is the prevailing principle. In this state, they are less acrimonious and pungent, than when they have undergone repeated distillations, and such other operations as disengage the oil from the salt: for by this means, these preparations lose their saponaceous quality, and acquiring greater degrees of acrimony, become medicines of a quite different class. To which must be added, that when we consider these salts as loaded with oil, the particular virtue of a distilled animal oil * is to be brought into the account.

* *Hoffm. Observat. Physico-Chym.* lib. 1. obs. 14.

Sai ammoniacum factitium.

Factitious sal-ammoniac ^p.Take of Human Urine ^q, or that of Beasts, three
quarts;Sea-salt ^r, two pounds;Wood-foot ^f, one pound.

Boil

Upon the whole, it should seem, that these preparations do not differ near so much from one another as they do from themselves in different states of purity; an observation which makes this note the more necessary, as it is not perhaps so much attended to in practice as it deserves.

^p This process for making sal-ammoniac, stands recommended in many pharmacopœias, and several chemical writings. This salt is said to have been made after this manner, with some little variations only in the proportions of the ingredients, at *Antwerp, Venice, and in Germany*. But this report seems to have more of conjecture than of truth in it, as will appear probable from the following notes.

^q Mr. *Geoffroy* * relates, that he obtained, by distillation, from human urine, after the volatile salt, &c. arose, some salt which exactly resembled the sal ammoniac of the shops: the quantity of this salt was extremely small.

^r *Boerhaave* informs us †, that in the distillation of wood-foot, after the volatile salt and oil have come over, if the fire be pushed, a saline substance will concrete in the neck of the retort, and a cake of salt form upon the surface of the matter that remains at the bottom; which in colour, figure, manner of concretion, and degree of transparency, resembles common sal ammoniac; that like this salt, it makes no effervescence with acids; that mixed with fixed alcalies, it emits a pungent smell; and on being set to sublime, yields a pure volatile salt.

^f Sea salt does not appear to be of any manner of use in this process. What perhaps has induced the contrivers to insert it is, the observation, that when a volatile salt is sublimed from sal ammoniac mixed with fixt alcalies, a cubical salt, resembling common salt in all

* *Mem. de l'Acad. roy. pour l'ann. 1720.*† *Element. Chem. process. 86.*

Boil them together into a mass; which put into proper subliming vessels, and, with a fire gradually increased, sublime the salt.

This salt may be rendered pure by dissolving it in water, filtering the solution, and evaporating it to dryness; as also by repeated sublimations.

It is brought to us, ready made, from abroad^u.

Spiritus salis ammoniaci.

Spirit of sal ammoniac.

Take Sal Ammoniac,

Salt of Tartar, of each equal parts.

Grind them separately to powder; then mix and put them into a glass retort, pouring thereon

of Water, as much as will be sufficient to dissolve the salts.

Let the distillation be performed in sand, and continued till the salt which concretes in the receiver, is dissolved by the aqueous liquor that comes over after it^v.

If

its properties, remains at the bottom of the subliming vessel.—But we see, that urine and wood-foot yield sal ammoniac, without the addition of sea-salt.

[†] Mr. *Geoffroy* informs us *, from the memoirs of father *Sicard*, published in the year 1723, that the makers of this commodity in *Egypt* sublime it in large glass vessels, about a foot and a half in diameter, from a mixture of camels urine, sea salt, and the foot obtained from a particular kind of fuel called *gellee*, which is made of animal dungs mixed up with straw. But later discoveries assure us, that this preparation is made from the foot of the abovementioned fuel alone, without any addition whatever.

^v This process may be somewhat more commodiously performed, by dissolving the sal ammoniac, and salt of tartar (or any other pure fixed alkaline salt) separately in water, before they are put into the retort; the first requires somewhat more than double its quantity of water; the latter, a little more than equal its own weight. The di-

* *Traët. de Mat. Med.* tom. i. p. 145.

If the receiver be taken off before any moisture arises, you will obtain

Sal ammoniacum volatile.

The volatile salt of sal ammoniac ^w.

Flos

distillation should be performed with a very gentle heat, and continued no longer than till the greatest part of the volatile salt is dissolved.

Monf. *Lemery* gives us a preparation, which he calls the sweet spirit of sal ammoniac, which we shall here insert, as it has become of late greatly in use.

Take of sal ammoniac, and any pure fixt alkaline salt, each four ounces. Grind them separately into powder, and put them into a retort, pouring upon them a pint and a half of proof spirit. Draw off by distillation with a very gentle heat about one half of the spirit; or, continue the distillation so long, until the volatile salt, which has concentered in the receiver, begins to dissolve. If the salt and spirit be distilled once or twice, or set to digest with a very gentle heat, in a well closed glass, shaking it now and then, the salt will entirely dissolve.

We have taken the liberty of exchanging the spirit of wine directed by *Lemery*, for double the quantity of proof spirit, upon the presumption that the aqueous parts of the latter will facilitate the action of the alkaline salt upon the ammoniacal, by dissolving them both into one uniform fluid; and at the same time be so strongly retained by them, as not to arise and mix with the spirit, unless a much greater degree of heat be employed than this process requires.

This spirit is a very powerful menstruum, with regard to several vegetable juices: it dissolves in the cold a considerable quantity of gamboge *, takes up a large proportion of the resin of bark, and likewise of gum guaiacum: the two last of these solutions have been for some time in great esteem as medicines; and as such, have been received in the *Pharmacopœia* of the royal college of physicians of London, now just published.

^w The chemists, who prepare large quantities of the volatile salt of sal ammoniac, (for which there is a considerable demand) in order

* See Page 33.

Flos falis ammoniaci.
Flowers of sal ammoniac.

Take of dry Sal Ammoniac, in powder, what quantity you please.

Put it into an earthen cucurbit; and having fitted on a blind-head, sublimate the flowers with a fire gradually increased ^x.

Spiritus Mindereri.
Mindererus's spirit.

to save expence employ common chalk, instead of fixed alkaline salts. The process in greatest esteem is as follows.

Take of dry sal ammoniac, in fine powder, three parts; of dry chalk, likewise in fine powder, one part. Rub them, in a marble mortar, well together, till they are perfectly mixed. With this mixture, fill one half of a retort which has a wide, streight neck: place it in a sand-furnace, so as almost to touch the bottom of the pot: then proceed to sublimation, gradually increasing the fire to the utmost degree, which this process requires to be kept up for a considerable time. When the volatile salt is all come over, and the receiver grown cool, it may be taken from the retort, luted to another retort charged with fresh ingredients, and fire applied as before. This process may be repeated, until the receiver is lined to a considerable thickness, with volatile salt; when it must be broken, in order to take out the salt.

Mr. *du Hamel* has given several curious observations and experiments, relating to the different methods of obtaining this preparation; to which we refer the reader ^{*}.

^x Crude sal ammoniac, as Mr. *du Hamel* † observes, is far from being equally pure. This preparation therefore is intended to purify and fit it for internal use. Whether the method of purifying this salt directed in the *London Pharmacopœia* be as good, can only be determined by experiment; for as heterogeneous salts may adhere to it in crystallisation, so substances not very volatile may be sublimed along with it.

^{*} *Mem. de l'Acad. roy. 1735.*

† *Ibid.*

Take of the volatile salt of Sal Ammoniac, any quantity at pleasure.

Pour upon it, by little and little at a time, stirring the mixture now and then,

of Spirit of Vinegar, as much as will be sufficient ;

that is, till the effervescence ceases ^y.

Oleum ceræ.

Oil of wax ^z.

Take of Wax, as much as you please.

Melt it with

Twice its quantity of Sand.

Put the mixture into a retort ^a, which being placed in a sand-furnace, proceed to distillation. At first an acid liquor ^b arises ; and afterwards a thick oil ^c, which sticks in
in

^y This neutral spirit is much in use. It was ordered in the last edition of this dispensatory to be made with spirit of sal ammoniac : but as the spirit made with quicklime is more common in the shops than that directed by the college with a lixivial salt (which last is only proper for making this neutral spirit) the college have here prudently ordered the volatile salt, to prevent any such mistake.

^z This preparation is grown pretty much out of use, upon account of its very disagreeable smell.

^a *Boerhaave* * directs the wax, being cut in pieces, to be put into a retort, so as to fill one half ; when as much sand may be poured thereon, as will fill the remaining half. This is a neater, and much less troublesome way, than melting the wax, and mixing it with the sand, before they are put into the retort.

^b The aqueous liquor, which is obtained by distillation from wax, has a very unpleasant smell, but so little acidity, as scarce to be perceived upon the palate.

^c If the fire be increased, the remainder of the wax will entirely come over into the receiver, and appear of a somewhat harder consistence than the oil which arose at first ; this nevertheless falls con-

* *Elem. Chem. proc.* 36.

274 PREPARATIONS *of* ANIMALS.

in the neck of the retort, unless it be warmed by applying a live-coal.

This may be rectified into a thin oil, by distilling it several times, *per se*, in a sand-heat.

siderably short of the consistence of the wax, and likewise flows into a thinner liquor with a much gentler heat.

CLASS

CLASS THE THIRD.
 CHEMICAL PREPARATIONS
 OF
 M I N E R A L S.

SECTION I.
 PREPARATIONS of SALTS.

Spiritus falis.
Spirit of salt^a.

TAKE of Sea-salt, thoroughly dry, one pound;
 Powdered Bricks^b, three pounds. Mix,

^a This process is exactly described in *Pract. Chem.* pag. 212.

^b This method of extracting spirit of salt, by the use of earthy intermediums, has been laid aside for a considerable time, as being founded upon the erroneous principle, that these substances act by discontinuing and powerfully dividing the particles of the salt, so as to enable the fire to expel the spirit. If this was really true, glass or sand would prove as serviceable as powder of bricks, and the same

Mix, and put them into an earthen retort of such a size, that the mixture may fill only one half of it. Place the retort in a reverberatory furnace, adapt it to a large receiver, and lute well the junctures. Let the fire be applied at first very sparingly, and afterwards increased by degrees, untill all the spirits are driven over in the form of clouds. When the vessels are grown cold, pour out the distilled liquor into a glass cucurbit; and gently abstract from it the phlegm, which will leave the spirit pure ^c.

Spiritus falis Glauberi.

Glaubers spirit of salt.

Take of Sea-salt, dried ^d and powdered, two pounds;

powder would do as well several times as at first; the reverse of which, experiments shew to be true. Brick-earth contains a small quantity of vitriolic acid; and it is the known property of this acid, powerfully to disengage the earthy part of sea-salt from its own proper acid; which being set at liberty, is easily propelled with a small degree of fire. The quantity therefore of spirit obtained by these kinds of intermediums is only in proportion to that of the acid contained in them; which being exceeding small, can avail but little, and not near counterbalance the inconvenience which arises from the earthy part. This has occasioned some to make use of vitriol, as containing a large quantity of the vitriolic acid: But although vitriol is, in this respect, greatly preferable to brick-dust, tobacco-pipe-clay, and the like matters; yet, in another, it is found less eligible; the metallic part so strongly adheres to the acid of sea salt, as to keep it down after it is separated from its earth; or else arises along with it, and defiles the product.

^c If the spirit obtained by this process be desired perfectly pure, it should, after the phlegm is drawn off, be distilled a second time, when a portion of earthy matter, which comes over with the spirit, will be found at the bottom of the retort.

^d The drying of the sea salt appears to be an unnecessary part in this process; since water is ordered to be added to it immediately afterwards.

Oil of Vitriol, one pound^e ;
 Water, as much as is sufficient to dissolve
 the salt^f.

Put them into a glass retort, and distill, in a sand-heat, to dryness^g.

Sal

^e The chemists in general are very much undetermined as to the exact proportion which the vitriolic acid ought to bear to the sea salt in this process. Most of them order more than the quantity here prescribed ; though some few direct less. Among the latter is *Boerhaave*, who puts three parts of the salt to one of the vitriolic acid^{*}. A later writer is of opinion, that this quantity is still too great ; and directs only two parts of the acid to seven of the common salt. By this proportion, says he, the whole quantity of spirit will be extricated, so as to arise in distillation, and the remainder prove a true neutral salt[†]. Some experiments, which we have made, with a view to determine this affair, favour this assertion, while some others make the quantity of sea salt an over-proportion. This uncertainty probably arises from different qualities in the sea salt employed ; and from the strength of the vitriolic acid not being precisely determined. In general, the proportion of one to three may be looked upon as the most eligible, provided the oil of vitriol is tolerably good, and the small grained common sea salt be made choice of, in the state we usually receive it from the shops.

^f If as much water be added as is necessary to dissolve the salt, without the assistance of the vitriolic acid, the spirit will turn out too phlegmatic and weak for the purposes it is generally designed. The quantity should therefore be reduced, unless the operator chooses to be at the trouble of dephlegmating the spirit, by abstracting so much of the aqueous fluid, as may leave it of a due strength.

^g A good deal of care and address is necessary, to conduct this process with safety. The method which we would recommend is, to put the water into a stone-ware vessel, and then to add to it the oil of vitriol by degrees. When the mixture is grown somewhat cool, it may be poured upon the salt already placed in the retort, and the distillation immediately proceeded on ; care being taken, so to ma-

* *Element. Chem. process.* 143.

† *Cartheuser, Elem. Chem. dogmat. & experiment.* p. 43.

Sal mirabile Glauberi.

Glaubers wonderful salt.

Take what remains in the retort after the distillation of Glaubers Spirit of Salt.

Diffolve it in

A sufficient quantity of Water.

Filter the solution through paper, and evaporate it till a pellicle appears on the surface: then set it by for some days in a cold place, that the salt may crystallize; separate the crystals from the corrosive liquor, and afterwards dry them for use.

If these crystals prove too sharp, dissolve them again in water, filter the liquor, and cautiously evaporate it to such a pitch only ^h, as may dispose the salt to crystallize ⁱ.

manage the fire, as to prevent the matter from boiling over, or the fumes arising so fast as to endanger the receiver.—See the method of distilling a very strong smoking spirit of salt, without the addition of any water, in *Pract. Chem.* pag. 214; to which the reader is likewise referred, if he desires fuller directions for managing the above process.

^h This point may be exactly hit, by taking out a little of the solution, at different times of the evaporation, and pouring it upon a cold marble or glass plate; if the matter be disposed for crystallization, it will, in less than a minute, manifest saline spicula.

ⁱ In the process above, a great deal of care is taken to prevent the salt from being too acid, an inconvenience which often happens from the over-care of the chemists to make the crystals beautiful and large, a circumstance which depends not a little upon the quantity of the vitriolic acid; for if this be used in the smaller proportions mentioned in the foregoing note ^c, the produce of crystallized salt will not only fall far short of the amount expected, but the crystals prove too small for a marketable commodity. Nevertheless, we cannot but heartily recommend the caution given above, since it is unpardonable to prefer the elegance of the appearance of a medicine, to its real utility and safety.

Spiritus

Spiritus falis dulcis.
Dulcified spirit of salt.

Take of Rectified Spirit of Wine, three parts.
 Put it into a large bolthead, and gradually add thereto
 of Spirit of Salt, one part.

Digest these together for some days; and then distill
 in a sand-heat, according to art; taking care, towards
 the end of the operation, that the retort break not from
 too great a heat^k.

Sal prunellæ.
The salt prunella.

Take of the purest Nitre, reduced to powder, two
 pounds.

Melt it in a crucible, and sprinkle into it, by little
 and little at a time,

of Flowers of Sulphur, one ounce.

When the deflagration is over, pour out the melted
 salt upon a clean, dry and warm brass plate, so as
 to form it into cakes^l.

Sal

* The two spirits designed for making this preparation should be exceeding strong; if either of them is phlegmatic or weak, the union of the two, and consequently the medicine, will be the less perfect.—Upon dropping the acid spirit into the vinous, a small ebullition, attended with a degree of warmth, will ensue; but this depends upon both spirits being of a due strength. Some chemists * direct the digestion to be continued, till the acid seems to have lost almost all its acrimony; and then to proceed to distillation: or, instead of digestion, to cohobate the spirit three times. A water-bath is greatly preferable to a sand-heat for distilling this spirit; for as in the former, the degree of heat is limited, and incapable of raising spirit of salt alone, we may be always sure of drawing off no more of the acid, than is perfectly united with the vinous spirit.

^l This preparation of nitre was formerly in great esteem, and is sometimes still ordered in prescription, which occasions its keeping a

* *Pott. de Acid. Sal. vinoso:*

Sal polychrestum.
Salt of many virtues.

Take Nitre, in powder,
Flowers of Sulphur, of each equal parts.

Mingle them well together, and inject the mixture, by little and little at a time, into an ignited crucible. After the detonation ceases, keep the crucible in the fire for an hour.

The salt may be purified by dissolving it in warm water, filtering the solution, and exhaling it to dryness^m.

place here. The process is built upon an erroneous foundation, which supposed that the nitre was purified by the deflagration it undergoes upon injecting a little sulphur upon it. But from proper experiments it appears, that the sulphur is so far from depurating the nitre from any accidental impurities, or tending to its improvement as a medicine, that it really alters some part of it into a salt which has quite different properties; and therefore, as far as so little a portion of sulphur can go, changes it for the worse. Hence *Boerhaave* * directs the nitre intended for making sal prunell, to be purified after the common method, and then to be melted by itself, and poured out into moulds: The fusion here brings the salt into a less compass, by evaporating the aqueous moisture, which has concreted with it in its crystallization; and likewise more effectually ascertains the dose; for nitre is found to contain more or less of water, according to the manner in which it is kept, and its degree of dryness, which is not apparent to sight.

Those who prepare sal prunell in large quantities, make use of a clean iron pot, instead of a crucible; and when the nitre is melted, and the sulphur deflagrated, take out the salt with an iron ladle, and pour it into brass moulds kept for this purpose.—The previous pounding of the nitre, directed above, may be as well omitted, as occasioning a needless trouble.

^m This salt does not greatly differ from several preparations which may be afforded at a cheaper rate, as is well known in the shops; and little deserves the pompous title, which the chemists have given it.

* *Elem. Chem. process.* 132.

Spiritus nitri.
Spirit of nitre.

This Spirit is distilled from Nitre, in the same manner as spirit of Salt ⁿ.

Spiritus nitri dulcis.
Dulcified spirit of nitre.

ⁿ The process for drawing spirit of salt here referred to, I suppose is that after *Glaubers* manner, with the addition of oil of vitriol; tho', by his name being left out of the title, it should rather seem to be the first spirit, distilled from dry common salt, mixed with three times its weight of brick-dust; processes nearly similar to which, are given under the subsequent preparations of *single* and *double aqua fortis*. The celebrated professors *Boerhaave* and *Hoffmann*, differ very much from one another, not only in the manner of conducting the process for obtaining a pure spirit of nitre, but likewise vary in the proportion of the materials. *Boerhaave* * directs three parts of dried nitre to be mixed with one of strong oil of vitriol; while *Hoffmann* † orders them in equal quantities. The first directs the fire to be gentle at the beginning, but to be increased to a very high degree towards the close of the process; while the latter finishes the whole with a moderate heat. *Boerhaaves* method seems best calculated to save expence, and answer the purposes of trade; while *Hoffmanns* regards rather the quality of the product than its quantity, or any other consideration. Hence the latter judiciously observes, that the deep red colour which some look upon as a mark of strength in spirit of nitre, arises from the impurity of the salt or acid employed; and that the paler spirit only is to be chose for medicinal or other nice uses.

We have already given some general cautions and directions for managing this process in our preceding note upon *Glaubers* spirit of salt, to which we refer. But if the reader desires fuller instructions with regard to the apparatus, &c. he may consult *Pract. Chem.* pag. 199.

* *Elem. Chem. process.* 134.

† *Obs. Physico Chym. Lib. ii. Obs.* 3.

This is made with Spirit of Nitre, after the same manner as dulcified spirit of salt °.

Aqua

° This celebrated preparation has at length obtained a place in most dispensatories, and is, when well made, deservedly looked upon, by pharmaceutical writers, as a medicine of importance. Nevertheless, the process for making of it, and the proportions of the ingredients, are set down very differently *. *Hoffmann* † seems to have considered the affair thoroughly, and with his usual accuracy has minuted down every circumstance necessary to be observed in its preparation. The shops have been accustomed to mingle one part of spirit of nitre with three parts of inflammable spirit, without much regarding the degree of purity or strength of either of the ingredients. But the above-mentioned author rightly observes, that three parts of highly dephlegmated spirit of wine are not sufficient to dulcify one part of pure, strong spirit of nitre; and that if either of them is phlegmatic or weak, the union of the two can be by no means so perfectly completed, as to produce a truly dulcified spirit. Hence, upon distillation, the inflammable spirit arises, and leaves great part of the acid at the bottom of the distilling vessel. He therefore orders one part of strong spirit of nitre to be poured into eight parts of highly rectified spirit of wine; and observes, that this mixture being set to distill, totally arises in a gentle heat. The preparation made after this manner (especially if the matter be digested for some time, before the distillation is performed) manifests so little acidity, as really to deserve the name of a dulcified spirit; and differs greatly from that usually met with in the shops, in point of fragrantcy as well as taste.

There are some circumstances to be observed in the mixture of these two liquors, as well as in the distillation of them when mixed, which highly deserve notice; since a slight error may not only occasion the loss of the whole, but, if the quantities are large, greatly endanger at least the health of the operator. Thus if, instead of prudently dropping in the spirit of nitre to the spirit of wine, the latter be poured by little and little upon the former, a most vio-

* *Pract. Chem.* p. 203.

† *Ubi supra, Obs.* 4.

Aqua fortis simplex.

Single aqua fortis.

Take of Vitriol calcined ^P to whiteness, two parts ;
Nitre in powder, one part.

Mix them very well together, and fill therewith an earthen retort to two thirds ; then fit on a large receiver, and proceed to distillation ; which is to be performed after the same manner as is directed for spirit of salt ^Q.

Aqua

lent effervescence will arise, and the whole mixture be instantly dispersed in noxious red fumes. It is true, this phenomenon does not, as some have remarked, unavoidably happen ; but may, with proper address, be prevented.

The distillation likewise of this spirit, if immediately attempted without any previous digestion, should be conducted with a very slow and wary heat, to prevent the matter from running suddenly into so violent a degree of ebullition, and the vapour expanding with so great force, as to burst the distilling vessels. Hence some, who have probably experienced the truth of this observation, order the junctures not to be luted at all, or but slightly : And hence probably the caution given above in the distillation of spirit of salt. We would recommend the distillation to be performed with the heat of a water-bath ; for this, in case the acid should ever be in an over proportion to the vinous spirit, will only propell so much of the former as is perfectly united with the latter.

Mr. *Lemery* lays it down for a rule, that the dulcification of spirit of nitre depends entirely upon its effervescing with the vinous spirit ; which either, says he, evaporates the more subtle parts of the acid, or breaks their edges. Hence he directs the mixture to be made in an open vessel, placed under a chimney to carry off the fumes. By this unscientific procedure, he observes that he usually lost half his liquor ; and we may venture to say, that the remainder was not the medicine intended in this process.

^P The calcination here directed, is in order to separate some of the phlegm of the vitriol, that the aqua fortis may prove sufficiently strong for the purposes it is intended.

^Q The great demand which there is in sundry businesses for aqua fortis, has made the preparation of it become a trade by itself.

Hence

Aqua fortis duplex.

Double aqua fortis.

Take of Green Vitriol, calcined to whiteness,
 Clay, dried and powdered,
 Nitre, in powder, each equal parts.

Having mixed these ingredients well together, fill

Hence larger and less expensive instruments than retorts have been contrived. The common distilling vessel employed for this purpose is a large iron pot, (like that made use of for distilling of hartshorn) with an earthen or stone-ware still head; to which is adapted a large glass globe, or else a jar, made of the same clay as the head. The common workmen are not at the trouble either of drying the vitriol or pounding the nitre, but throw them both promiscuously into the pot, where the fire liquefying the vitriol, soon mixes it with the nitre. The aqua fortis prepared after this manner is extremely impure, and utterly unfit for many purposes; such in particular are, the solution of mercury and of silver. This impurity is occasioned by the violence of the fire employed in the operation, which never fails to elevate some of the metallic parts of the vitriol; and by the makers using rough or unrefined nitre, which containing a portion of sea salt, sends over some of its spirit along with the nitrous acid: to which may be added, that these ingredients are seldom free from bits of wood and other vegetable matters, which burning towards the end of the process, foul the spirit with an empyreumatic oil, giving it at the same time a high colour. If therefore common aqua fortis be employed in any medicinal preparation, it should be purified by a careful rectification in glass vessels; a small quantity of a solution of silver being previously added to it, which will detain the marine acid from arising again, and disturbing the purity of the aqua fortis, and keep it at the bottom of the distilling vessel along with the other impurities.

If it be admitted that one pound of oil of vitriol is barely sufficient for three of nitre, then the calcined vitriol ordered above falls considerably short of its due quantity, to extricate all the spirit which the nitre is capable of yielding.

therewith

therewith an earthen retort to two thirds, and distill as in the foregoing process †.

Aqua Regia.

Aqua Regia.

Take of Sal Ammoniac, reduced to powder, one ounce. Put it into a large cucurbit, and add thereto, by little and little at a time,

of Spirit of Nitre, or Double Aqua fortis, four ounces.

Let them stand together in a sand-heat, till the salt is entirely dissolved †.

† This process has been long received in the shops; but is nevertheless a very unartful one. The clay, containing much less acid than vitriol, is not near so proper an intermedium. It should seem therefore more eligible to omit the first, and increase the quantity of the latter; which, in order to make the aqua fortis of the strength here intended, should undergo a further degree of calcination.

The method which we would recommend for making this preparation is as follows:—Take of vitriol, calcined till it has acquired a yellowish colour inclining to red, two pounds and a half; of refined nitre dried, one pound. Reduce them separately into very fine powder; then mix them exactly together, and proceed to distillation, gradually increasing the fire, until the red vapour ceases to condense, and run in streams down the sides of the recipient.

† The glass in which the mixture is made, should be placed under a chimney (to carry up the offensive vapour) and its orifice by no means stopt, until such time as the salt is perfectly dissolved, and the fumes cease to arise with impetuosity. These cautions are extremely necessary, if this process be conducted according to the directions above. But if the sal ammoniac be finely powdered, and gradually added to the acid spirit (which ought to be of a middle degree of strength between single aqua fortis and strong spirit of nitre) the solution will proceed without any inconvenience; and may be finished in a reasonable compass of time, provided the mixture be now and then stirred.

An excellent aqua regia may be likewise made by distilling good aqua fortis from half its weight of common salt.

Vitriolum

Vitriolum calcinatum.

Calcined vitriol.

Expose any quantity of powdered Green Vitriol, in an unglazed earthen vessel, to the action of a moderate fire, till it becomes white; keeping the matter continually stirring, to prevent its sticking to the vessel, and acquiring a stony consistence. If this be urged with a more vehement fire, it passes into a deep red substance called Colcothar Vitrioli, or *Colcothar of Vitriol*†.

Gilla vitrioli.

Salt of vitriol.

Take of White Vitriol, as much as you please.

Dissolve it in

a sufficient quantity of warm Water.

Pass the solution through a filter, and evaporate it to the consumption of two thirds: Set the remainder

† The calcination of vitriol, according to the above method, is sufficiently troublesome: For unless the heat be very gentle, and the matter spread very thin over the bottom of a broad, shallow vessel, it is almost impossible to avoid melting it, and making it adhere to the sides of the pan; which renders the pulverisation directed above, an useless labour. The common method which the chemists employ, is, to place a deep earthen pan almost filled with vitriol unpounded, upon a gentle fire: the vitriol will soon liquefy, and by degrees incrustate to the sides of the vessel; when the fire may be increased, till the aqueous moisture seems evaporated; by this time, it will have concentered all into one lump, of a whitish colour, except on the outside next the pan (which must be broken, to take it out) where it will appear of a yellowish or reddish colour, according to the continuance and degree of fire employed.

If the vitriol is desired to be still farther dephlegmated; this may be commodiously performed, by reducing the mass to a gross powder (which will now no longer melt as before) and then calcining it over a strong fire, in a shallow iron pan, till it has got the degree of dryness required, which may be known by the colour it has assumed.

in a cold place for two days, that crystals may form themselves on the sides of the vessel; which are afterwards to be dried in the sun ^v.

The remaining liquor may be farther evaporated, and set to crystallize as before; and this process repeated, until no more salt will shoot.

Spiritus & oleum vitrioli.
Spirit and oil of vitriol.

Take of Green Vitriol, calcined to whiteness ^w, and reduced to powder, what quantity you please.

Fill therewith one half of an earthen retort ^x, place it in a reverberatory furnace, fit on a very large receiver, and lute well the junctures. Then proceed to distillation, gradually increasing the fire to the utmost

^v There is an inconvenience attending the preparation of this salt, which is, that when the solution is duly exhaled, and set to shoot, a yellow matter subsides, which fouls the crystals. Hence some ^{*} direct the vitriol to be dissolved in as much water as will serve to keep it suspended (which is somewhat less than thrice its own weight) and the solution to be set by, till the feces have subsided; when it is to be carefully poured off, filtered through paper, and after due exhalation removed into a cold place to crystallize.

^w Unless the vitriol be calcined longer than here directed, it will become in the distilling vessels a hard, compact mass; from which the due quantity of acid can never be obtained, though urged with the most vehement fire for a great length of time. The most expert operators continue the calcination of the vitriol, until it become a yellowish mass inclining to red, which they carefully keep from the air, till they have occasion to use it [†].

^x A retort is a very inconvenient instrument for this purpose; for it requires an extraordinary expence of fuel and time to elevate the sluggish vapour of this concrete so high as the figure of this vessel demands.

^{*} *Pract. Chem. pag. 146.*

[†] *Ibid. pag. 145.*

degree, which is to be kept up as long as any vapours arise ^y.

The phlegm, spirit and oil may be separated from each other, by committing the whole to distillation in a retort placed in a sand-furnace. The phlegm will arise with a small degree of heat, and the spirit with a stronger, leaving the oil behind ^z.

The mass which remains in the retort, after the first distillation, is called Colcothar.

Spiritus vitrioli dulcis.

Dulcified spirit of vitriol.

Take of Rectified Spirit of Wine, four pounds.

Cautiously drop into it, by little and little at a time,
of Oil of Vitriol, six ounces.

Digest them together for three days; and then distill, according to art ^a.

Ens

^y *Boerhaave* informs us †, that the white vapour will not entirely cease to arise, although the fire should be ever so long and vehemently urged. He likewise observes, that after the distillation has been continued for a certain time, which he limits to eighteen hours, the spirit that arises will not pay the expences attending it: But regard must be had herein to the size of the furnace, the quantity of calcined vitriol in each distilling vessel, and the degree of heat employed. The makers of this commodity are sensible of the justness of this observation; and therefore continue the fire no longer than till the fumes which issue from the long necks at the greatest distance from the fire, begin to lessen, and the recipients grow somewhat clear.

^z The distillation of vitriol is not practicable to any advantage, without a very large apparatus. Hence it is become a distinct branch of the chemical business; and considerable works have been erected in such parts of the kingdom, as fuel can be most easily procured in. Some of the furnaces employed for this purpose are so large as to contain an hundred earthen long-necks, or distilling vessels, at once.

^a The chemists differ greatly about the proportion which the vinous spirit ought to bear to the vitriolic acid, in the preparation of this

† *Elem. chem. process.* 206.

celebrated medicine. Some experiments, made in order to settle this point, seemed to conclude in favour of the proportion set down above. But as we are not thoroughly satisfied ourselves in this respect, we choose to lay them before the reader; which will afford us an opportunity of describing the requisite apparatus, and giving the necessary cautions, for performing this nice process with success.

One pound of strong and well rectified oil of vitriol was let fall, by a few drops at a time, into a pint of highly dephlegmated spirit of wine contained in a glass bolthead. The mixture soon grew very hot, and upon standing for twenty-four hours, had acquired a very dark colour. It was then poured into a retort with a very long neck, whose body was capable of containing at least four times the quantity; and the retort being set upon a little sand in a proper furnace, a large tubulated recipient was fitted to it, and placed in such a manner, that its pipe might convey the matter which should come over, immediately into a phial set underneath it. The juncture of the retort and recipient was carefully luted with a paste made of linseed-meal, which was farther secured by a wet bladder: the lower juncture was only closed with some soft wax, that the phial might be occasionally removed with ease.

The apparatus thus adjusted, a very gentle fire was applied for several hours. A volatile spirit soon arose; and, condensing upon the sides of the recipient in strizæ, ran down into the phial. When about half a pint of liquor had come over, white vapours began to appear; upon which the phial was removed, and another placed in its room. The fire being at this time somewhat raised, the white vapours came over very copiously: these did not run down the sides of the recipient, like the first spirit, in straight strizæ; but either formed irregular streams, or were collected into round drops. When about an ounce and a half of liquor had distilled, the remainder, now grown extremely black and viscid, began to arise hastily; in order therefore to prevent its fouling the neck of the retort, or passing into the recipient, they were both immediately removed from the fire.

The liquor which distilled at first, being examined, was found colourless, very volatile, extremely odorous, inflammable, and being tasted, proved somewhat aromatic: in short, it in all respects agreed with the description usually given of sweet spirit of vitriol. The second liquor had swimming upon its surface a small quantity of

Ens veneris.

Flowers of copper.

light yellow oil, whose odour was extremely strong, and highly agreeable; the liquor itself smelt exceedingly pungent, like the fume of burning sulphur: and being tasted, proved notably acid.

In order to try whether the remainder in the retort was not still capable of making the same change upon a fresh quantity of spirit of wine, as it had done upon that already employed, we added to it as much spirit as at first, and repeating the distillation, observed the same phenomena as before. Upon examining the liquors, they were found to perfectly agree with the former, except that we now gained a much larger quantity of oil.

This success occasioned the experiment to be again repeated with another fresh quantity of spirit of wine, which yielded the same phenomena, and the same kind of liquors, but in different quantities: the oil in particular was double of what we obtained in the last distillation; the whole amounted to about an ounce and a half.

We intended to have repeated the process a fourth time; but were prevented by a piece flying out of the retort, just below the surface of the matter, as it began to rise. What remained in the retort was still acid; and that part which issued out at the fracture (which it did with great violence) corroded a piece of marble which it had fell upon.

We are informed, that the above accident frequently happens; but apprehend it may be easily prevented, by adding to the mixture, before distillation, about double its weight of fine, dry sand, or pounded glass. If the two spirits be proportioned to each other in the manner directed above by the college, the distillation may be conducted with less danger; care only being taken, to keep on a low, gentle, equable heat all along, and to remove the vessels, as soon as ever there is the least appearance of a white vapour, or of a black scum arising. If the reader desires any further satisfaction with regard to this affair, he may consult *Hoffman* *, *Pract. Chem.* † and *Pharm. Reform.* ‡

* *Observ. Physico-Chem. Lib. ii. Obs. 13.*

† *Pag. 149.*

‡ *Pag. 62.*

Take Colcothar of Blue Vitriol ^b well edulcorated
with Water, and afterwards dried,
Sal

^b The invention of this preparation is univerſally attributed to Mr. *Boyle*, who, in his writings, informs us, that in proſecuting an attempt to obtain a medicine of ſimilar nature to that made by *Helmont* in imitation of *Butlers ſtone*, he fell upon this, which he named *Ens primum veneris*, not out of a belief that it equalled the virtues aſcribed by *Helmont* to what he calls the true *Ignis veneris*, but for the minerals ſake from which it was made *.

Notwithſtanding this, and many other ſtrong expreſſions, by which the illuſtrious inventor has declared that his medicine was prepared from vitriol whoſe baſis was copper; ſome have been of opinion, that it was originally made of a chalybeate vitriol by Mr. *Boyle*; and that when he propoſes *Hungarian vitriol* as the moſt eligible for this preparation, he either did not mean what has been generally underſtood by it, the common blue vitriol, or muſt never have made the preparation with it himſelf. This preſumption is grounded upon the account which Mr. *Boyle* himſelf gives of the red colour which the vitriol he uſed, acquired in calcination, and the yellow or reddiſh colour of the ſublimete, with its property of turning tincture of galls to an inky blackneſs †, neither of which appearances are ſaid to happen when blue vitriol is made choice of.

On the other hand, the author of the *Pharmacopœia Reformata* poſitively aſſerts, that he has not only ſeen this medicine, when prepared from blue vitriol, exactly answer Mr. *Boyles* deſcription, particularly with regard to the circumſtances abovementioned ‡; but that upon this occaſion he prepared it himſelf, from common blue vitriol, and found the proceſs not at all to differ from what he had formerly ſeen; that the vitriol when calcined, was of a dark red colour; that the ſublimete, which aroſe after ſome white flowers, was manifeſtly yellow, without any tinge of green or blue; and that a little of it changed an infuſion of galls into an inky blackneſs ||.

* *Usefulness of Nat. Philoſ. Part 2. Sect. 1. Chap. 6.*

† *Boyle's experiments and notes about the mechanical origin and production of volatility, Chap. v.*

‡ *Pharm. Reform. p. 77.*

|| *Append. pag. 312.*

Sal Ammoniac, of each equal quantities.

Reduce them separately into powder; then mix, and put them ^c into an earthen cucurbit, so as to fill two thirds thereof: place the cucurbit in an open fire, and having adapted to it a glass blind-head, administer at first a gentle heat, which is to be increased by degrees ^d, and continued as long as the flowers arise of a yellow colour, inclining to red; when the vessels are grown cold, let the flowers be carefully swept out with a feather.

Lapis medicamentosus.

The medicinal stone.

Take Colcothar of Vitriol,

Roch-alum,

Litharge of Gold,

Bole Armenic, of each equal parts;

Best Vinegar, as much as will cover the whole
to the height of four inches.

Let these ingredients digest together for two days, in an earthen pan; then set them over the fire, that all the humidity may evaporate; after which, calcine the remaining mass with an intense heat.

It appears probable, from the manner in which these two processes are related, that the first failed of success, for want of exactly following the inventors directions in every minute circumstance, which the latter more carefully observed.

^c The sal ammoniac should be well dried, and exquisitely mixed, by long triture, with the colcothar, before they are put into the subliming vessel.

^d After the vessels are become thoroughly hot, the fire may conveniently be raised as quick as possible. Upon this circumstance, the deepness of the colour of the flowers in good measure depends.

SECTION II.

PREPARATIONS

O F

SULPHUREOUS SUBSTANCES.

Flores sulphuris.
Flowers of sulphur.

TAKE of Yellow Sulphur, grossly powdered, any quantity at pleasure.

Put it into an earthen cucurbit placed in a sand-furnace; and having fitted on a glass blind-head, or inverted into it another earthen cucurbit, begin the sublimation with a gentle heat, which may be afterwards increased. The flowers will arise into the uppermost part of the vessels, from whence they are to be swept out for use ^a.

Oleum

^a The sublimation of flowers of sulphur is not practicable to any advantage in the usual earthen or glass vessels; but requires a larger apparatus. Hence the apothecaries rarely attempt this process themselves; but leave it to some particular people who have conveniences for it. See a description of the apparatus, with the method of conducting the operation, in *Practic. Chemist.* pag. 160.

The matter which remains at the bottom of the subliming vessel after the flowers have risen, is a ponderous, compact mass, of a grey colour:

Oleum vel spiritus sulphuris
per campanam.

*Oil or spirit of sulphur
by the bell.*

Take of Sulphur reduced to powder, what quantity
you please.

Put it into an earthen dish, placed upon an inverted crucible: set them both together upon the bottom of a large earthen vessel, in a moist place, screened from the wind: then set fire to the sulphur with a red hot iron, and hang over it a glass bell, at such a distance, that the flame may not touch it. The vapour of the sulphur will condense in the bell by the cold, and trickle down from its sides, like water, into the vessel placed underneath ^b.

Hepar

colour: it appears to be composed of sand, earth, stony, and sometimes metallic matters, mixed with other impurities, and a small portion of sulphur that has escaped the subliming heat. This is usually broke into pieces, and vended in the shops under the name of *sulphur vivum*.

The flowers of sulphur are sometimes found to be considerably acid, according to the different qualities of the sulphur itself, or some accidental circumstance in the sublimation. Hence some direct them to be washed in warm water, in order to fit them for internal use; by this means the griping quality, which sometimes accompanies the use of this preparation when unwashed, is prevented*.

^b The process, as above directed, is exceeding tedious, which is chiefly owing to a defect in the apparatus. Mr. *Homburg* † has contrived a better, which is recommended by *Boerhaave* ‡; and in the *abridgment of the Medical Essays* of the society at *Edinburgh* ||, a more convenient one than either is fully described, which we shall here insert with some improvements.

* *Pharm. Reform.* pag. 73.

† *Mem. de l'Acad. roy. ann.* 1703.

‡ *Elem. Chem. process.* 151.

|| *Vol. 1.* pag. 160.

Hepar sulphuris.

Liver of sulphur.

Take of Flowers of Sulphur, four ounces ;

Salt of Tartar, in powder, one ounce and a
half.

Let

“ Take a large retort, with a round hole in its bottom, of six
“ inches diameter: suspend this by the neck, in such a manner,
“ that you may easily come at the bottom: immediately under the
“ hole, upon a glass mortar, place a concave glass plate, perforated
“ in the middle, and upon the perforation invert a gally-pot, which
“ is to support a crucible containing three ounces of flowers of sul-
“ phur. To the neck of the retort, which should be pretty wide,
“ adapt a large tubulated receiver, with its pipe placed uppermost.
“ Light the sulphur with a bit of charcoal, and put it just within
“ the orifice at the bottom of the retort: when the sulphur is con-
“ fumed, place the same quantity of new lighted sulphur in another
“ crucible; and thus proceed, till as much acid is obtained as is re-
“ quired.

“ In this process it is observable (1.) That it is necessary to bedew
“ the glasses with the steam of boiling water, before you set fire to
“ the sulphur. (2.) That the operation succeeds best in calm, still,
“ wet weather, and in a damp place: in dry weather, the defect of
“ the moisture of the air may be supplied by conveying the
“ steam of boiling water to the orifice in the bottom of the re-
“ tort; afterwards the liquor may be dephlegmated to any degree
“ of strength by evaporation. (3.) That by the make and position
“ of the glasses, the acid fumes are continually rising into them;
“ inasmuch that they soon grow opaque with clouds, which in a short
“ time condense, and trickle down the sides of the glasses in drops.
“ (4.) That the sulphur has air enough to burn clearly, for want of
“ which, the acid would be spoiled by a great quantity of fuligi-
“ nous matter, which would be elevated, and stick to the sides of
“ the glasses.

“ A pound of flowers of sulphur, which may be burned in seven
“ or eight hours, will yield by this method, upon the most mode-
“ rate computation, seven drams, or an ounce, of pure acid.”

Let the flowers and salt be well mixed together, then melted in an earthen dish, under a chimney, and kept constantly stirring with a spatula, till the mass has acquired a red colour; care being had that it do not take fire^c.

Lac

The above apparatus may be considerably improved by a slight alteration, and the yield of acid spirit at least doubled.—Instead of cutting a circular hole at the bottom of the retort, let one be made in the side, of half the diameter of the former, at a little distance from the bottom: by this means, the lower part of the retort will supply the place of the concave glass plate, the glass mortar and the gallypot. Through the aperture in the side of the retort, pour an ounce or two of warm water; then introduce a shallow stone cup filled with flowers of sulphur, which is to be placed in the middle of the water upon the bottom of the retort: set it on flame with a red hot wire; the heat of the burning sulphur will soon communicate itself to the water, so as to keep it continually rising in steam. Hence the acid spirit will be effectually blended with the aqueous moisture, and consequently detained, in considerable quantity, in a much less proportion of phlegm than when the common methods are pursued; for by conducting the process after this manner, the business of rectification or dephlegmation is going on at the same time as the spirit is collecting.

We have inserted the above process, in conformity to the prejudices of some who believe, that this spirit, or oil of sulphur by the bell, as it is called, essentially differs from the common oil of vitriol of the shops. We have long been persuaded of the truth of the contrary opinion; and have not been able, by any experiment whatsoever, to distinguish a difference between the two, provided both liquors were of equal purity and strength. But this dispute will now perhaps be quickly at an end: for if we are rightly informed (and from our own experiments we are well assured of the possibility of the thing) almost all the oil of vitriol now sold, is prepared from the fumes of burning sulphur, caught by a more convenient apparatus than any commonly known.

^c The ingredients in this preparation are differently proportioned to each other, in different books of pharmacy. *Boerhaave* * orders

* *Elem. Chem. process.* 152.

only

Lac sulphuris.
Milk of sulphur.

Take of Liver of Sulphur reduced to powder, as
 much as you please ;

Spring-Water, four times its quantity.

Boil them together for three hours, adding more water, if there is occasion ^d. Then filter the solution, while hot, and drop into it

of Spirit of Vitriol ^e, as much as will be sufficient,
 that

only two parts of the salt to nine of the sulphur ; but even the larger proportion of three to eight, directed above, is too little ; for it appears directly from experiment, that sulphur requires somewhat more than double its weight of fixed alkaline salt (though the purer and stronger sorts thereof be made choice of) to render it perfectly soluble in water, which this preparation ought to be, when made in perfection.

It is more convenient to add the salt of tartar by little and little to the sulphur after it is melted, than to grind them together, and afterwards endeavour to melt them in an earthen pan : for in this case, the mixture will not flow sufficiently thin to be properly united by stirring ; and the sulphur either takes fire, or sublimes in flowers, which probably has been the reason why so large a quantity of it is commonly directed in this process.

^d The trading chemists prepare their *lac sulphuris* by boiling powdered sulphur in water, with three times its weight of quicklime : this gives the preparation a more saleable whiteness. Some are accustomed to add a portion of fixed alkaline salt to the quicklime, which increases its dissolving power. The method of making it with liver of sulphur, directed above, is the most expeditious and least troublesome, provided the liver of sulphur be well made, as directed in the preceding note ; otherwise, however vehement and long the coction be continued, great part of the sulphur will remain undissolved, and be left upon the filter.

^e The chemists employ the acid which is cheapest and next at hand for the precipitation of the sulphur ; and this commonly happens to be that above directed.

that is, till the effervescence ceases. A powder will be precipitated to the bottom, which is to be washed with water, and afterwards dried for use.

Balsamum sulphuris crassum.

Thick balsam of sulphur.

Take of Linseed-oil, or Olive-oil, one pint ;
Flowers of Sulphur, four ounces.

Boil them together, over a gentle fire, keeping them continually stirring, till they come to the consistence of a balsam ^f.

Balsamum sulphuris terebinthinatum.

Terebinthinated balsam of sulphur.

Take of Flowers of Sulphur, two ounces ;
Oil of Turpentine, ten ounces.

Digest them for some days ^g in a circulatory vessel ^h
placed

It seems a little surprising that none of the pharmaceutical writers should have taken notice of the difference which must necessarily arise to this preparation from the use of different acids. The vitriolic acid occasions a larger yield of precipitate, than is obtainable if vinegar, spirit of salt, or spirit of nitre be employed: and this it does by uniting with the salt of tartar or lime, and forming a considerable quantity of salt not soluble in cold water; while the other acids form salts easily soluble therein, and which are consequently separated by the affusions of water, with which this precipitate is always washed to fit it for use.

^f This preparation may be conveniently made in a common earthen pipkin, which should be capable of holding at least three times the quantity of the ingredients. As soon as ever the oil begins to act upon the sulphur, the mixture rarifies very much, so as certainly to run over the sides of the vessel and flame in a most dangerous manner, unless it is prudently removed from the fire.

^g This process may be completed in four or five hours, by duly managing the fire, which should be very gentle for some time, and at length increased so as to make the oil just bubble or boil; in which degree of heat it should be kept, till all the sulphur seems dissolved, and appears to be taken up in the oil.

^h This preparation is more conveniently and safely made in a very large

placed in a sand-heat, untill the oil becomes saturated with the sulphur. The vessel being then suffered to grow cold, separate the balsam from such part of the sulphur as remains undissolved.

Balsamum sulphuris anisatum.

Anisated balsam of sulphur.

Balsamum sulphuris juniperatum.

Juniperated balsam of sulphur.

Balsamum sulphuris fuccinatum.

*Succinated balsam of sulphur,
&c.*

These are prepared with the respective distilled oils, after the same manner as the balsam with oil of turpentine¹.

Sal

large and tall uncut glass body (without at all closing its orifice) than in circulatory or close vessels, from the use of which great danger may ensue: for when the sulphur and oil begin to act vehemently upon each other, they will not only rarefy into a large volume, but at this instant throw out great quantities of an elastic vapour with the utmost impetuosity, certainly bursting the vessels to pieces, if the orifices are not uncovered, and so large as to allow them a free exit. *Hoffman* gives a very remarkable history of the stupendous effects of an accident of this kind*.

¹ The balsams of sulphur with essential oils may be more safely and conveniently prepared, by pouring sixteen parts of the essential oil to six parts of the balsam of sulphur with linseed oil contained in a glass vessel. These may be easily incorporated, by setting the vessel in warm sand, and now and then shaking it.

These preparations are far more elegant when made after this manner, than when prepared immediately from sulphur and an essential oil: for thus they retain so much of the flavour of the oil as is in some measure sufficient to cover the taste of the sulphur, and render it supportable. But whatever pains may be taken to render these kinds of medicines less offensive to the patient, they will hardly

* *Observat. Physico-Chym.* Lib. iii. Obs. 15.

Sal volatile, spiritus & oleum succini.

Volatile salt, spirit and oil of amber.

Take of White Amber, in powder, one part;

Clean Sand, three parts.

Mix and put them into a glass retort, so that one half of it may be filled therewith. Then adapt a large receiver, and distill in a sand-furnace, with a fire gradually increased. At first a spirit will come over, with some yellow oil; then a yellow oil, along with a little salt; and upon increasing the heat, more salt with a reddish coloured oil^k.

ever come into esteem again. The reputation which they formerly had appears now to be built rather upon the warm opinion of some pseudo-chemists, than fair trial and experience of their virtues. *Boerhaave* and *Hoffman* plainly reject them as unsafe medicines, especially in some disorders, for which they have been too often cried up as notable specifics. Hence most of them are already become strangers to the shops. See *Boerhaaves* observations upon these processes, *Element. Chem. proc.* 156, 157, 158, 159.

^k The distillation of amber may be performed without the use of sand (or any other intermedium) which does little more than take up room in the retort. The chemists generally leave the receiver unluted, that it may be removed occasionally, as the salt rises and concretes in the neck of the retort, from whence it is every now and then to be scraped out, to prevent the oil from carrying it down along with itself into the receiver. When a gross thick oil begins to arise, and no more salt comes over, the distillation should be stopt by withdrawing the fire, otherwise a thick bituminous matter will ascend, which either blocks up the neck of the retort, so as to occasion its bursting; or, passing into the recipient, adheres so closely to it, as not to be removed, and consequently unfits it for any future operation. Great care should be taken, during the whole process, to increase the fire by very slow degrees; and not to let the heat decay suddenly; which would infallibly occasion the glasses to break.

When

When the distillation is finished, empty the liquor out of the receiver; and having collected together the salt which adheres to the sides, dry it by gentle pressure between the folds of some spongy paper.

The oil may be separated from the spirit by filtration; and afterwards rectified by distilling it from a brine of sea salt¹.

Sal succini rectificatum.

Rectified salt of amber.

Take of the Salt of Amber of the foregoing process, as much as you please;

Sea-salt decrepitated, twice that quantity.

Grind them well together, and put the mixture into a tall and narrow glass cucurbit: fit on a blind-head, and proceed to sublimation in a sand-heat, taking care that the oil does not rise. When the vessels are grown cold, sweep out the salt with a feather^m.

¹ Oil of amber is usually rectified without any addition, by distilling of it in small retorts, with a very gentle fire, the heat being continued no longer than while the finer light coloured oil comes over; a small quantity of volatile salt is often found in the neck of the distilling vessel. The addition of brine stands recommended as of considerable use in this process; particularly when the gross dark coloured oil is to be rectified: by its means, a large proportion of fine coloured, transparent oil may be distilled, which is so light as to swim upon spirit of wine. The method which Mr. Boyle * recommends, is, to take two pounds of brandy or proof spirits, to one of sea-salt, and half a pound of the oil; these ingredients are to be mixed together, and then distilled according to art.

^m The common method of rectifying or purifying salt of amber from the oil which adheres to it, is to dissolve the salt with a gentle heat, in a sufficient quantity of pure water: and then to pass the solution through a filter of paper which has been thoroughly wetted

* *Essay on the origin of fluidity and firmness, Sect. ii.*

with water. The clear solution being now evaporated in a shallow glass vessel, with a gentle heat (until such time as a little of it being taken out, forms saline spicula upon cooling) is to be removed from the fire, and set by, till the salt has crystallized. The remaining liquor may be further evaporated, and set to shoot, as the foregoing.

We cannot take upon us to determine, whether sublimation or crystallization is absolutely the best method of purifying salt of amber. The latter is certainly the easiest and least expensive; while the former gives the salt a more elegant appearance, and renders it less liable to be adulterated.

SECTION

SECTION III.

PREPARATIONS

OF

METALS.

Causticum lunare, seu lapis infernalis.

Lunar caustic, or infernal stone.

TAKE of fine cupelled Silver, as much as you please.

Diffolve it in

Three times its quantity of Spirit of Nitre ^a,
contained in a phial placed in a sand heat.

Evaporate

^a If the spirit of nitre be strong, it will dissolve more than one third its weight of fine silver: in case therefore this quantity of silver should be entirely taken up by the menstruum, it is convenient to add a few grains more thereof, till the spirit of nitre appears fully saturated, and a little of the metal remains undissolved at the bottom of the glass. By this method of procedure, a needless expence of spirit will be saved, and the evaporation finished in a shorter time than when the process is conducted according to the directions above.

Sometimes spirit of nitre contains a small portion of the vitriolic or marine acid, which renders it unfit for dissolving silver: this therefore should be carefully separated before the solution is attempted.

Evaporate the solution, till two thirds of the moisture are exhale^d; then put the matter into a large crucible^c, and exhale the remaining moisture, over a gentle fire: augment the heat by degrees, untill the mass flows like oil, and ceases to fume^d: then pour it out into a heated and greased iron pipe, made for this purpose: lastly, let it be dried^e, and kept for use in a glass vessel close stopp'd.

ed. The method which the refiners employ to examine the purity of their *aqua fortis*, and to purify it if necessary, is, to let fall into it a few drops of a perfect solution of silver: if the liquor remains clear, and grows not in the least turbid or whitish, it is fit for their use; if otherwise, they add a small quantity more of the solution, which immediately turns the whole of a milk-white colour: the mixture being then suffered to rest for some time, deposites a white sediment, and becomes perfectly clear and colourless; when it is to be decanted from the precipitate, and examined afresh; and, if need be, farther purified by a fresh addition of the former solution.

^b In case the menstruum proves as strong as spirit of nitre is usually expected, and fully saturated with silver, the evaporation should not be continued so long as directed above, to prevent the matter growing so thick, as to be difficultly poured out of the glass.

^c The crucible should be big enough to hold at least six times the quantity of the matter, to prevent any loss of the silver, which might otherwise happen from its boiling over.

^d Great care ought to be taken in this process, to avoid such a degree of heat, as will evaporate the acid parts of the menstruum; and to continue it no longer than till the signs above appear, when the liquid matter should be instantly poured into proper moulds.

^e The drying here required is no other than to wipe the caustic from the grease which the mould is anointed with. Each piece should be wrapt up in well-dried soft paper, before they are put into the glass, not only to keep the air from immediately acting upon them, but to prevent their discolouring or corroding the fingers in handling them.

Calx jovis.
Calcined tin.

Take of Tin, any quantity at pleasure.

Melt it in an unglazed earthen vessel, and keep it constantly stirring with an iron spatula, till it is reduced to a calx ^f.

Sal jovis.
Salt of tin.

Take of Calcined Tin, what quantity you please.

Aqua Regia, diluted with eight times its quantity of water, as much as will be sufficient to cover the calx to the height of some inches.

Digest them together in a gentle heat of sand, till the tin is dissolved. Filter the solution through paper, and exhale it till a pellicle appears upon the surface. Afterwards set it by in a cold place for three or four days, that crystals may shoot: lastly, pour off the liquor, and dry the salt for use.

The calx which is left undissolved may be digested with a fresh parcel of aqua regia as before, and the solution mixed with the liquor which remained after the crystallisation: the whole being now duly evaporated, and set by in a cool place, a further yield of crystals will be obtained.

Amalgama jovis.
Amalgam of tin.

Take of Tin, any quantity at pleasure.

Melt it in a crucible ^g.

^f Tin emits, during its calcination, a considerable quantity of sulphureous fumes; nevertheless, the calx is found to weigh about one sixteenth more than the original metal.

^g Iron ladles are more convenient than crucibles.

306 PREPARATIONS of METALS.

Put into another crucible

The same quantity of Quicksilver,

Keep the latter in the fire, till the quicksilver begins to fume, when it is to be immediately poured into the melted tin, and both kept continually stirring together, with an iron spatula, till the mass grows cold.

Aurum mosaicum.

Mosaic gold.

Take of Amalgam of Tin, six ounces ;

Sal Ammoniac,

Flowers of Sulphur, each three ounces.

Grind and mix them well together in a marble mortar : put the mixture into a cucurbit : place it in a sand-furnace, and apply at first a gentle heat, which is to be raised by slow degrees to the utmost. When the process is finished, break the vessel, and the mosaic gold will be found in the bottom, the scoriæ being sublimed upon the top thereof ^h.

Minium

^h The management of this process, so as to give to the preparation the beautiful colour and appearance for which it is admired, and from which it receives its name, has been held as a secret. The chemists seem greatly divided as to the proportion which the ingredients ought to bear to each other ; and in this some make the principal difficulty to consist ; while others place the whole upon the due regulation of the fire. Both these particulars are undoubtedly of consequence : but as much depends upon the due and perfect mixture of the ingredients, as upon either of the former circumstances. The process has always succeeded with us, though we have mixed the ingredients in very different proportions, and used no other caution than to rub them well together, to give a gentle fire for some time, and to continue a strong fire at last for a considerable while, according to the quantity of the mixture.

Few, if any, of the pharmaceutical writers seem to know what part of the above simples really enters this medicine, we shall therefore lay before the reader a short history of the process, with an examination not only of the mosaic gold itself, but likewise of the matters

Minium.

Red lead.

Take of Lead, what quantity you please.

Melt it in an unglazed earthen vessel, and keep it continually stirring with an iron spatula, till it changes into a powder, which will be at first somewhat blackish, but in a little time after grow yellow, and at length become
of

matters which sublime to the upper part of the vessel, and are generally neglected. This, we apprehend, will not only afford sufficient directions how to manage this operation to advantage, but likewise let us into the nature of the medicine itself.

The ingredients being duly mixed together, in the quantities set down above, were put into a flat bottomed matrafs with a wide neck, and the glass placed upon a little sand in an iron pot. A gentle fire was applied under it for some time: copious white fumes arose, and passed out at the neck of the glass, having a strong sulphureous smell. Upon these abating, the fire was gradually raised, till the sand became red hot: after the fire had been kept up in this degree for near an hour, it was suffered to decay, and the glass taken out as soon as it was grown cool: Upon breaking it, a bright, sparkling gold-coloured mass was found at the bottom; immediately above it was spread, beneath a saline crust, a thin dark-coloured substance, which being scraped off and rubbed, appeared of a red colour like cinnabar, which upon other trials it proved to be. The saline crust was of a dark hue, and seemed to taste more sharp than sal ammoniac; upon grinding a little fixed alkaline salt with it, it emitted an urinous smell: Above this, in the neck of the glass, was more of the same kind of substance, manifestly intermingled with sulphur.

The *aurum* being examined, appeared of one uniform colour and texture throughout, and weighed near four drams more than the tin employed. Upon roasting it in an iron ladle over the fire, and stirring it all the while, it smoked a little, and soon exchanged its golden hue for a dirty coloured one, not unlike tin when lightly calcined. This being mixed with a proper flux, and fused, yielded a lump of tin, which did not fall so far short of the original weight, as might have been reasonably expected.

of a very red colour, when it is called minium, or red leadⁱ.

If this be urged with a vehement fire, it runs into a vitreous mass:

From the foregoing account it appears, (1) That the quicksilver is united in this process with the sulphur into a true cinnabar; and that none of it is retained in the *aurum*.

(2) That the sal ammoniac sublimes from it entirely, and partly escapes at the orifice of the vessel.

(3) That the sulphur partly unites with the mercury, and partly escapes in fume, some small portion of it being retained by the tin.

Hence the quicksilver is of no farther use in this process, than as a medium to facilitate the mixture of the tin with the sulphur and salt, during the triture. It appears likewise, that great part of the sulphur is quite unnecessary; and that the salt can only be of use, as it may help to carry off the superfluous sulphur from the tin, and give it a bright appearance.

From the whole, we conceive, that this elaborate medicine is no more than a *calx of tin*, and that it may be used with safety as such, for medicinal purposes.

ⁱ The preparation of minium is so tedious and laborious, as scarce ever to be performed by the apothecary or chemist; nor indeed is it expected to be made by them. The intention therefore of setting down this process here (which is omitted in many other dispensatories) seems to be, that this part of the pharmacopœia may not appear imperfect, by the omission of any preparation in common use. The makers of this commodity 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 the means of iron rakes drawn backwards and forwards, till the fluidity of the lead is destroyed; after which the calx is only now and then turned. It is said, that twenty pounds of the metal gain in calcination into red lead, an increase of five pounds; and that this quantity of minium loses upon being reduced into lead again, one pound of the original weight of the metal employed.

Cerussa.

Cerusse, or white lead.

Take any quantity of very thin plates of Lead.

Suspend these in such a manner in an earthen vessel, at the bottom of which there is contained

A proper quantity of Vinegar, that the vapour which arises from the vinegar may circulate about the plates. Set the vessel in the gentle heat of horse-dung for three weeks: if at the end of this time, the plates are not totally calcined, scrape off from them the white powder, and expose the plates again to the steam of vinegar, till all the lead is corroded, and become a white powder¹.

Saccharum saturni.

Sugar of lead.

Take of Cerusse, Minium, or Litharge, what quantity you please.

Put it into a cucurbit, and pour thereon

of Distilled Vinegar, as much as will arise above the metal the height of four inches.

Digest them together for some days in a sand-heat, till the vinegar has acquired a sweetish taste, when it is to be suffered to settle, and then poured off. Add

* The making of white lead is a trade of itself, and confined to a few persons, who have large conveniencies for this purpose. The general method which they follow is nearly the same as above described; but if the reader desires farther satisfaction on this head, he may consult the account given in to the *Royal Society* by Sir *Philiberto Vernati* *. We must here caution the apothecary to be extremely careful in the choice of this commodity, which is frequently adulterated with whiting, an addition so foreign to the nature of cerus, as to render impracticable many of the processes directed to be made therewith. This may be easily discovered, by the perceptible difference which there is between the gravity of the two, the adulterated being much lighter than such as is genuine.

* *Phil. Transact.* No. 137.

310 PREPARATIONS of METALS.

fresh vinegar to the remainder, and repeat this process, till the menstruum no longer extracts any sweet taste. Then let all the impregnated liquors rest for some time, and after they have been poured from the feces, evaporate them in a glass vessel to the consistence of thin honey, so that upon being set in a cold place, the sugar may shoot into crystals, which are afterwards to be dried in the shade.

Exhale the remaining liquor to a pellicle; set it in the cold; and more crystals will shoot: repeat this process till no more sugar can be obtained by its means¹.

Mars solubilis, seu chalybs tartarizatus.

Soluble, or tartarized steel.

Take of Filings of Iron, unprepared,
 Crystals of Tartar, each equal parts;
 Rain-Water, a sufficient quantity to make
 the whole into a mass, which is to be formed into balls;
 these are to be baked in an oven, then ground to powder,
 and again made into balls

¹ Cerusse, especially that sort called in the shops *flake-lead* (as being least subject to adulteration) is much preferable either to minium or litharge for making sugar of lead; for the corrosion it has already undergone from the steam of vinegar, disposes it to dissolve more readily in distilled vinegar than any of the others. All the vessels employed for making this preparation should be of lead, as being not subject to the accidents of glass vessels, and free from the inconvenience which attends earthen ones, of absorbing a considerable quantity of the liquor, unless they are of a very compact and close texture. The cerus should be finely powdered before the vinegar is poured to it, and during the digestion, every now and then stirred up with a wooden spatula, in order to promote its dissolution, and hinder it from concreting into a hard mass at the bottom of the vessel. If a small quantity of spirit of wine be prudently added to the solution as soon as ever it is duly exhale, and the mixture suffered to grow cool by very slow degrees, the sugar will concrete into very large and transparent crystals, which are scarcely to be obtained by any other method.

With a fresh parcel of Water, and baked in an oven as before. Repeat this operation till you have reduced the ingredients to such a state, as that they can be easily ground into an impalpable powder ^m.

Mars sulphuratus.

Steel prepared with sulphur.

Take of Filings of Iron unprepared, as much as you please;

Sulphur in powder, twice that quantity;

Water, as much as will be sufficient to make them into a paste, which suffer to ferment for six hours: then put it into a crucible, and let it deflagrate: Afterwards let the matter be kept continually stirring with an iron spatula, till it falls into a deep black powder ⁿ.

^m After the mixture of iron and crystals of tartar has undergone two or three humectations and exsiccations, it will acquire a fine green colour, and being moderately triturated in an iron mortar, will almost all pass through a very fine sieve: if any remains, it should be mixed afresh with the finer powder, moistened again, and this repeated till the whole is reduced to an impalpable powder. This preparation is said originally to have been invented by Dr. *Willis*, by whose name it is usually distinguished in the shops: it is indisputably an elegant, though simple preparation of this metal. Some pharmaceutical writers use wine or spirit of wine, instead of the water here more judiciously ordered.

ⁿ Some pharmacopœias direct this preparation to be made by applying a roll of brimstone to a bar of iron, heated in a strong fire till it appears extremely white and throws out sparkles: the iron will soon melt upon the application of the sulphur, and run down in a stream, which may be caught by placing a vessel of water under it; the iron corroded by the sulphur will collect itself in round drops, and that part of the sulphur, which is not imbibed by the metal, will be found in long strings. This, though a very curious experiment, is a much more troublesome and offensive way of preparing iron with sulphur for medicinal uses, than that above directed.

This if farther urged in the fire, will assume a red colour, and is then called

Crocus martis aperiens.

Opening crocus of iron.

This preparation differs not from prepared steel gently calcined in a crucible, to redness.

Crocus martis astringens.

Astringent crocus of iron.

This is made from the Opening Crocus of Iron, by reverberating it for a long time in the most extreme degree of heat °.

Vitriolum martis, seu sal chalybis.

Vitriol of iron, or salt of steel.

Take of Oil of Vitriol, four ounces ;

Water, ten ounces.

Having gradually and cautiously put these liquors together, pour the mixture upon

Filings of Iron unprepared, three ounces.

Digest the whole in a cucurbit for twelve hours, that a solution may be made, which being filtered while hot, is to be evaporated to a pellicle, and then set in a cold place, till the vitriol has crystallized at the bottom of the vessel. The liquor being then poured off from the crystals is to be again evaporated to a pellicle,

° Whether the two foregoing preparations differ really so much from each other with regard to their effects on the human body, as to deserve to be distinguished by the two opposite appellations of *aperient* and *astringent*, is greatly to be doubted. The learned Dr. Stahl* delivers it as his opinion, that the common chalybeat preparations of the shops act only as astringents, and differ from one another in no other respect, than as they are more or less so.

* *Opusc. Chymico-physico-med.* Mens. Januar. 1698. cap. 4. p. 526.

and set to shoot as before. Collect all the crystals together, and dry them on a paper in the shade ^p.

Flóres martis. 38.

Flowers of steel.

Take Filings of Iron unprepared,
Sal Ammoniac in powder, of each equal parts.

Mix these ingredients well together, and suffer them to stand some time in a moist place. Having then put the matter into an earthen cucurbit, with a glass head, proceed to sublimation: first, a spirit of sal ammoniac will arise, which is to be caught in a receiver; then white flowers, which may be thrown away as useless; and at length yellowish red flowers, which are to be swept out of the head with a feather, and kept for use ^q.

A Tincture of Steel may be obtained from the caput mortuum, as also from the flowers.

^p Great care should be taken to chuse such iron for this preparation, as is perfectly free from copper or any venereal taint, otherwise the salt may turn out, even in a small dose, violently emetic. We recommend for this purpose fine bright iron wire: but if this be thought too dear, the common vitriol of iron may be exquisitely freed from copper, or any other foreign matters, by dissolving it in water, and then suffering the solution to stand for some time in a warm place exposed to the air; after which it is to be passed through a filter, and crystallised in the common manner.

^q This process may be considerably improved by thoroughly drying the mixture of iron-filings and sal ammoniac, with a gentle heat, before it is put into the subliming vessel. For thus the spirit, (which is in so small a quantity, and so weak, as not to be worth saving) being dissipated, the fire may be raised with such a degree of celerity, as will elevate a sufficient quantity of iron to give the flowers the colour and medical virtue intended; a circumstance not to be obtained by a languid sublimation. Some further methods of improving this process, may be seen in *Pract. Chem.* p. 55.

SECTION IV.

PREPARATIONS

OF

METALLIC MINERALS.

Mercurii solutio.

Solution of quicksilver.

TAKE of Pure Quicksilver.
 Double Aqua fortis, each equal quantities ^a.

Digest them together in a phial placed in a sand-heat, that a limpid solution may be made.

Mercurii calx.

Calx of mercury.

Take of the Solution of Quicksilver, what quantity you please.

^a The strength of aqua fortis is so precarious, that it is hardly possible to determine, without an experiment, how much thereof is requisite to dissolve a certain quantity of quicksilver, so as to procure a perfectly saturated solution. It is therefore convenient, in case the mercury should be entirely taken up by the quantity of acid above prescribed, to add occasionally a few drops of the former, till some remain undissolved by the menstruum in a boiling heat.

Evaporate

Evaporate it, over a gentle fire, to a white, dry mass.

Mercurius præcipitatus albus.

White precipitate of mercury.

Take of the Solution of Quicksilver, any quantity
at pleasure,

Pour upon it, by degrees, some
very strong Brine of Sea-salt,

till all the quicksilver is precipitated into a very white powder ^b, which is to be washed, upon a filter, with warm water, till the water comes off without any acrimony ^c. The powder is then to be placed between the folds of paper, and dried with a very gentle heat.

^b The white precipitate of mercury is usually directed to be made after this manner; but this prescription is rarely complied with. Some chemists substitute to it the next preparation (here called sweet precipitate of mercury, to distinguish it from the foregoing.) The white precipitate, as the commentator on the *London draught* observes *, is not only a very corrosive, but likewise a very unfrugal preparation; for sea salt, in whatever proportion it be added, will not entirely precipitate all the mercury from its solution: this may be made evidently to appear, by adding a small quantity of a solution of fixed alkaline salt, or volatile alkaline spirit, to the liquor which remains after the precipitate is fallen, when the liquor will again grow turbid, and let fall a considerable quantity of fresh precipitate. Mr. *Homberg* observes †, that if the acid spirit bears an over-proportion to the mercury, no precipitation at all will follow upon the affusion of the brine of sea-salt.

^c If this precipitate be washed too often with hot water, it will all entirely pass the filter. The same accident will likewise happen, if the brine employed at first to throw down the mercury, be suffered to stand too long upon the precipitate.

* *Pharm. Reform.* p. 86.

† *Mem. de l'Acad. roy.* 1700.

Mercurius præcipitatus dulcis.

Sweet precipitate of mercury.

Take of corrosive Mercury sublimate, what quantity
you please.

Diffolve it in

Hot Water, as much as is sufficient.

Gradually drop into the solution

Some Spirit of Sal Ammoniac,

as long as any precipitation ensues. Wash the white precipitated powder upon a filter, with several fresh parcels of warm water; and afterwards dry it for use^d.

Mercurius præcipitatus fuscus,
vulgo Wurtzii.

Brown precipitate of mercury,

commonly called Wurtz's precipitate.

Take of the Solution of Mercury, any quantity.

Gradually drop into it

of Oil of Tartar per deliquium, as much as
will be sufficient,

^d The entire solution of corrosive sublimate in water is much more difficultly effected than one would imagine. Hence some have been accustomed to mix a certain quantity of crude sal ammoniac along with the sublimate, which is by this means made easily and quickly to dissolve even in cold water. And it is upon this foundation that the college of London have now directed the following method of making their white precipitate.

“ Take of sal ammoniac and corrosive sublimate, each equal weights. Dissolve them together in water, filter through paper, and precipitate with a solution of any fixed alkaline salt; then wash the precipitated powder till it is perfectly sweet.”

A solution of two ounces of sal ammoniac and as much sublimate in three pints of water, required three ounces and a half of a strong lixivium of pure fixed alkaline salt. The precipitate, when washed and dried, was extremely white, and weighed a very little less than the sublimate employed.

that

that is, till the effervescence, which arises upon each affusion, ceases. A powder will be precipitated to the bottom, which is to beedulcorated as the foregoing^e.

Mercurius calcinatus, vulgo præcipitatus,
ruber.

*Red calcined mercury,
commonly called red precipitate of mercury.*

Take of the Calx of Mercury, as much as you please. Reverberate it in a crucible with successive degrees of heat. The white colour of the calx will by this means be changed first into a brown, and afterwards a yellow; at length, upon increasing the fire, it passes into a deep red powder^f.

Mercurius

^e This precipitate was more in use some years ago than at present, as a gentler emetic than the turbith mineral. It does not differ in strength or effects from the preceding preparation,

^f The preparation of red precipitate, as it is called, is by some supposed to be a secret not known to our chemists; and that hence we are under a necessity of importing it from other places. But this reflection seems to be entirely founded upon misinformation; for we have often seen it prepared in *London*, in great perfection, whether we regard its colour, lively sparkling appearance, or consider it as a medicine used by the surgeons. It is true, we sometimes receive great quantities from abroad; but this depends upon the price of the ingredients (which are commonly cheaper in *Holland* than here) not upon any secret in the preparation.

The aqua fortis employed by our chemists for this purpose, is that which comes over in the making of corrosive sublimate, or in its room common aqua fortis drawn over from a little sea-salt: the marine acid, which is in a small quantity in both these spirits, is said to dispose the calx to take the bright sparkling look admired in this preparation; but perhaps this and the colour depend as much at least upon the management of the fire, as upon any thing particular in the menstruum.

Mercurius præcipitatus viridis.

Green precipitate of mercury.

Dissolve four ounces of Sublimate Corrosive Mercury (previously reduced to powder) in a quart of hot water.

Digest an ounce and a half of Copper-flings with eight ounces of Spirit of Sal Ammoniac, in a matras, till a deep blue tincture is extracted.

Filter the tincture, and drop it by degrees into the mercurial solution. When the precipitate has fallen, evaporate in a sand-heat to dryness ^s.

Mercurius præcipitatus flavus,
feu turpethum minerale.

*Yellow precipitate of mercury,
or turpeth mineral.*

Take of pure Quicksilver, four ounces;
Rectified Oil of Vitriol, sixteen ounces.

Cautiously mix them together, and distill in a retort placed in a sand-furnace, to dryness. The white calx which is left at the bottom being ground to powder, and thrown into water, immediately grows of a yellow colour: wash this in fresh parcels of water renewed se-

The college of physicians of London have lately received the following process in their *pharmacopœia*.—"Take equal weights of purified quicksilver and of compound aqua fortis. Pour them into a vessel which has a wide bottom; place it in a sand-furnace, and apply a gradual fire, till the mass has lost all its humidity, and acquired a due degree of redness." The compound aqua fortis for this process is made by drawing over sixteen ounces of single aqua fortis from one dram of sea-salt.

^s This is not so much in use as formerly, though there is still some demand for it. The preparation was in the last edition a very rough medicine. It has been made after this form by our chemists for some time; and the college have very reasonably adopted it, as it is a much milder and safer preparation than the old one.

veral times, till it has lost all its acrimony; then dry it for use ^h.

^h The proportion which the vitriolic acid bears to the mercury in this prescription is too great: if the process be well managed, and the oil of vitriol be perfectly strong and good, somewhat less than two parts of this will effectually corrode one of the other. *Boerhaave* * directs this preparation to be made in an open glass slowly and gradually heated, and then placed immediately upon burning coals, with care to avoid the fumes, which are extremely noxious. This method will succeed very well, with a little address, when the ingredients are in small quantity: but when the mixture is large, it is better to use a retort placed in a sand-furnace, with a recipient luted to it, containing a small quantity of water. Great care should be taken, when the oil of vitriol begins to bubble, to steadily keep up the heat without at all increasing it, till the ebullition ceases, when the fire may be augmented to the utmost degree; for by how much the more perfectly the calx is exsiccated, by so much the greater will the yield of the turbith prove.

The edulcoration of this preparation, which is attempted by repeated ablutions with fresh water, does but ill succeed; especially if the vitriolic acid has been used in too large a proportion, or the calx not been duly exsiccated; in which cases, great part of the turbith will be taken up by the water, as will evidently appear upon pouring in a little solution of pure salt of tartar into the water employed for this purpose, which will occasion it to deposit a considerable quantity of yellowish precipitate, greatly resembling the former, except that it is less violent in its operation. The best method therefore of edulcorating this calx, so as to render it a medicine of a certain degree of strength, seems to be by impregnating the water intended to be used in its ablution with a determined quantity of fixed alkaline salt. By this means, we conceive the washed calx would not only be greater in quantity, but what is of more consequence, always have one equal degree of strength; a point which deserves particularly to be considered, especially in making such preparations, as from an error in the process may prove too violently corrosive to be used with any tolerable degree of safety.

* *Elem. Chem. process.* 199.

Mercurius sublimatus corrosivus.

Corrosive mercury sublimate.

Take Calx of Mercury,

Decrepitated Sea-salt, of each equal quantities.

Powder and mix these well together, and put them into a matrafs, of which they may fill nearly one half: place the vessel in a sand-furnace, and proceed to sublimation, applying at first a gentle heat, and afterwards gradually increasing it, till all the sublimate has arose in a white crystalline mass, to the upper part of the matrafs: separate this from the red scoriæ, and purify it, if needful, by a second sublimation¹.

¹ The compilers of this dispensatory, sensible of the great inconveniencies which attended the making of corrosive sublimate after the common method, introduced this simple and elegant one in the year 1722. Mr. *Boulduc* communicated to the royal academy of sciences at *Paris*, in 1730, another method equally as simple and practicable as this. We have not had competent experience to determine which of the two is the most advantageous: but as there is something extremely curious in the management of the latter, we shall insert the process, with some directions of our own.

Upon any quantity of pure quicksilver, in a retort, pour an equal weight of good oil of vitriol: draw off the phlegm, and that part of the acid which does not unite with the mercury: continue the distillation till the white mass at the bottom of the retort becomes perfectly dry: this being taken out, is speedily to be rubbed, in a glass mortar, with an equal weight of well dried common salt: Afterwards the mixture is to be set to sublime in a matrafs placed in a sand-furnace, with a gradual fire; at first, a few drops of moisture will appear in the neck of the glass; these are soon followed by saline spicula: at this time, the fire may be raised till all the sublimate is elevated; when the matrafs is to be immediately removed from the furnace, that the cold air may break it; this is more convenient than to let it cool gradually, and afterwards break it with a blow, which might occasion some part of the sublimate to fall down upon the caput mortuum.

Though

Mercurius sublimatus dulcis.

*Sweet mercury sublimate,
commonly called mercurius dulcis.*

Take of Sublimate Corrosive Mercury (ground in a glass mortar) four ounces ;
Pure Quicksilver, three ounces.

Mix them exquisitely together in a mortar, till the quicksilver ceases to appear ^k. Put the powder into an

Though both methods are admirably well contrived, they will not answer the purposes of trade, without a little farther management, to give the sublimate the appearance of a placenta, or cake, which it has in the shops. This form may be obtained very easily, when large quantities of the ingredients are employed, by placing the matras no deeper in sand than the surface of the matter contained in it, and removing a little thereof from the sides of the glass as soon as flowers begin to appear in the neck, when the heat should likewise be somewhat lowered, and not at all raised till the end of the process. The sublimation may be known to be completed, by the edges of the crystalline cake, which will form upon the surface of the caput mortuum, appearing smooth and even, and a little removed from it.

^k The trituration of corrosive sublimate with quicksilver, is a very noxious operation ; for it is almost impossible, by any care, to prevent the lighter particles of the former from arising, so as sometimes violently to affect the operators eyes and mouth. This inconvenience has occasioned this part of the process to be either slightly performed or neglected, though it is undoubtedly of the utmost consequence, unless supplied by digesting the ingredients together, till they are perfectly united, before the heat be raised so as to sublime them. It is indeed still necessary to pulverise the sublimate before the mercury is added to it ; but this may be safely performed, with a little caution ; especially if during the pulverisation the matter be now and then sprinkled with a little spirit of wine : this addition does not at all impede the union of the two ingredients, or prejudice the sublimation ; it is convenient not to close the top of the subliming glass with a cap of paper at first (as is usually practised) but to defer this till the mixture begins to sublime, that the spirit may escape.

oblong phial, of such a size, that only one third may be filled: set the glass in a sand-furnace, so as that the sand may reach up to one half its height. By degrees of fire successively applied, almost all the mercury will sublime, and adhere to the upper part of the vessel. The glass being then broken, and the red powder which is found in its bottom, with the whitish one which sticks about the neck, being thrown away, let the white mercury be again sublimed three or four times.

If this operation be repeated seven times, the preparation is called Calomel, or *Aquila alba* ¹.

Panacæa mercurii.

Panacæa of mercury.

Take of Calomel levigated, as much as you please;
Spirit of Wine, four times as much.

Digest them together in a sand-heat for twenty days, frequently shaking the vessel: then pour off the spirit, and dry the powder for use ^m.

Æthiops

¹ The notion that repeated sublimation, by the simple act of triture, wears away, or breaks, the points of the sublimate, on which its corrosiveness depends, is erroneous: for if this was true, sublimate corrosive itself would become mild barely by repeating the operation; which is manifestly contrary to all experience. The only method of dulcifying sublimate is, to add so much mercury to it, as may entirely satiate the acid spirit of sea-salt contained therein: triture and digestion are necessary operations to perform this effect, as they facilitate the combination of a sufficient quantity of mercury with the acid; while sublimation seems to be of no manner of use at all in the process; since either the union of the two ingredients is perfectly completed before it happens, or else remains so imperfect for want of a due degree of digestion, as to require a repetition of the whole process.

^m This preparation differs very little, if at all, from good *mercurius dulcis*: for as Mr. *Lemery* observes, the spirit of wine does not dissolve any part of the calomel. Some chemists therefore have recommended a proof spirit, or common water, as more suitable for
this

Æthiops mineralis.

Æthiops mineral.

Take Quicksilver,

Flowers of Sulphur, of each equal parts.

Grind them together in a glass mortar, with a glass pestle, till the mercurial globules entirely disappearⁿ.

Mercurius saccharatus.

Mercury prepared with sugar.

Take of Pure Quicksilver,

Brown Sugar-candy, each half an ounce ;

Distilled Oil of Juniper, sixteen drops.

Grind them together, in a glass mortar, till the mercury entirely disappears^o.

Crocus

this purpose than rectified spirit of wine: but the matter is not much mended by this alteration; at least, there is no danger that either of these liquors should deprive this medicine so far of its saline parts, as to render it not different from a white indolent earth; for the spirit of salt and mercury are so closely united to each other by the foregoing process, as not to admit of any separation by the means here proposed.

ⁿ The union of the mercury with the sulphur may be greatly facilitated by the assistance of a little warmth. Hence some are accustomed to make this preparation in a more expeditious manner, by melting the sulphur in an iron ladle over a gentle fire, and then adding the quicksilver, and stirring them together till the mixture is completed. Many persons condemn this practice, and particularly order the *æthiops* to be made without fire, which is fondly supposed to make a disagreeable impression upon this medicine. But surely the small degree of heat here required cannot reasonably be supposed to injure substances which have already undergone much greater fires, and which are more perfectly united by its means, than by the triture which is usually bestowed on them.

^o The college have dropt the *Mercurius alcalizatus*, the labour of making which was a great temptation to a grievous abuse. The addition of the chemical oil in the preparation here given is not only convenient to promote the extinction of the mercury,

Crocus metallorum.

Saffron of metals.

Take Antimony,

Nitre, of each equal quantities.

Grind them separately to powder, then thoroughly mix and inject them into a red hot crucible ^P: when the detonation is over, separate the reddish metallic matter from the whitish crust, and edulcorate it with water ^Q.

Antimonium diaphoreticum nitratum,
Nitrated diaphoretic antimony with nitre.

Take of Antimony, half a pound ;

Nitre, a pound and a half.

Having reduced them separately to powder, mix them together, and inject the mixture by a spoonful at a time, into a red hot crucible. When the detonation is over, let the white mass be calcined in the fire for half an hour. The powder ^r is to be kept in a glass vessel closely

but necessary to prevent its separation from the sugar, and running into its original form, which it constantly did upon the sugars being dissolved in water.

^P The nitre intended for this preparation should be carefully dried before it is mixed with the antimony: this caution makes the subsequent fusion equable and perfect, and prevents any danger which might otherwise arise to the operator from injecting a powder containing a portion of aqueous moisture upon some of the mixture already made fluid by the heat.

^Q The edulcoration here ordered, though often neglected, is a necessary part of this process. The mass should be first reduced to a fine powder, then boiled for some time in water, and afterwards washed with repeated affusions of more water, till such time as the liquor comes off insipid. The use of this edulcoration is to render the medicine as much as possible of one certain strength.

^r The matter which remains after the calcination is performed, will not appear in the form of a powder, as might be expected from the appellation above, but in that of a spongy coherent mass, which is to be reduced to a powder in a marble or glass mortar.

The

closely stopp'd.

Antimonium diaphoreticum dulce.

Sweet diaphoretic antimony.

To the Nitrated Diaphoretic Antimony, reduced to powder, pour as much water as will rise above it some inches. Digest them together for a night, and then pouring off the water add fresh: Repeat this ablution five or six times.

The several washings being all mixed together, then filtered, and evaporated over a gentle fire till a cuticle appears, yield in the cold

Nitrum stibiatum.

Antimoniated nitre,

The chemists take the matter out of the crucible with an iron spatula, as soon as ever it is calcined, and throw it by little and little, while hot, into a vessel full of cold water, in which it falls to powder.

* Authors are much divided about the virtue of this preparation of antimony; many chemists, and some physicians of great authority, affirming, that it is good for nothing, as it has no sensible operation. But if the common observation of this calx proving emetic after being for some time exposed to the air, be well founded, it should follow, that the powers of the reguline part are not entirely destroyed; but that it has the virtues of other antimonial preparations which are given as alteratives, that is, in such small doses as not to stimulate the *primæ viæ*. The mild preparations of antimony, the stronger ones in very small doses, and even crude antimony finely levigated, seem to operate by promoting insensible perspiration, by which means they produce changes not to be expected from more violent sudorifics. Their effects are very sensible in many cutaneous diseases, which is not unknown to the farriers. Diaphoretic antimony therefore, as it is certainly among the mildest preparations of that mineral, may be useful for children, and such delicate constitutions where the stomach and intestines are easily affected. I know no reason for retaining the preparation unwashed; for if any good is expected from the salt, the *nitrum stibiatum*, (or *sal polychrest*, from which it scarcely differs) may be more commodiously employed by itself.

Regulus antimonii.
Regulus of antimony.

Take Antimony,
Nitre,
Crude Tartar, of each equal parts.

Grind them separately into a powder, then mix, and rub them all together. Inject the powder at several times into a red-hot crucible, taking care to break the crust, which forms on the top, with an iron rod: when the detonation is over, let a large fire be made, that the matter may flow like water: then pour it out into a warm greased cone, and gently strike it on the sides, that the regulus may be separated, and fall to the bottom. When all is cold, let the regulus be freed from the scoriæ which lie a-top of it †.

Regulus antimonii martialis.
Martial regulus of antimony.

Take Antimony,
Nitre,
Crude Tartar, of each one pound;
Small pieces of Iron, half a pound.

† Regulus of antimony is so rarely, if ever, at present made use of in medicine, that we should conceive this process is inserted here as preparatory to the golden sulphur of antimony, for the making of which the ingredients seem better proportioned than for the former. It is convenient to mix the nitre and tartar together, and deflagrate them in an iron ladle or pan, before their mixture with the antimony; for by this means the otherwise unavoidable loss of some part of the antimony, which always happens from the vehemence of the deflagration, will be prevented, a smaller crucible serve, and less time and labour complete the process.

The yield of regulus of antimony, which the ingredients proportioned as above afford, is extremely small; and if the fusion be continued for any length of time, will scarce be perceptible. If this therefore be the thing principally desired, the ingredients must be adjusted to one another in a somewhat different proportion. See *Pract. Chem.* p. 104.

To the iron heated in a crucible to a white heat, add gradually the other ingredients first powdered and mixed together; and proceed in the same manner as in the foregoing process.

If this regulus be melted a number of times with fresh Nitre and Tartar, it becomes

Regulus antimonii stellatus.
Stellated regulus of antimony ^u.

Sulphur auratum antimonii.
Golden sulphur of antimony.

Take of the Scorïæ of Regulus of Antimony, as much as you please.

Reduce them to powder while warm, and boil them for a considerable time in

thrice their quantity of Water.

Filtre the yellowish-red solution through paper, then drop into it

A sufficient quantity of Spirit of Vitriol;

A powder will be precipitated, which is to be washed in water till perfectlyedulcorated, and freed from its ill smell ^w.

Butyrum

^u If the reader desires full instructions for conducting this process to advantage, he may consult *Pract. Chem.* pag. 108, 109.

^w This preparation of antimony is emetic when taken on an empty stomach, but in the present practice is never prescribed for that purpose, being always given as an alterative deobstruent, especially in cutaneous diseases, and as such it is ordered by the college as an ingredient in the *pilulæ æthiopicæ*. Its emetic quality is easily blunted by making it up into pills with resins or extracts, especially if taken on a full stomach. With these cautions, I have been credibly informed, it has been increased to the rate of sixteen grains a day, for a considerable time, without occasioning any disturbance upwards or downwards. The *kermes mineral*, or *Carthusian powder*, which made such a noise in *France* some years ago, is a milder preparation of this sulphur, but nothing better, nor is *Angelus Sala's* troublesome preparation to be preferred to it. Though all go by

Butyrum antimonii.

Butter of antimony.

Take Antimony,

Sublimate corrosive Mercury, of each equal parts.

Grind them first separately, then thoroughly mix them together, taking the utmost care to avoid the vapours. Put the mixture into a coated glass retort (having a short wide neck) so as to fill one half of it: the retort being placed in sand, and a receiver adapted to it, give at first a gentle heat, that only a dewy vapour may arise from the matter; the fire being then increased, an oily liquor will ascend, and congeal in the neck of the retort, appearing like ice, which is to be melted down by a live coal cautiously applied.

This oily matter is to be rectified in a glass retort, into a pellucid liquor *.

Cinnabaris

the name of sulphur, they owe their efficacy to the reguline part *, which is more or less cruſted over with a hepar sulphuris, as *Geoffroy* obſerves in his analysis of *Kermes mineral* †. The pure sulphur of antimony differs nothing from common sulphur ‡.

* The directions given with this dangerous process are every way worthy of the great skill which the compilers of this dispensatory have continually shewn whenever necessary. But from some late experiments it appears, that the proportions of the two ingredients to each other may be better adjusted. The college of *London*, in their admirable new *Pharmacopœia*, allot two parts of sublimate to one of antimony (though this proportion of the former, according to *Dr. Stahl* ‖, is still too little) and have received the common method of letting the saline concrete, which adheres to the neck of the retort, run into a liquor by exposing it to a moist air,

* *Pract. Chem.* p. 207.

† *Mem. de l'Acad. roy.* 1735.

‡ *Hoffm. Obs. Physico-Chym.* Lib. iii. Obs. 2. *Pharmacop. Reform.* pag. 94.

‖ *Fundament. Pharm. Chym.* P. 2. Sect. ii. Art. iv. § 12.

Cinnabaris antimonii.

Cinnabar of antimony.

As soon as the red vapours in the foregoing process begin to appear, change the receiver, without luting the junctures, and increase the fire till the retort becomes intensely red hot: in an hour or two, the whole of the black powder will be sublimed, and its colour changed into red. Then break the retort, and diligently separate the cinnabar, which will be found in its neck, from the black scoriæ ^v.

Mercurius

as less troublesome than the redistillation ordered above: nor can any objection be well made to this alteration; for although the liquor obtained by deliquation is less corrosive than that by distillation, yet it is sufficiently so for the purposes here intended.

^v The celebrated *Frederic Hoffmann* * is of opinion, that this cinnabar of antimony, as it is called, which is not to be procured but with great expence and trouble, is not preferable to the common factitious cinnabar of the shops: We shall therefore insert in this place the most convenient method which we are acquainted with of making the latter.

Take of the purest rough sulphur, or in its room flowers of sulphur, one pound. Melt either of these, over a gentle fire which does not flame, in an iron pot capable of holding six or eight times the quantity. As soon as all the sulphur is become fluid, remove it from the fire, and pour to it three pounds and a half of quicksilver previously made nearly as hot as the melted sulphur: stir these two together with a warm iron spatula, using a brisk and continued motion, till such time as the quicksilver disappears, and the mixture grows consistent, which it does of a sudden, although the heat should be somewhat greater than is sufficient to keep sulphur fluid: when this phenomenon happens, the stirring is to be left off, and the vessel immediately close covered with a wooden cover fitted to it, so as to prevent the least admission of air, which might otherwise occasion the sulphur to take fire, and sometimes explode with great vehemence. When the pot is grown somewhat less hot,

* *Obs. Physico-Chym. Lib. iii. Obs. 2.*

Mercurius vitæ.

Mercury of life.

Take of Rectified Butter of Antimony as much as
you please.

Pour to it

of Spring Water a sufficient quantity,

That an exceeding white powder may be precipitated,
to be edulcorated by repeated affusions of warm water,
and dried with a slow fire ^z.

Bezoar-

it may be uncovered, and the mixture ground while warm with an iron pestle, into a powder; though this triture is not necessary, unless some of the quicksilver appears, when it should be continued till the union is compleated. This preparation may be sublimed either in a common bolthead placed in a sand-furnace capable of giving a strong fire, or more commodiously in a coated bolthead with an open fire; the heat in both cases must be so strong as to make the bottom of the glass red-hot, and continued until upon introducing a wire through the neck, none of the mixture is felt at the bottom.

The preparers of cinnabar in large quantities employ earthen vessels, which in shape pretty much resemble an egg: these are of different sizes, according to the quantity of cinnabar intended to be made at one sublimation, which sometimes amounts to two hundred weight. The jar or subliming vessel is usually coated from the smaller end almost to the middle, to prevent its breaking from the vehemence or irregularity of the fire: the greater part, which is placed uppermost, not being received within the furnace, has no occasion for this defence. The whole secret with regard to this process, is (1.) the regulation of the fire, which should be so strong, as to keep the matter continually subliming to the uppermost part of the jar, without coming out at its mouth, which is to be covered with an iron plate. (2.) To put into the subliming vessel only a few pounds of the mixture at a time, to prevent unnecessarily taking up room, and employing a greater fire than is otherwise wanted.

^z The water which is first poured to the butter of antimony, if not in too large a quantity, will, by standing some time upon it, become
considerably

Bezoardicum minerale.

Bezoar mineral.

Take of Butter of Antimony newly rectified, what quantity you please.

Gradually drop into it

Spirit of Nitre,

till the effervescence ceases.

Draw off the liquor, in a glass vessel placed in a sand-heat, till a dry powder remains behind; to which add

A little fresh Spirit of Nitre,
and again exsiccate it.

Repeat this three times; then commit the powder, in a crucible, to a naked fire, till it has received almost a white heat, and detain it in this state for half an hour^a.

Bezoar-

considerably acid, while the white powder which precipitates, as *Le Mort** observes, appears interspersed with a vast number of very minute crystals. This preparation has not, as its name should seem to imply, any thing of mercury in it; but is solely composed of the reguline parts of antimony corroded by the acid spirit of sea-salt, which are so closely joined together, as not to be entirely separated by repeated affusions of water. Hence the abovementioned author † directs some salt of tartar to be dissolved in the water with which this powder is washed, to destroy the corrosive quality thereof. Several other methods have been proposed for correcting and abating the force of this violent emetic: but as we have much safer medicines capable of fully answering every intention which this can be supposed to do, the common practice has deservedly rejected its use.

^a This preparation may be easier made by dropping butter of antimony into three or four times its weight of spirit of nitre, and then distilling the mixture in a retort till a dry white calx is left at the bottom, which is afterwards to be calcined as above directed.

* *Chym. Medico-Phys.* cap. xix. p. 221.

† *Ubi supra.*

Bezoardicum joviale.

Jovial bezoar.

Take of Regulus of Antimony, three ounces.

Melt it in a crucible, and add thereto

of the purest Tin, two ounces,

so as to make a new regulus; to which, after being levigated, add

of Sublimate Corrosive Mercury, five ounces.

Distill the mixture in a retort. Let the butter arising from this operation be fixed by three repeated distillations, with

thrice its own quantity of Spirit of Nitre.

The powder is then to be calcined, thrown, while ignited, into a proper quantity of

Spirit of Wine,

and afterwards dried for use ^b.

Bezoar mineral has been formerly held in great esteem, but its reputation is at present almost lost. At bottom it seems not to differ from some other preparations which are made at an easier rate, and which are said to be frequently vended for it.

^b The regulus of antimony is with singular judgment directed to be melted previously to the addition of the tin; for thus the dissipation of the latter, which would necessarily happen if they were both put into the crucible together, from the great heat requisite for the fusion of the former, is prevented. As soon as the tin melts, stir the mixture with a hot iron rod, and immediately pour it into a warm cone ready smoaked or greased. The proportion which these ingredients bear to each other in the matter which arises and concretes in the retort, is scarce to be determined without an experiment; we should conceive that the tin is the largest of the two. The use of the spirit of nitre is to dislodge the acid of sea salt from the matter, which likewise is in its turn separated by the subsequent distillation and calcination above directed: so that at the bottom, the medicine is probably no other than a calx composed of the regulus and tin, not greatly differing from the subsequent preparation; whether its medicinal virtues are so great as to deserve the trouble of this process, we will not pretend to determine: it is at present in so little esteem, as to become almost a stranger to the shops.

Antihecticum Poterii.
Poterius's antihæctic.

Take of Martial Regulus of Antimony, six ounces.
 The best Tin, three ounces.

Melt these together in a crucible; then pour them out into a warm greased mortar; when the mass is grown cold, grind it into a powder, to which add thrice its weight of the purest Nitre.

Deflagrate the mixture in a crucible by a spoonful at a time; then calcine it for the space of an hour; and having afterwards ground it into an impalpable powder, pour thereon

A sufficient quantity of Warm Water.

Stir them well together with a pebble, till the water grows milky; which being thus loaded with the finer parts of the powder, is to be poured off, and fresh Water put on the remainder: repeat this operation so often, till nothing but insoluble fæces remain behind. Then suffer all the milky liquors to rest, when a powder will fall to the bottom, which is to be washed with repeated affusions of warm water, and then dried for use ^c.

Vitrum

^c The regulus of antimony should be melted before the tin is put to it, for the reason given in the preceding note: the remaining part of the process is set down with so great fullness and accuracy, that the operator cannot possibly make any mistake in it.

The chemists have been greatly divided in their sentiments with regard to the proportion which the tin ought to bear to the regulus of antimony: Some vary so much from the above prescription, as to order two parts of the former to one of the latter: others proceed so far as to direct six parts of tin to one of the regulus. Nor have they agreed upon the colour which this medicine ought to have, some preferring that which is perfectly white; while others look upon a bluish tinge as a mark of the proportions being duly observed, and the process regularly performed. Nor do practical physicians differ less with regard to the account which they give of the medical virtues of this celebrated preparation: some extol it

Vitrum antimonii.

Glass of antimony.

Take of Antimony reduced to powder, one pound:

Calcine it over a gentle fire, in an unglazed earthen vessel, keeping it continually stirring with an iron spatula, till the fumes cease, and the antimony is reduced into a grey powder. Melt this powder in a crucible with an intense fire, and pour out the liquefied matter upon a heated copper-plate ^d.

Vitrum

as an excellent diaphoretic *, &c. others are ready to vouch that it has done most eminent service in hectical cases, while many of no small note are confident that it has none of the virtues attributed to it, and utterly condemn it as unsafe, and capable of producing the very disorders said to be remedied by its use †. Thus much we may venture to assure the reader, that this preparation will vary considerably in the appearance of its colour, &c. as certain circumstances not usually attended to by every operator, happen. It should therefore seem prudent, to drop, as the present practice has almost already done, so precarious a medicine, whose virtues are at best suspected.

^d The calcination of antimony, to fit it for making a transparent glass succeeds very slowly, unless the operator be very wary and circumspect in the management of it; and is not a little offensive, unless the fire and calcining vessel be well disposed. We shall therefore subjoin a few rules for conducting the process with success.

The most convenient vessel is a broad shallow dish, or a flat smooth tile: either of these is to be placed over a gentle fire, which can be occasionally raised, so as to make the vessel red hot; and the whole apparatus is to be so disposed, as that the fumes which arise during the calcination may readily pass up a chimney. The antimony designed for this purpose should be the purer sort, such as is usually found at the apex of the cones. This being grossly powdered, is to be evenly spread over the bottom of the pan, so as not to lie above a quarter of an inch thick upon any part. The degree of fire employed at first, should be only such as will raise a fume from the antimony, which

* *Hoffm. Med. rat.* T. iv. P. I. p. 674. *Hoffm. ad Poter.* p. 297.

† *Stahl ars sanandi cum expectatione*, c. 6. *Juncker Conspect. Med. Schulz. Prælect. de virib. medicament.* &c.

Vitrum antimonii ceratum.

Glass of antimony prepared with wax.

Upon a dram of Yellow Wax melted in an iron vessel, inject an ounce of Glass of Antimony previously reduced to powder. Detain the matter over a gentle fire for half an hour, keeping it continually stirring; then pour it out upon a paper, and when cold grind it into powder^c.

Tartarus

is every now and then to be stirred with a smooth iron spatula. When the fumes begin to decay, the fire is to be increased, care being taken not to make it so great as to melt the antimony, or run the powder into lumps: After some time, the vessel may be made red hot: in which state it is to be kept, till the matter will not, upon being stirred, any longer fume. If this part of the process be rightly conducted, the antimony will appear in an uniform powder, without any lumps, and of a grey colour.

With this powder fill two thirds of a crucible: cover it with a tile, and place it in a wind-furnace; gradually increase the fire till the calx is in perfect fusion, when it is to be now and then examined, by dipping a clean iron wire into it: if the matter which adheres to the end of the wire upon removing it, appears smooth and equally transparent, the vitrification is compleated, and the glass may be immediately poured out upon a hot smooth stone or copper-plate, and suffered to cool by slow degrees, to prevent its cracking and flying to pieces.

The glass of antimony usually to be met with in the shops, is said to be prepared with certain additions, which may perhaps render it not so fit for the purposes here designed, and which has occasioned our being the more exact in delivering the process.

* This uncommon preparation of the glass of antimony has for some time been held as a specific in dysenteries. Several extraordinary cases, in which this medicine had a surprising good effect, are published in the *Medical Essays* of a society at *Edinburgh* *, with the original receipt, as communicated by Dr. *Young*, together with some observations, a short extract of which we shall here present the reader.

The Dr. observes, that the quantity set down above, lost one dram of its weight in the preparation; and that the glass melts in the wax

* *Abridg. vol. 1. p. 193.*

Tartarus emeticus.

Emetic tartar.

Take of Creme of Tartar, four ounces,
 Glafs of Antimony, in powder, two ounces.

Boil them together in
 two quarts of Water,

for ten hours, stirring them frequently with a spatula, and adding more water as there shall be occasion. Filter the solution while warm, and evaporate it to dryness; or only till a pellicle appears, that it may shoot into crystals^f.

with a very slow heat. After it has been about twenty minutes on the fire, it begins to change its colour, and in ten more comes near to that of snuff, which is a mark of its being sufficiently prepared. The dose of this medicine is from two or three grains to twenty, according to the age or strength of the patient. In its operation, it makes some patients sick and vomit; it purges almost every person; but has been known to effect a cure, without occasioning any sensible evacuation or sickness.

Mr. *Geoffroy* † gives two pretty singular preparations of glafs of antimony, which seem to have some affinity with the above: the first is made by burning spirit of wine upon it three or four times, the glafs being every time exquisitely rubbed upon a marble: the dose of this medicine is from ten grains to twenty or thirty: it operates mildly both upwards and downwards, and sometimes proves sudorific.

The other preparation is made by digesting glafs of antimony most subtilly levigated, in a solution of half an ounce of mastich made in spirit of wine, for three or four days, now and then shaking the mixture, and at last evaporating the spirit, so as to leave the mastich and glafs exactly mixed. Glafs of antimony thus prepared is not emetic, but acts merely as a cathartic: the dose is six grains in powder.—This last process is imperfectly set down, as the quantity of the glafs is omitted.

^f This way of making emetic tartar with the glafs of antimony has been practised by our chemists for some time, chiefly on account of the colour, which is whiter than when made with the *crocus metallorum*.

† *Mat. Med. tom. 1. p. 223.*

A P P E N D I X.

T H E

DISPENSATORY

For the U S E of the P O O R,

In the

ROYAL HOSPITAL at *Edinburgh.*

Z

To

A P P E N D I X
1795
To the R E A D E R.

I N preparing and compounding the following medicines, the rules laid down in the *Edinburgh Pharmacopœia* are to be observed, unless where the formula is entirely new, or some particular exception is made.

The officinal preparations are contained in the notes of the preceding book. The extemporaneous follow, under general heads.

Aquæ per infusionem.

Waters by infusion.

Aqua benedicta composita.

Compound lime-water.

THIS water is made in the same manner as directed in page 123, only omitting the syrup.

Aqua picea.

Tar-water.

Take of Tar, two pounds;

Spring-water, one gallon.

Stir them briskly together with a wooden spatula or stick; let the mixture stand to settle for two days; and then pour off the clear liquor for use.

Boli.

Bolusses.

Bolus alexetereus.

Alexetereal bolus.

Take of Virginian Snake-root, fifteen grains;

Castor, ten grains;

Camphor, three grains;

Syrup of Sugar, as much as is sufficient.

Mix the whole together, so as to make them into a bolus.

Bolus e castoreo.

Bolus of castor.

Take of Castor, one scruple;

Volatile Salt of Hartshorn, five grains,

or Distilled Oil of Hartshorn, five drops;

Z 2

Syrup

Syrup of Sugar, a sufficient quantity.

Mix and make them into a bolus.

Bolus diaphoreticus.

Diaphoretic bolus.

Take of the Compound Powder of Contrayerva,
Crude Sal Ammoniac, each one scruple ;
Syrup of Sugar, as much as is sufficient.

Mix them into a bolus.

Bolus diureticus.

Diuretic bolus.

Take of White Soap, two scruples ;
Distilled oil of Juniper, from ten to twenty
drops.

Mix them together.

Bolus guaiacinus.

Bolus of guaiacum.

Take of Extract of Guaiacum, two scruples ;
Volatile Salt of Hartshorn, seven grains ;
Syrup of Sugar, as much as is sufficient.

Mix and make them into a bolus.

Bolus jalappæ cum mercurio.

Bolus of jalap with mercury.

Take of Choice Jalap, one scruple ;
Calomel, from five to ten grains ;
Syrup of Sugar, a sufficient quantity.

Mix them together into a bolus.

Bolus mercurialis.

Mercurial bolus.

Take of Calomel, from five to fifteen grains ;
Conserve of Roses, half a dram.

Make them into a bolus.

Bolus pectoralis.

Pectoral bolus.

Take of Sperma Ceti; fifteen grains ;

Gum Ammoniacum, ten grains;
 Volatile Salt of Hartshorn, seven grains;
 Syrup of Sugar, a sufficient quantity.

Mix, and make them into a bolus.

Bolus rhei cum mercurio.
Bolus of rhubarb with mercury.

Take of Choice Rhubarb, twenty-five grains;
 Calomel, five grains;
 Syrup of Sugar, as much as will be sufficient to bring them into the consistence of a bolus.

Bolus theriacalis.
Treacle-bolus.

Take of Theriaca, two scruples;
 Volatile Salt of Hartshorn, seven grains;
 Camphor, three grains.
 Mix, and make thereof a bolus.

Cataplasmata.
Cataplasms.

Cataplasmata emolliens.
Emollient cataplasm.

Take of the Crumb of Bread, eight ounces;
 White Soap, one ounce;
 Fresh Cows-Milk, a sufficient quantity.
 Boil them a little.

Cataplasmata suppurans.
Suppurating cataplasm.

This is made by adding to the foregoing cataplasm,
 of Onions bruised, one ounce and a half.
 Basilicon Ointment, one ounce.

Cataplasmata theriacale.
Treacle-cataplasm.

Take of Theriaca, one ounce;
Expressed Oil of Mace, two drams.

Mix them together.

This cataplasm is to be moistened, immediately before its application, with a little of the Saline Aromatic Spirit.

Cataplasmata theriacale camphoratum.

Camphorated treacle-cataplasm.

Take of Theriaca, one ounce;
Camphor, one dram.

Mix them together.

Cervisiæ medicatæ.

Medicated ales.

Cervisia aperiens.

Aperient ale.

Take of whole Mustard-feed, ten ounces;
Long Birthwort-roots, six ounces;
Tops of lesser Centaury, two ounces;
Savin, one ounce;
New small Ale, ten gallons.

Cervisia cephalica.

Cephalic ale.

Take of Wild Valerian-root, ten ounces;
Whole Mustard-feed, six ounces;
Virginian Snake-root, two ounces;
Rosemary, or Sage, three ounces;
New small Ale, ten gallons.

Cervisia diuretica.

Diuretic ale.

Take of Whole Mustard-feed,
Juniper-berries, each eight ounces;
Seeds of wild Carrot, three ounces;

Common

Common Wormwood, two ounces ;
New small Ale, ten gallons.

Cervisia ad scorbuticos.
Antiscorbutic ale.

Take of fresh Horse-radish roots, twelve ounces ;
Roots of sharp-pointed Dock, six ounces ;
Canella alba, two ounces ;
Water Trefoil, fresh gathered, eight ounces ;
or of the same plant dried, three ounces ;
Common Wormwood, one ounce ;
New small Ale, ten gallons.

Collyria.

Collyriums.

Collyrium album.
White collyrium.

Take of Rose-water, six ounces ;
White Troches, one dram ;
White Vitriol, ten grains.
Mix them together, according to art.

Collyrium aluminosum.
Alum-collyrium.

Take of Roch Alum, half a dram ;
The white of one Egg.
Shake them well together.

Decocta.

Decoctions.

Decoctum album.
White decoction.

Take of the Compound testaceous powder, six drams ;
Z 4 Gum

Gum Arabic, three drams ;
Water, three pints.

Boil till one pint of the water is wasted ; then add to the turbid decoction

of Aromatic Water, one ounce.

White Sugar, two drams.

Mix the whole together.

Decoction antihecticum,
Antibellie decoction.

Take of the Roots of Comfrey,

Eryngo, each half an ounce ;

Conserve of Roses, two ounces ;

Water, three pints.

Boil these ingredients together, till there remains a quart of liquor after straining ; to which add of sweet Spirit of Vitriol, forty drops.

Decoction astringens.
Astringent decoction.

Take of Tormentil-roots, one ounce ;

Pomegranate-peel,

Plantane-leaves, each half an ounce ;

Water, three parts.

Boil them to the consumption of one pint of the water, adding towards the end of Cinnamon, one dram.

Strain out the decoction, and mix with it of Syrup of dry Roses, one ounce.

Decoction bardanæ.
Decoction of burdock.

Take of the roots of greater Burdock, two ounces ;

Water, three pints.

Boil till there remains a quart of liquor after straining, to which add

of Vitriolated Tartar, one dram ;

White Sugar, half an ounce.

Decoction

Decoction campechense.

Decoction of logwood.

Take of Chips of Logwood, three ounces ;
Water, two quarts.

Boil them to the consumption of one half of the liquor, adding towards the end of the boiling,
of Cinnamon, two drams.

Strain out the decoction for use.

Decoction commune.

Common decoction.

Take of Mallow-leaves,
Camomile-flowers, each one ounce ;
Water, three quarts.

Boil till one quart of the liquor is wasted: then strain out the remaining decoction for use.

Decoction diureticum.

The diuretic decoction.

Take of the Roots of Parsley, or those of Fennel,
one ounce ;
Seeds of wild Carrot, three drams ;
Pellitory of the Wall, half an ounce ;
Raisins of the Sun, two ounces ;
Water, three pints.

Boil them together, till there remains a quart of liquor after straining; to which add
of Nitre, one dram.

Decoction hordei.

The barley-decoction.

Take of Pearl Barley, two ounces ;
Water, three quarts.

Boil them till one quart of the liquor is wasted ; then strain out the decoction for use.

Decoction serpentariæ compositum.

Compound decoction of snake-root.

This decoction is made in the same manner as described in page 151, only exchanging the syrup of meconium for one ounce of white sugar.

Decoction

Decoctum tamarindorum cum sena.

Decoction of tamarinds with sena.

This decoction is made in the same manner as that in page 151, only exchanging the syrup of Violets for syrup of Pale Roses.

Decoctum vulnerarium.

Vulnerary decoction.

Take of the herb Ground-ivy,
Leaves of Plantane, each half an ounce ;
Water, three pints.

Boil them till there remains a quart of liquor after straining, to which add
of white Sugar, half an ounce.

Electuaria.

Electuaries.

Electuarium antidyfentericum.

Antidyfenteric electuary.

Take of the Strengthening Confection, one ounce ;
Balsam of Locatelli (dissolved in the
yolk of an egg) half an ounce.
Mix them together.

Electuarium antidyfentericum cum rheo.

Antidyfenteric electuary with rhubarb.

Add to the foregoing electuary
of choice Rhubarb in powder, one dram and
a half ;
Syrup of Marshmallows, as much as will be
sufficient to give the whole the consistence of an elec-
tuary.

Electuarium balsamicum.

Balsamic electuary.

Take of Conserve of Roses, two ounces ;

Balsam

Balsam of Locatelli (dissolved in the yolk of
an egg) one ounce.

Mix, and make them into an electuary.

Electuarium cephalicum.

Cephalic electuary.

Take of Wild Valerian-root.

Mistletoe of the oak, each one ounce;

Syrup of Sugar, a sufficient quantity.

Make them into an electuary.

Electuarium hæmorrhoidale.

Electuary against the piles.

Take of Lenitive Electuary, two ounces;

Flowers of Sulphur, half an ounce.

Make thereof an electuary.

Electuarium ad nephriticos.

Nephritic electuary.

Take of Lenitive Electuary, one ounce and a half;

Venice Turpentine (dissolved in the yolk of
an egg) one ounce;

Oyster-shells prepared, half an ounce;

Choice Rhubarb, one dram;

Syrup of Marshmallows, a sufficient quantity.

Mix all these ingredients together, and make them
into an electuary, according to art.

Electuarium Peruvianum febrifugum.

Febrifuge electuary of the bark.

Take of Peruvian bark, one ounce;

Crude Sal Ammoniac, one dram;

Syrup of Lemon-juice, as much as will
make the other ingredients into the consistence of an
electuary.

Electuarium Peruvianum roborans.

Strengthening electuary of the bark.

Take of Peruvian bark, one ounce and a half;

Colcothar

A P P E N D I X.

Colcothar of Vitriol, three drams;
Syrup of Sugar, a sufficient quantity.

Make them into an electuary.

Electuarium fistens.
Electuary against fluxes.

Take of the Strengthening Confection, two ounces;
Extract of Logwood, one ounce;
Syrup of dry Roses, a sufficient quantity.

Make them into an electuary.

Emplastra.

Plasters.

Emplastrum calidum.

Warm plaster.

Take of Gum-plaster, one ounce;
Blistering-plaster, two drams.
Melt them together over a gentle fire.

Emplastrum suppurans.
Suppurating plaster.

Take of Gum-plaster, one ounce and a half;
Burgundy Pitch, half an ounce.
Melt them together.

Emulfiones.

Emulsions.

Emulfio communis.

The common emulsion.

Take of Sweet Almonds, one ounce;
Water, one quart.

Make them into an emulsion, to which add

of

of white Sugar, two drams.

If three drams of Gum Arabic be previously boiled in the water, the preparation is called

Emulsio arabica.

Arabic emulsion.

Enemata.

Glysters.

Enema de amylo.

The starch glyster.

Take of Gelly of Starch, four ounces.

Liquefy it over a gentle fire, and mix in
of Linseed-oil, half an ounce.

This glyster is prepared likewise with the addition of
forty drops of Liquid Laudanum.

Enema anodynum.

Anodyne glyster.

Take of the Infusion of Linseed, six ounces;

Liquid Laudanum, forty drops.

Mix them together.

Enema anticolicum.

Anticolic glyster.

Take of the Common Decoction, half a pint;

Tinctura Sacra, one ounce;

Common Salt, one dram;

Linseed-oil, two ounces.

Mix the whole together.

Enema astringens.

Astringent glyster.

Take of Lime-water, ten ounces;

Strengthening Confection, half an ounce.

Mix them together.

Enema astringens balsamicum.

Balsamic astringent glyster.

This is made by adding to the foregoing
of Locatelli's Balsam (dissolved in the yolk of
an egg) half an ounce.

The quantity of each of these glysters here prescribed,
serves generally for two injections.

Enema domesticum.

The domestic glyster.

Take of Cows Milk, half a pint;
Brown Sugar,
Oil Olive, each one ounce.

Mix them together.

Enema emolliens.

Emollient glyster.

Take of Palm-oil, one ounce and a half;
The Yolk of one egg.

Work them well together, and add
of Cows Milk, half a pint.

Enema foetidum.

The fetid glyster.

Take of Rue,
Savin, each half an ounce;
Water, a pint and a half.

Boil them till a pint of liquor remains after straining;
to which add

of Afa Fetida, two drams;
Oil-Olive, one ounce;
Distilled Oil of Amber, half a dram.

Mix them together according to art. This quantity
serves for two injections.

Enema purgans.

The purging glyster.

Take of the Common Decoction, half a pint;

White

White Soap, one ounce ;

Syrup of Buckthorn, an ounce and a half.

Mix them according to art.

Enema terebinthinatum.

Turpentine-glyster.

Take of the Common Decoction, ten ounces ;

Venice Turpentine (dissolved in the yolk of
an egg) half an ounce ;

Linseed-oil, one ounce.

Mix them together, according to art.

Expressio millepedarum.

Expression of millepedes.

Take of live Millepedes, three ounces ;

Simple Fennel-water, one pint ;

Compound Horse-radish-water, half a pint.

Bruise the millepedes, gradually adding to them the
distilled waters ; and afterwards press out the liquor.

Fotus.

Fomentations.

Fotus anodynus.

The anodyne fomentation.

Take of the Heads of garden Poppys, one ounce ;

Elder-flowers, half an ounce ;

Water, three pints.

Boil to the consumption of one pint ; and then strain
out the liquor for use.

Fotus aromaticus.

Aromatic fomentation.

Take of Cloves,

Mace, each one dram ;

Red Wine, one pint.

Boil them a little, and then strain out the liquor.

Fotus emolliens.

Emollient fomentation.

See Decoctum commune.

Fotus roborans.

Strengthening fomentation.

Take of Oak-bark, one ounce ;

Pomegranate-peel, half an ounce ;

Water which has been used by smiths for
quenching iron in, three pints.

Boil them till there remains a quart of strained liquor,
to which add

of Roch Alum, two drams.

Gargarismata.

Gargarisms.

Gargarisma astringens.

Astringent gargarism.

Take of Oak-bark, one ounce ;

Water, one pint and a half.

Boil till there remains one pint of liquor after strain-
ing, to which add

of Roch Alum, one dram.

Honey of Roses, one ounce.

Gargarisma commune.

The common gargarism.

Take of Water, six ounces ;

Nitre,

Nitre, one dram ;
Honey of Roses, one ounce.

Mix them together.

To this gargarism are sometimes added,
of sweet Spirit of Vitriol, fifteen drops.

Gargarisma emolliens.
Emollient gargarism.

Take of Marshmallow-roots, two ounces ;
Figs, in number four ;
Water, three pints.

Boil till there remains one quart of liquor, which is
to be strained out for use.

Hauftus.
Draughts.

Hauftus diaphoreticus.
The diaphoretic draught.

Take of the Spirit of Mindererus,
Syrup of Meconium, each half an ounce ;
Volatile Salt of Hartshorn, five grains.
Mix them together.

Hauftus salinus.
Saline draught.

Take of Salt of Wormwood, one scruple ;
Lemon-juice, half an ounce ;
White Sugar, one dram.
Mix them together.

Infusa.

Infusions.

Infusum antiscorbuticum.

Antiscorbutic infusion.

Take of Water Trefoil, two ounces ;
 Oranges, half an ounce ;
 Boiling Water, two quarts.

Let them stand in infusion for a night in a close vessel ;
 afterwards strain out the liquor, and add to it
 of Compound Horse-radish-water, half a pint.

Infusum cephalicum.

Cephalic infusion.

Take of Wild Valerian-root, two ounces ;
 Rosemary (or Sage) half an ounce ;
 Boiling Water, two quarts.

Infuse them together for a night in a close vessel ;
 then strain out the liquor, and add to it
 of Aromatic Water, four ounces.

Infusum lini.

Infusion of linseed.

Take of whole Linseed, two spoonfuls ;
 Liquorice, sliced or shaved, half an ounce ;
 Boiling Water, two quarts.

Let them stand in infusion, near the fire, for some
 hours ; then strain out the liquor for use.

Infusum pectorale.

The pectoral infusion.

This is made by adding to the foregoing,
 of Colts-foot leaves, one ounce.

Injectiones.

Injectiones.

Injections.

Injectio balsamica.

Balsamic injection.

Take of Balsam of Copaiba, half an ounce;
 The Yolk of one egg.
 Work them well together, and gradually add
 of Lime-water, six ounces;
 Honey of Roses, two ounces.
 Mix the whole well together.

Injectio mercurialis.

The mercurial injection.

Take of Quicksilver,
 Balsam of Copaiba, each half an ounce.
 Beat and work them together, till the quicksilver is
 extinguished; then put to the mass
 The Yolk of one Egg.
 Mix the whole very well together, gradually adding
 of Rose-water, half a pint.

Julapia.

Fulaps.

Julapium ammoniacum.

Fulap of ammoniacum.

Take of the Milk of Gum Ammoniacum, four ounces,
 Syrup of Squills, three ounces.
 Mix them together.

Julapium antihystericum.

Antihysterical julap.

Take of Pennyroyal-water, four ounces ;
 Antihysterical water, two ounces ;
 Tincture of Castor, two drams ;
 Volatile Salt of Hartshorn, ten grains ; or of
 the Spirit of Amber, one dram ;
 White Sugar, six drams.

Mix the whole well together.

Julapium cardiacum.

The cordial julap.

Take of Alexetereal water, four ounces ;
 Aromatic water, two ounces ;
 Saline aromatic Spirit,
 Tincture of Saffron, each two drams ;
 White Sugar, half an ounce.

Mix and make them into a julap.

Julapium diaphoreticum.

Diaphoretic julap.

Take of Alexetereal Water, four ounces ;
 Spirit of Mindererus, two ounces ;
 Volatile Salt of Hartshorn, ten grains ;
 Syrup of Meconium, one ounce.

Mix them together.

Julapium diaphoreticum acidum.

The acid diaphoretic julap.

Take of Alexetereal Water, four ounces ;
 Treacle-Vinegar, two ounces ;
 Tincture of Saffron, half an ounce ;
 Spirit of Amber, one dram ;
 White Sugar, one ounce.

Mix all these ingredients together, so as to make
 thereof a julap.

Julapium diureticum.

Diuretic julap.

Take

Take of Spirit of Mindererus, four ounces ;
Compound Horse-radish-water, two ounces ;
Syrup of Marshmallows, three ounces.

Mix and make them into a julap, to which may be added occasionally,

of Spirit of Amber, one dram.

Julapium fœtidum.

The fetid julap.

Take of Rue-water, six ounces ;
Afa fetida, one dram and a half ;

Dissolve the afa fetida in the water, and add to the solution,

of Antihysterick water, two ounces ;

Distilled Oil of Hartshorn twenty drops,
received upon ten drams of white Sugar.

Mix the whole well together.

This julap is likewise made without the oil.

Julapium hydragogum.

Hydragogue julap.

Take of the simple Water of Camomile-flowers, six ounces ;

Emetic Tartar, ten grains ;

Syrup of Buckthorn, two ounces.

Mix them together.

Julapium moschatum.

Musk-julap.

Take of Rose-water, six ounces ;

Saline aromatic Spirit, one dram and a half ;

Musk, fifteen grains ;

White Sugar, half an ounce.

First grind the musk with the sugar, and afterwards mix the whole well together.

Julapium salinum.

Saline julap.

Take of Mint-water,

Syrup of Lemons, each two ounces ;

A a 3

Salt

A P P E N D I X.

Salt of Wormwood, one dram.

Make them into a julap.

Julapium scilliticum.

Julap with squills.

Take of the simple distilled Water of Hyssop, or
that of Fennel,

Syrup of Squills, each three ounces.

Mix them together.

Julapium fistens.

Binding julap.

Take of Alexetereal Water, six ounces ;

Aromatic Water, two ounces ;

Strengthening Confection, two drams ;

Japan earth, in powder, one dram ;

Liquid Laudanum, forty drops ;

White Sugar, half an ounce.

Mix all these ingredients together, so as to make them into a julap.

Lac ferratum.

Milk prepared with iron.

This is made by repeatedly quenching red-hot Iron in fresh Cows Milk, till one fourth part of the milk has exhaled.

Linimenta.

Liniments.

Linimentum anodynum.

The anodyne liniment.

Take of Nerve-ointment, three ounces ;

Balsam

Balsam of Turpentine, one ounce.
Mix them together.

Linimentum hæmorrhoidale.
The hæmorrhoidal liniment.

Take of Emollient Ointment, two ounces;
Liquid Laudanum, half an ounce;
The White of an Egg.

Work them well together.

Linimentum mercuriale.
Mercurial liniment.

Take of Hogs Lard, one ounce;
White Precipitate Mercury, one dram.

Mix them together.

Lohoch.
Lobochs.

Lohoch balsamicum.
Balsamic loboch.

Take of Sperma Ceti, two drams;
Balsam of Peru, forty drops;
Whites of Eggs, a sufficient quantity.

Work them well together, till perfectly incorporated;
then add,

of Syrup of Marshmallows, two ounces.

Lohoch commune.
Common loboch.

Take of fresh-drawn Linseed Oil,
Syrup of Marshmallows, each two ounces.
Mix them together.

Lohoch pectorale.
Pectoral loboch.

Take of Sperma Ceti,

A a 4

White

White Soap, each two drams ;
 Whites of Eggs, a sufficient quantity.
 Mix them thoroughly together, and then add
 of fresh-drawn Linseed-oil, one ounce and a half ;
 Syrup of Marshmallows, three ounces.
 Mix the whole well together.

Pilulæ.

Pills.

Pilulæ ex allio.

The garlick-pills.

Take of Garlick,
 White Soap, each half an ounce ;
 Millepedes prepared, a sufficient quantity.
 Beat them up into a mass, according to art.
 Every half dram of this mass is to be made into six
 pills.

Pilulæ piceæ.

Tar-pills.

Take of Tar, what quantity you please ;
 Roots of Elecampane, in powder, as much
 as will reduce the tar into a mass of a due consistence ;
 out of every half dram of which, six pills are to be
 formed.

Pilulæ scilliticæ.

Scillitic pills.

Take of fresh Squills,
 Gum Ammoniacum,
 Lesser Cardamom-seeds, each equal parts.
 Beat them together, according to art, into a mass ;
 every half dram of which is to be made into six pills.

Potiones.

Potiones.

Potions.

Potio balsamica.

The balsamic potion.

Take of Balsam of Copaiba, three drams;
 Distilled Oil of Juniper, thirty drops;
 The White of an Egg.

Work them well together, and mix in
 of Fennel-water,

Compound Horse-radish-water, each three
 ounces;

Syrup of Marshmallows, two ounces.

Potio lithontriptica.

Lithontriptic potion.

Take of White Soap (the outward part being pared
 off) one ounce;

Warm Lime-water, one quart.

Stir them together, till the Soap is perfectly dissolved.

Sera.

Wheys.

Serum acetosum.

Vinegar-whey.

Take of Cows Milk,
 Water, each one pint.

Set them over the fire, and as soon as they begin
 to boil, pour in

of Vinegar, two spoonfuls.

Take off the curd which will be formed on the top,
 and pour out the whey for use.

Serum epidemium.

Plague-whey.

Take of Boiling Cows Milk, two pints;
 Plague-water made with acid, four ounces.

Mix them together, and take off the curd.

Suppositoria.

Suppositoria.

Suppositories.

These are made of common Salt boiled with double its quantity of Honey to a due consistence.

Unguenta.

Ointments.

Unguentum piceum.

Tar-ointment.

Take of Tar,

Suet, each equal quantities.

Melt them together, keeping the mixture continually stirring, till they unite into an ointment.

Unguentum sulphureum.

Sulphur-ointment.

Take of Hogs Lard prepared, two ounces;

Sulphur in powder, half an ounce.

Make them into an ointment.

Unguentum tutiæ.

Ointment of tutty.

Take of Tutty prepared, half an ounce;

Fresh Butter, two ounces;

White Wax, one dram.

Mix and make them into an ointment, according to art.

Unguentum tutiæ camphoratum.

Ointment of tutty with camphor.

Add to the foregoing ointment

of Camphor, half a dram.

This unguent may likewise be made with a double, &c. quantity of camphor.

GENERAL INDEX

OF THE

Simples, Preparations, *and* Compositions,

Together with the principal Matters contained in the Notes.

N. B. Such articles as have an asterisk (*) prefixed, are taken from the *Pharmacopœia Pauperum*. The letter n refers to the notes.

A.		<i>* Ale, antiscorbutic,</i>	343
A	<i>Cacia, German,</i>	<i>* Aperient,</i>	342
	<i>True,</i>	<i>* Cephalic,</i>	<i>ib.</i>
	Described,	<i>* Diuretic,</i>	<i>ib.</i>
	Distinguished from	<i>Aleboof,</i>	35
	the German,	<i>Alexanders,</i>	36
Of service in hæ-	<i>Alkanet,</i>	7	
morrhagies, &c.	Described,	n. 8	
<i>Adders-tongue,</i>	How to be chosen,	<i>ib.</i>	
<i>Æthiops mineral,</i>	<i>All-beal of Hercules,</i>	50	
Whether fire injurious in	<i>Almonds, bitter,</i>	7	
its preparation,	Sweet,	<i>ib.</i>	
n. <i>ib.</i>	<i>Aloes,</i>	4	
<i>Agaric,</i>	Its different kinds,	n. 4	
Described,	Distinguished from each		
Yields to spirit of wine a	other,	n. 5	
nauseous tincture,	Their different uses in		
<i>ib.</i>	medicine,	<i>ib.</i>	
No extract parable from	Its solvents,	n. 6	
it by water,	<i>Prepared,</i>	100	
<i>ib.</i>	Advantage of keeping		
Converted into a safe	it in a soft form,	n. 100	
purge,	The resinous part how		
n. 4	prevented from sepa-		
<i>Agnus castus,</i>	rating,	n. 101	
<i>Agrimony,</i>	<i>Aloes-</i>		
<i>Hemp—,</i>			
<i>Alcohol of wine,</i>			
<i>Alder, black,</i>			

I N D E X.

<p><i>Aloes-wood</i>, 3</p> <p><i>Alum</i>, 79</p> <p style="padding-left: 2em;">Its different kinds, <i>ib.</i></p> <p style="padding-left: 2em;">Description and characters of it, n. <i>ib.</i></p> <p><i>Amalgam of tin</i>, 305</p> <p><i>Amber</i>, 94</p> <p style="padding-left: 2em;">What, and where found, n. 94</p> <p style="padding-left: 2em;">Its different kinds, n. 94</p> <p style="padding-left: 2em;">Its characters, <i>ib.</i></p> <p style="padding-left: 2em;">Its chemical analysis, <i>ib.</i></p> <p style="padding-left: 2em;">Its salt characterized, n. 95</p> <p style="padding-left: 2em;">In what soluble, <i>ib.</i></p> <p style="padding-left: 2em;">Contains something similar to the acid of sea-salt, <i>ib.</i></p> <p style="padding-left: 2em;">Its distillation how to be conducted, 300</p> <p style="padding-left: 2em;">May be performed without any intermedium, n. 300</p> <p style="padding-left: 2em;">Cautions to be observed in this process, <i>ib.</i></p> <p><i>Ambergrease</i>, 80</p> <p style="padding-left: 2em;">Described and characterized, n. 80</p> <p style="padding-left: 2em;">Its solvents, <i>ib.</i></p> <p style="padding-left: 2em;">Its chemical analysis, <i>ib.</i></p> <p style="padding-left: 2em;">Its medical virtues, <i>ib.</i></p> <p><i>Ammi</i>, common, 6</p> <p style="padding-left: 2em;">True, <i>ib.</i></p> <p><i>Ammoniac gum</i>, 6</p> <p style="padding-left: 2em;">Described and characterized, n. 6</p> <p style="padding-left: 2em;">Its solvents, <i>ib.</i></p> <p style="padding-left: 2em;">How to be chosen, <i>ib.</i></p> <p style="padding-left: 2em;">How purified, <i>ib.</i></p> <p style="padding-left: 2em;">Prepared, 1101</p> <p style="padding-left: 2em;">The process improved, n. 101</p> <p><i>Anomum</i>, common, 7</p> <p style="padding-left: 2em;">True, <i>ib.</i></p> <p style="padding-left: 2em;">Described, n. 7</p> <p style="padding-left: 2em;">How distinguished from cardamoms, <i>ib.</i></p> <p style="padding-left: 2em;">Yields an aromatic oil on distillation, <i>ib.</i></p> <p><i>Anacardium</i>, 7</p> <p style="padding-left: 2em;">Described, n. 7</p> <p><i>Angelica</i>, 8</p>	<p><i>Animals</i>, 72</p> <p style="padding-left: 2em;">Distillation of animal substances, 263</p> <p style="padding-left: 2em;">What instruments most convenient for this purpose, n. 263, 264</p> <p style="padding-left: 2em;">The subject to be previously dried, <i>ib.</i></p> <p><i>Anise</i>, 8</p> <p style="padding-left: 2em;">Described, <i>ib.</i></p> <p style="padding-left: 2em;">Medical use of its fumes, <i>ib.</i></p> <p><i>Anise</i>, 8</p> <p><i>Antibetic of Poterius</i>, 333</p> <p style="padding-left: 2em;">Different opinions of authors with regard to its preparation and medicinal virtues, n. 333, n. 334</p> <p><i>Antimony</i>, 80</p> <p style="padding-left: 2em;">Description and characters of it, n. 80</p> <p style="padding-left: 2em;">Of what composed, <i>ib.</i></p> <p style="padding-left: 2em;">Its solvents, n. 81</p> <p style="padding-left: 2em;">Its medicinal virtues, <i>ib.</i></p> <p><i>Diaphoretic with nitre</i>, 324</p> <p style="padding-left: 2em;">Sweet, 325</p> <p style="padding-left: 2em;">Whether of any virtue in medicine, n. <i>ib.</i></p> <p style="padding-left: 2em;">*Prepared, n. 102</p> <p><i>Ants</i>, 75</p> <p><i>Apple tree</i>, 43</p> <p><i>Aqua fortis</i>, double, 284</p> <p style="padding-left: 2em;">Best method of making it, n. 284</p> <p style="padding-left: 2em;">Single, 283</p> <p style="padding-left: 2em;">Use of calcining the vitriol, n. 283</p> <p style="padding-left: 2em;">Apparatus and method for distilling it in quantity, n. 284</p> <p style="padding-left: 2em;">Imperfection of this method, <i>ib.</i></p> <p style="padding-left: 2em;">Impurity of the aquafortis thus distilled, to what owing, <i>ib.</i></p> <p style="padding-left: 2em;">How purified, n. 284, n. 304</p> <p style="text-align: right;"><i>Aqua</i></p>
--	---

I N D E X.

<p><i>Aqua Regia,</i> 285 Another method, n. 285 Cautions to be observed in making it, <i>ib.</i> The process facilitated, <i>ib.</i></p> <p><i>Arabic gum,</i> 8 What, n. 8 Described, <i>ib.</i> Its characters, n. 9 In what it differs from gum Senega, <i>ib.</i> Different uses of the two gums, <i>ib.</i></p> <p><i>Archangel,</i> 40 <i>Asfenick, Red,</i> 82 How obtained, n. 82 In what it differs from the yellow, <i>ib.</i></p> <p><i>White,</i> 81 How obtained, n. 81 Described and characterized, <i>ib.</i> Water applied to it as a menstruum, <i>ib.</i></p> <p><i>Yellow,</i> 81 How obtained, n. 81</p> <p><i>Asmart, biting,</i> 52 Dead, <i>ib.</i></p> <p><i>Arum,</i> 10 <i>Asarabacca,</i> <i>ib.</i> <i>Asb,</i> 32 <i>Aspalathus-wood,</i> 10 <i>Aja fetida,</i> <i>ib.</i> What, n. 10 Described and characterized, <i>ib.</i> Its solvents, n. 11 How altered by keeping, <i>ib.</i></p> <p><i>Avens,</i> 18 <i>Azure stone,</i> 87 See <i>Lapis Lazuli.</i></p> <p style="text-align: center;">B.</p> <p><i>Balauftines,</i> 35 <i>Balm,</i> 44 <i>Balsam, Anodyne of Bates,</i> 202 *n. 202 <i>Apoplectic,</i> 201</p>	<p><i>Balsam of Copaiba,</i> 11 What, n. 11 Described, <i>ib.</i> & n. 12 Yields a large portion of essential oil, <i>ib.</i></p> <p><i>of Gilead,</i> 12 What, n. 12 Described and characterized, <i>ib.</i></p> <p><i>Green,</i> 203 <i>Guido's,</i> 201 <i>Locatelli's,</i> <i>ib.</i> <i>of Peru,</i> 12 What, n. 12 Its kinds, <i>ib.</i> Described, <i>ib.</i> How obtained, <i>ib.</i> Yields a fragrant oil on distillation, <i>ib.</i></p> <p><i>Saponaceous,</i> 202 <i>of Sulphur, anisated,</i> 299 Juniperated, <i>ib.</i> Succinated, <i>ib.</i> Terebinthinated, 298 The fire how to be managed in making these balsams, n. 298 What vessel most convenient, <i>ib.</i> The danger of the vessels bursting, how to be avoided, <i>ib.</i> Best method of making them, n. 299 Considered as medicines, <i>ib.</i></p> <p><i>of Sulphur, Thick,</i> 298 The matter apt to run over and take fire, n. 298 How prevented, <i>ib.</i></p> <p>*<i>Tar,</i> n. 203 <i>of Tolu,</i> 13 Described, n. 13 <i>Balsam,</i></p>
--	---

I N D E X.

<p><i>Balsam, Vulnerary,</i> 202, *n. 203 <i>Universal,</i> 210 <i>Barberry,</i> 14 <i>Barley,</i> 36 <i>Basil,</i> 48 <i>Bay-tree,</i> 40 <i>Bdellium,</i> 13 <i>What,</i> n. 13 <i>Described and charac-</i> <i>terized,</i> <i>ib.</i> <i>Its solvents,</i> <i>ib.</i> <i>Beans,</i> 31 <i>Bees,</i> 72 <i>Prepared,</i> 101 <i>Bees-wax.</i> See <i>Wax.</i> <i>Beets,</i> 14 <i>Benzoin,</i> <i>ib.</i> <i>What,</i> n. 14 <i>Description and cha-</i> <i>acters of it,</i> <i>ib.</i> <i>In what soluble,</i> <i>ib.</i> <i>Betony,</i> 14 <i>Bezoar, Jovial,</i> 332 <i>Of what composed,</i> n. 332 <i>Mineral,</i> 331 <i>A more facile way of</i> <i>making it,</i> n. 331 <i>Occidental,</i> 73 <i>Oriental,</i> <i>ib.</i> <i>Birch-tree,</i> 14 <i>Birchwort, Long,</i> 10 <i>Round,</i> <i>ib.</i> <i>Bishops-weed,</i> 6 <i>Bismuth,</i> 83 <i>Bistort,</i> 14 <i>Bittersweet,</i> 29 <i>Blood, its spirit, salt and oil,</i> 267 <i>Cautions to be observed</i> <i>in its distillation,</i> n. 267 <i>Blood-stone.</i> See <i>Hæmatites,</i> <i>Boar,</i> 72 <i>Bole, Armenic,</i> 83 <i>Prepared,</i> 101 <i>Bohemian or common,</i> 83 <i>*Bolus, Alexetereal,</i> 339 <i>*Of Castor,</i> <i>ib.</i> <i>*Diaphoretic,</i> 340 <i>*Diuretic,</i> <i>ib.</i></p>	<p><i>*Bolus, of Guaiacum,</i> 340 <i>*Of Jalap with Mercury,</i> <i>ib.</i> <i>*Mercurial,</i> <i>ib.</i> <i>*Pectoral,</i> <i>ib.</i> <i>*Of Rhubarb with Mer-</i> <i>cury,</i> 341 <i>*Treacle,</i> <i>ib.</i> <i>Borage,</i> 14 <i>Borax,</i> 83 <i>Described and charac-</i> <i>terized,</i> n. 83 <i>Rough preferable to the</i> <i>refined,</i> n. 84 <i>Affords with the vitrio-</i> <i>lic acid saline flowers,</i> n. 83 <i>Medical virtues of</i> <i>these flowers,</i> <i>ib.</i> <i>Box-tree,</i> 15 <i>Brakes,</i> 31 <i>Bramble,</i> 58 <i>Brandy, French, how convert-</i> <i>ed into a pure spirit,</i> n. 110 <i>Brooklime,</i> 13 <i>Broom,</i> 34 <i>Bryony,</i> 14 <i>Buckthorn,</i> 56 <i>Bugle,</i> 15 <i>Bugloss,</i> 14 <i>Bull,</i> 78 <i>Burdock,</i> 13 <i>Burnet,</i> 52 <i>Burnet Saxifrage,</i> <i>ib.</i> <i>Butchers-broom,</i> 58 <i>Butter of Antimony,</i> 328 <i>A more convenient</i> <i>and facile method of</i> <i>making it,</i> n. 328 <i>Butter-bur,</i> 52</p> <p style="text-align: center;">C.</p> <p><i>Cabbages,</i> 14 <i>Calamine-stone,</i> 84 <i>What,</i> n. 84 <i>Of different colours,</i> <i>ib.</i> <i>Characterized,</i> <i>ib.</i> <i>Its medical use,</i> <i>ib.</i> <i>Prepared,</i> 102 <i>Calamint,</i> 15</p>
---	---

I N D E X.

<i>Calamus aromaticus</i> ,	3	<i>Carline thistle</i> ,	18
Described,	n. 3	Description of it,	n. 18
Yields an oil on distilla-		Sometimes proves eme-	
tion,	<i>ib.</i>	tic,	<i>ib.</i>
Its medical virtues,	<i>ib.</i>	<i>Carrot</i> , Candian,	28
<i>Calomel</i> ,	322	Deadly,	67
<i>Calx</i> of Mercury,	314	Wild,	29
Of Tin,	305	<i>Casmunair</i> ,	20
<i>Camels-bay</i> . See <i>Squinanth</i> .		What,	n. 20
<i>Camomile</i> ,	21	Description of it,	<i>ib.</i>
<i>Camphor</i> ,	15	<i>Cassia Fistula</i> ,	19
What,	n. 15	Of different sorts,	n. 19
Described and charac-		Which best,	n. 20
terized,	<i>ib.</i>	How to be chosen,	<i>ib.</i>
Its solvents,	<i>ib.</i>	Changes the colour of	
How best exhibited,	n. 16	the urine,	<i>ib.</i>
Converted into an oil,	<i>ib.</i>	An essential salt obtain-	
<i>Canella alba</i> ,	16	ed from it,	<i>ib.</i>
What,	n. 16	<i>Lignea</i> ,	20
Described,	<i>ib.</i>	Its different kinds de-	
How distinguished from		scribed,	n. 20
Winters-bark,	n. 71	Which best,	<i>ib.</i>
Yields an aromatic oil		<i>Castor</i> ,	74
on distillation,	n. 17	What,	n. 74
<i>Cantharides</i> ,	74	Characterized,	<i>ib.</i>
What, and where		How to be chosen,	<i>ib.</i>
found,	n. 74	Its different kinds,	<i>ib.</i>
Described,	<i>ib.</i>		& n. 75
Which best,	<i>ib.</i>	How distinguished from	
Method of curing		each other,	<i>ib.</i>
them,	<i>ib.</i>	Which best,	<i>ib.</i>
How to be chosen,	<i>ib.</i>	Several menstrooms appli-	
Spirit of wine appli-		ed to it,	<i>ib.</i>
ed to them as a		Which most proper,	<i>ib.</i>
menstruum,	<i>ib.</i>	<i>Cataplasm</i> , <i>Discutient</i> ,	219
Water applied as a		* <i>Emollient</i> ,	341
menstruum.	<i>ib.</i>	* <i>Suppurating</i> ,	219. *341
<i>Capers</i> ,	16	* <i>Treacle</i> ,	341
<i>Caranna</i> ,	17	* <i>Treacle camphorated</i> ,	342
What,	n. 17	<i>Catechu</i> ,	9
Described and charac-		<i>Catmint</i> ,	47
terized,	<i>ib.</i>	<i>Cautic</i> , lunar,	303
How to be chosen,	<i>ib.</i>	Cautions to be observed	
<i>Caraway</i> ,	18	in preparing it,	n. 303
<i>Cardamom-seeds</i> , greater,	17	<i>Cautery</i> , potential,	261
Substitutes for them,	n. 17	A more commodious	
<i>Lesser</i> ,	17	preparation,	n. 262
Described,	n. 17		
<i>Carduus benedictus</i> ,	18		

I N D E X.

<p><i>Celandine</i>, greater, 22 Lesser, <i>ib.</i> <i>Centaury</i>, greater, 21 Lesser, <i>ib.</i> Its medical virtue, n. 239 <i>Cerusse</i>, 309 <i>Ceterach</i>, 21 <i>Chalcites</i>, 84 Whether a venereal mi- neral, n. 84, n. 85 Best substitute for it, <i>ib.</i> <i>Chalk</i>, 85 <i>Cherries</i>, black, 21 <i>Winter</i>, 4 <i>Chervil</i>, 21 <i>Chich pease</i>, 23 <i>Chickweed</i>, 5 <i>China root</i>, 22 Of two sorts, n. 22 Which used in medicine, <i>ib.</i> Described, <i>ib.</i> How to be chosen, <i>ib.</i> <i>Chocolate</i>, 15 <i>Cicely</i>, sweet, 46 <i>Cinnabar of Antimony</i>, 329 Not preferable to the factitious, n. 329 <i>Factitious</i>, <i>ib.</i> How made in large quantities, n. 330 <i>Native</i>, 85 What, n. 85 Where found, <i>ib.</i> Of different kinds, <i>ib.</i> Of what composed, <i>ib.</i> Less fit for medicinal use than the facti- tious, n. 86 <i>Cinnamon</i>, 23 Described, n. 23 In what part the vir- tue resides, <i>ib.</i> Its oil how obtained, 228 Characters thereof, n. 24 Partly changes into a salt by keeping, <i>ib.</i> <i>Cinquefoil</i>, 52 <i>Citron</i>, 24 <i>Civet</i>, 78</p>	<p><i>Clarification of vegetable juices</i>, n. 237, n. 239 <i>Clary</i>, 36 <i>Clivers</i>, 8 <i>Clove-july-flowers</i>, 19 <i>Clowes</i>, <i>ib.</i> What, n. 19 Described and charac- terized, <i>ib.</i> Directions for the choice of them, <i>ib.</i> Yield an aromatic oil both by expression and distillation, <i>ib.</i> <i>Cochineal</i>, 75 <i>Cocoa tree</i>, 15 <i>Coffee</i>, 24 <i>Colcothar of Vitriol</i>, 285, 288 <i>Coleworts</i>, garden, 14 Sea, <i>ib.</i> <i>*Collyrium, alum-</i>, 343 <i>*White</i>, <i>ib.</i> <i>Colophony</i>, 233 <i>Coloquintida</i>, 24 Described and cha- racterized, n. 24 Water applied to it as a menstruum, n. 25 Spirit applied as a menstruum, <i>ib.</i> The extract and refin- considered as me- dicines, <i>ib.</i> The virulence of this drug, on what it depends, <i>ib.</i> How endeavoured to be corrected, <i>ib.</i> Distilled oils impro- per for this pur- pose, <i>ib.</i> <i>Colts-foot</i>, 68 <i>Columbine</i>, 8 <i>Comfry</i>, 25 <i>Confection of Kermes</i>, 176 <i>*Strengthening</i>, n. 178 <i>Rawleighs</i>, a substi- tute for it, n. 172</p>
---	--

Conserves,

I N D E X.

<p><i>Conserve</i>, method of making, 167 <i>Conserve</i> of <i>Hippis</i>, <i>ib.</i> <i>Mallovs</i>, <i>ib.</i> <i>Mint</i>, <i>ib.</i> <i>Oranges</i>, <i>ib.</i> <i>Rosemary flowers</i>, <i>ib.</i> <i>Roses</i>, <i>ib.</i> <i>Rue</i>, <i>ib.</i> <i>Scurvy grass</i>, <i>ib.</i> <i>Wood sorrel</i>, <i>ib.</i> <i>Worm-wood</i>, <i>ib.</i></p> <p><i>Contrayerva root</i>, 25 Described, n. 25 What part of the root best, <i>ib.</i></p> <p><i>Copal</i>, 25 Described, n. 25 In what it differs from frankincense, <i>ib.</i> Water and spirit applied to it as menstrooms, <i>ib.</i></p> <p><i>Copper</i>, 86 <i>Coral</i>, 26 What, n. 26 Analysed, <i>ib.</i> Its solvents, <i>ib.</i> Red, imparts its colour to essential oil, <i>ib.</i> Prepared, 103</p> <p><i>Coralline</i>, 25 <i>Coriander</i>, 26 <i>Cork</i>, 66 <i>Cornel tree</i>, 26 <i>Corn-rose</i>, 51 <i>Costmary</i>, 11 <i>Costus oriental</i>, 26 Described, n. 26 How to be chosen, <i>ib.</i></p> <p><i>Couch-grass</i>, 34 <i>Counterpoison monkshood</i>, 8 <i>Cow</i>, 73 <i>Cowslips</i>, 51 <i>Crab-fish</i>, 73 Its claws prepared, 103 Eyes prepared, 104</p> <p><i>Crab-tree</i>, 43 <i>Cranes-bill</i>, 34 <i>Creme of Tartar</i>, 254 <i>Cresses</i>, garden, 47 <i>Sciatica</i>, 37</p>	<p><i>Cresses</i>, water-, 47 <i>Crocus</i> of <i>Iron aperient</i>, 312 Astringent, <i>ib.</i> Whether different from one another, n. 312 of <i>Metals</i>. See <i>Saffron</i> of <i>Metals</i>.</p> <p><i>Crystal</i>, 86 <i>Crystals</i> of <i>Tartar</i>, 252 Difficulty of filtering the solution of tartar, n. 252 A more facile method of purifying it, n. 253 The crystallization how to be performed, <i>ib.</i></p> <p><i>Cubebs</i>, 27 Of two kinds, n. 27 Described, <i>ib.</i> How to be chosen, <i>ib.</i> Afford an oil on distillation, <i>ib.</i></p> <p><i>Cuckowpint</i>, 10 <i>Cucumber</i>, garden, 27 Wild, <i>ib.</i></p> <p><i>Cummin-feed</i>, 28 <i>Currants</i>, 57 <i>Cuttle-fish</i>, 78 <i>Cyperus-roots</i>, 28 <i>Cypress-tree</i>, <i>ib.</i></p> <p style="text-align: center;">D.</p> <p><i>Daisy</i>, greater, 13 Lesser, <i>ib.</i></p> <p><i>Dandelion</i>, 29 <i>Danewort</i>, 29 <i>Date-tree</i>, 28 Description of the fruit, n. 28 How it is to be chosen, <i>ib.</i></p> <p><i>Decoctions</i>, general rules for making, 153</p> <p><i>Decoction</i>, *<i>Antihæctic</i>, 344 *<i>Astringent</i>, <i>ib.</i> *of <i>Burdock</i>, <i>ib.</i> *of <i>Barley</i>, 345 *<i>Common</i>, <i>ib.</i> Common for <i>glysters</i>, 148 <i>Decoction</i>,</p>
---	---

I N D E X.

<p><i>Decoction</i>, of <i>Dioscordium</i>, 148 <i>*Diuretic</i>, 345 <i>Emollient for fomentations</i>, 148 <i>Icteric</i>, 149 <i>Considered as a medicine</i>, n. 149 <i>*of Logwood</i>, 345 <i>Nephritic</i>, 150 <i>Nitrous</i>, <i>ib.</i> <i>Pectoral</i>, <i>ib.</i> <i>*of Snakeroot compound</i>, 151, *345 <i>of Tamarinds with Sena</i>, 151, *346 <i>*Vulnerary</i>, 346 <i>White</i>, 147, *343 <i>White compound</i>, 147 <i>of the Woods</i>, 149 <i>Devils bit</i>, 45 <i>Dioscordium</i>, 178 <i>Dill</i>, 8 <i>Dittander</i>, 41 <i>Dittany, of Crete</i>, 29 <i>Described</i>, n. 29 <i>What part of the plant used in medicine</i>, <i>ib.</i> <i>Yields an oil on distillation</i>, <i>ib.</i> <i>White</i>, 32 <i>Dock, sharp pointed</i>, 49 <i>Water-</i>, 36 <i>Dog</i>, 73 <i>Dog-rose</i>, 28 <i>Dogs-grass</i>, 34 <i>Dragons</i>, 29 <i>Dragons-blood</i>, 59 <i>Of different sorts</i>, n. 59 <i>Which best</i>, <i>ib.</i> <i>Fine, described</i>, <i>ib.</i> <i>Its characteristics</i>, <i>ib.</i> <i>In what soluble</i>, <i>ib.</i> <i>*Draught, Diaphoretic</i>, 353 <i>*Saline</i>, <i>ib.</i> <i>Dropwort</i>, 31 <i>Duck</i>, 72 <i>Dwarf-elder</i>, 29</p>	<p style="text-align: center;">E.</p> <p><i>Eagle-stone</i>, 79 <i>Earth, Japan</i>, 5 <i>Lemnian</i>, 87 <i>-Worms</i>, 76 <i>Eel</i>, 72 <i>*Egg-bells prepared</i>, n. 106 <i>Elaterium</i>, 165 <i>Elder</i>, 59 <i>Dwarf-</i>, 29 <i>Elecampane</i>, 30 <i>Electuaries, general rules for making</i>, 185 <i>Electuary, Antidysenteric</i>, 176, *346 <i>*Antidysenteric with Rhubarb</i>, 346 <i>*Balsamic</i>, <i>ib.</i> <i>*Febrifuge of the Bark</i>, 347 <i>*Strengthening of the Bark</i>, <i>ib.</i> <i>Of Bay-berries</i>, 176 <i>Of Cassia</i>, 177 <i>Its use in the shops</i>, n. 177 <i>Does not turn sour on keeping</i>, <i>ib.</i> <i>*Cephalic</i>, 347 <i>Cordial</i>, 177 <i>*Against Fluxes</i>, 348 <i>Lenitive</i>, 178, *n. 179 <i>*Nephritic</i>, 347 <i>Pectoral</i>, 181 <i>*Against the piles</i>, 347 <i>Of Scordium</i>, 178 <i>Elemi</i>, 29 <i>Described</i>, n. 29 <i>Yields a large quantity of oil in distillation</i>, <i>ib.</i> <i>Its use in medicine</i>, n. 30 <i>Elephant</i>, 75 <i>Elixir of Health</i>, 141 <i>Pectoral</i>, 137 <i>A more convenient method of making it</i>, n. 137 <i>Elixir</i>,</p>
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I N D E X

<p><i>Elixir, Polychrest,</i> 137 <i>Of Property,</i> <i>ib.</i> <i>Of Property with acid,</i> 138 <i>Sacred,</i> 140 <i>Stomachic,</i> 143 <i>Of Vitriol,</i> 144</p> <p><i>Elk,</i> 72 <i>Elm-tree,</i> 70 <i>Emulsion, Arabic,</i> 153, *349 <i>Common,</i> 152, *348</p> <p><i>Endive,</i> 30 <i>Ens Veneris,</i> 290</p> <p style="padding-left: 2em;">By whom invented, n. 291 Occasion of its discovery, <i>ib.</i> From what kind of vitriol made by the inventor, <i>ib.</i> Whether parable from blue vitriol, n. 291, n. 292 The deepness of the colour, to what owing, <i>ib.</i></p> <p><i>Eryngo,</i> 30 <i>Evaporation of vegetable juices,</i> how best performed, n. 238 What vessels most proper for the purpose, n. 246</p> <p><i>Euphorbium,</i> 30 Described, n. 30 An unsafe medicine, n. 31</p> <p><i>Extracts,</i> how obtained in greater purity than ordinary, n. 239 Necessary preparation of the subject, n. 240</p> <p><i>Extract of Camomile,</i> 240 <i>Centaury, the lesser,</i> 239 <i>Gentian.</i> <i>ib.</i> <i>Black Hellebore,</i> <i>ib.</i> <i>Jalap,</i> 240 Use of the fixed salt, n. 240 Different quantities thereof may vary the effects of the medicine, <i>ib.</i></p>	<p><i>Extract of Jalap,</i> wherein preferable to the crude root, n. 241 Best way of making it, <i>ib.</i> <i>Logwood,</i> 243 Of service in diarrhoeas, n. 15 <i>Opium,</i> 104, n. 105 <i>Peruvian bark,</i> 241 Most convenient method of making it, n. 241 Experiments to determine the properest menstruum, n. 242 <i>Plantain,</i> 237 <i>Rudius,</i> 190 <i>Wormwood,</i> 238 A cheap method of making it, n. 238</p> <p><i>Eyebright,</i> 31</p> <p style="text-align: center;">F.</p> <p><i>Fat, prepared,</i> 100 <i>Featherfew,</i> 44 <i>Fennel, common,</i> 32 -Flower, 47 Hogs-, 52 Sweet, 31 Its seeds yield an oil on distillation, n. 31</p> <p><i>Fern, female,</i> 31 Flowering, <i>ib.</i> Male, <i>ib.</i></p> <p><i>Fig-tree,</i> <i>ib.</i> <i>Figwort, common,</i> 62 Greater water-, <i>ib.</i></p> <p><i>Fir-tree,</i> 1 <i>Fish-glass,</i> 76 What, n. 76 How to be chosen, <i>ib.</i></p> <p><i>Flax, common,</i> 42 Purging, <i>ib.</i></p> <p><i>Fleawort,</i> 55 <i>Flint,</i> 93 <i>Flixweed,</i> 65 <i>Flower-de-luce,</i> 39</p> <p style="text-align: right;"><i>Flowers</i></p>
---	---

I N D E X.

<p><i>Guaiacum</i>, has good effects when joined with purgatives, n. 141</p> <p><i>Guinea-pepper</i>, 16</p> <p style="text-align: center;">H.</p> <p><i>Hæmatites</i>, 86</p> <p style="padding-left: 2em;"><i>Prepared</i>, 103</p> <p style="padding-left: 2em;">What instruments most proper, n. 103</p> <p><i>Hare</i>, 76</p> <p><i>Hart</i>, or <i>Stag</i>, 75</p> <p><i>Harts-horn</i> calcined, 265</p> <p style="padding-left: 2em;"><i>Prepared</i>, 103</p> <p><i>Harts-tongue</i>, 42</p> <p><i>Hart-wort</i>, 64</p> <p><i>Hawthorn</i>, 65</p> <p><i>Hedge hyssop</i>, 35</p> <p style="padding-left: 2em;"><i>-Mustard</i>, 30</p> <p><i>Hellebore</i>, <i>black</i>, 35</p> <p style="padding-left: 2em;">Best menstruum for it, n. 239, n. 131</p> <p style="padding-left: 2em;"><i>White</i>, 35</p> <p><i>Helmet-flower</i>, 8</p> <p><i>Hemlock</i>, 23</p> <p><i>Hemp</i>, 16</p> <p><i>Hen</i>, 75</p> <p><i>Henbane</i>, <i>black</i>, 36</p> <p style="padding-left: 2em;"><i>White</i>, <i>ib.</i></p> <p><i>Herb-Paris</i>, 35</p> <p style="padding-left: 2em;"><i>-Robert</i>, 34</p> <p><i>Hermodyctyls</i>, 35</p> <p><i>Hiera picra</i>, 173</p> <p><i>Hips</i>, 28</p> <p><i>Hog</i>, 78</p> <p><i>Hogs-fennel</i>, 52</p> <p><i>Honey</i>, 72</p> <p style="padding-left: 2em;">What, and how obtain- ed, n. 73</p> <p style="padding-left: 2em;">Its different kinds, <i>ib.</i></p> <p style="padding-left: 2em;">Described, <i>ib.</i></p> <p style="padding-left: 2em;">Characterized, <i>ib.</i></p> <p style="padding-left: 2em;">Analysed, <i>ib.</i></p> <p><i>Honey of Mercury</i>, 162</p> <p style="padding-left: 2em;"><i>Roses</i>, <i>ib.</i></p> <p><i>Honeyfuckle</i>, 16</p> <p><i>Hops</i>, 42</p> <p><i>Horebound</i>, 44</p> <p><i>Horfe</i>, 75</p>	<p><i>Horfe Radish</i>, 56</p> <p style="padding-left: 2em;"><i>-Tail</i>, 21</p> <p style="padding-left: 2em;"><i>-Tongue</i>, 36</p> <p><i>Hounds-tongue</i>, 28</p> <p><i>Houfeleek</i>, 63</p> <p><i>Hypociflis</i>, 36</p> <p style="padding-left: 2em;">Described, n. 36</p> <p style="padding-left: 2em;">How to be chosen, <i>ib.</i></p> <p><i>Hyssop</i>, 36</p> <p style="text-align: center;">I.</p> <p><i>Jack-by-the-hedge</i>, 4</p> <p><i>Jalap</i>, 36</p> <p style="padding-left: 2em;">How to be chosen, n. 36</p> <p style="padding-left: 2em;">Its medicinal virtues, n. 37</p> <p style="padding-left: 2em;">Water and spirit applied to it as menstrooms, n. 36</p> <p style="padding-left: 2em;">The extract and resin, considered as medi- cines, n. 37</p> <p><i>Japan earth</i>, 9</p> <p style="padding-left: 2em;">What, n. 9</p> <p style="padding-left: 2em;">Description of it, <i>ib.</i></p> <p style="padding-left: 2em;">Its characters, <i>ib.</i></p> <p style="padding-left: 2em;">In what soluble, <i>ib.</i></p> <p style="padding-left: 2em;">How obtained, n. 9, n. 10</p> <p><i>Jasmine</i>, 37</p> <p><i>Jerusalem-oak</i>, 14</p> <p><i>Jews ear</i>, 11</p> <p style="padding-left: 2em;"><i>-Pitch</i>, 83</p> <p><i>Indian leaf</i>, 42</p> <p style="padding-left: 2em;">Described, n. 42</p> <p style="padding-left: 2em;">The best substitute for it, <i>ib.</i></p> <p><i>Infusion</i>, *<i>antiscorbutic</i>, n. 354</p> <p style="padding-left: 2em;"><i>Bitter</i>, 152</p> <p style="padding-left: 2em;"><i>Bitter with sena</i>, <i>ib.</i></p> <p style="padding-left: 2em;">*<i>Cephalic</i>, 354</p> <p style="padding-left: 2em;">*<i>Of Linfeed</i>, <i>ib.</i></p> <p style="padding-left: 2em;">*<i>Pectoral</i>, <i>ib.</i></p> <p style="padding-left: 2em;">Of <i>Sena</i>, 152</p> <p>*<i>Injection</i>, <i>Balsamic</i>, 355</p> <p style="padding-left: 2em;">*<i>Mercurial</i>, <i>ib.</i></p> <p><i>Ipecacuanha</i>, 37</p> <p style="padding-left: 2em;">Of different forts, n. 37</p> <p style="padding-left: 2em;">Which best for me- dicinal use, <i>ib.</i></p> <p style="padding-left: 2em;">Described and cha- racterized, n. 37, n. 38</p>
---	---

I N D E X.

<i>Ipecacuanha</i> , water and spirit applied to it as menstruums, n. 38	
What menstruum most proper, n. 132	
Its medical uses, n. 38	
How best exhibited, <i>ib.</i>	
<i>Irish slate</i> ,	86
<i>Iron</i> ,	<i>ib.</i>
<i>Filings</i> prepared,	104
Cleaned by the magnet,	<i>ib.</i>
Insufficiency of this method, n. 104	
<i>Rust</i> , how to be procured pure,	<i>ib.</i>
<i>Judaic stone</i> ,	87
<i>Juices Antiscorbutic</i> ,	165
How best preserved,	n. 165
Of vegetables, methods of depurating,	n. 237
<i>Juice of Liquorice</i> ,	164
How to be purified before the evaporation,	n. 164
Method of avoiding an empyreuma,	<i>ib.</i>
of <i>Sloes</i> ,	165
<i>Jujubes</i> ,	39
* <i>Julap of Ammoniacum</i> ,	355
* <i>Antihysteric</i> ,	356
* <i>Cordial</i> ,	<i>ib.</i>
* <i>Diaphoretic</i> ,	<i>ib.</i>
* <i>Diaphoretic</i> , with acid,	<i>ib.</i>
* <i>Diuretic</i> ,	<i>ib.</i>
* <i>Fetid</i> ,	357
* <i>Against fluxes</i> ,	358
* <i>Hydragogue</i> ,	357
* <i>Musk</i> ,	<i>ib.</i>
* <i>Saline</i> ,	<i>ib.</i>
* <i>Scillitic</i> ,	358
<i>Juniper</i> ,	39
<i>Ivory Fossil</i> ,	97
<i>Ivy-tree</i> ,	35
	K.
<i>Kali</i> ,	39
<i>Kermes</i> ,	22
Described,	n. 22
Analysed,	<i>ib.</i>
<i>Knee-holm</i> ,	58
<i>Knot-grass</i> ,	21
	L.
<i>Labdanum</i> ,	39
Description and character of it,	n. 39
How collected,	<i>ib.</i>
Of two sorts,	n. 40
Which best,	<i>ib.</i>
How obtained,	n. 39
<i>Lacca</i> ,	40
<i>Ladies Bedstraw</i> ,	33
<i>Mantle</i> ,	4
<i>Lapis Lazuli</i> ,	87
Prepared,	163
<i>Laudanum, liquid</i> , 136, *n. 136	
<i>Sydenhams</i> , its defects,	n. 136
How remedied,	<i>ib.</i>
<i>Laurel</i> ,	40
<i>Spurge</i> -,	<i>ib.</i>
<i>Lavender</i> , broad-leaved,	<i>ib.</i>
-Cotton,	1
Narrow-leaved-,	65
<i>Lead</i> ,	90
<i>Burnt</i> ,	105
Cautions in making it,	n. 105
<i>Red</i> . See <i>Red lead</i> .	
<i>Leeks</i> ,	55
<i>Lemnian earth</i> ,	87
<i>Lemons</i> ,	41
<i>Lentils</i> ,	40
<i>Lettuce</i> ,	40
<i>Lilly of the valley</i> ,	41
White,	<i>ib.</i>
Water-,	48
<i>Lime, quick</i> -,	84
- <i>Stone</i> ,	<i>ib.</i>
- <i>Tree</i> ,	68
<i>Liniment</i> , * <i>Anodyne</i> ,	358
of <i>Arceæus</i> ,	205
* <i>Liniment</i> ,	

I N D E X.

* <i>Liniment, Hæmorrhoidal,</i>	345		
* <i>Mercurial,</i>	<i>ib.</i>		
<i>Linseed,</i>	42		
<i>Liquidamber,</i>	<i>ib.</i>		
<i>What,</i>	n. 42		
<i>Described,</i>	<i>ib.</i>		
<i>Liquorice,</i>	34		
<i>Its powder character-</i>			
<i>ized,</i>	n. 34		
<i>Its extract or juice</i>			
<i>how made,</i>	164		
<i>Its characteristics,</i>	n. 34		
<i>Litharge, prepared,</i>	103		
<i>Liver of Sulphur,</i>	295		
<i>What proportion of</i>			
<i>the ingredients</i>			
<i>most proper,</i>	n. 295		
<i>Best method of con-</i>			
<i>ducting the pro-</i>			
<i>cess,</i>	<i>ib.</i>		
<i>Liverwort, ground,</i>	35		
<i>Ash-coloured,</i>	41		
<i>What, and where</i>			
<i>found,</i>	n. 41		
<i>Its use in medi-</i>			
<i>cine,</i>	<i>ib.</i>		
<i>When to be ga-</i>			
<i>thered,</i>	<i>ib.</i>		
<i>Noble,</i>	35		
<i>Leadstone,</i>	87		
<i>Logwood,</i>	15		
<i>Of use in diarrhœas,</i>	n. 15		
<i>Loboch, *Balsamic,</i>	345		
<i>Common,</i>	184, *345		
<i>Of Linseed,</i>	184		
<i>Manna,</i>	<i>ib.</i>		
* <i>Pectoral,</i>	345		
<i>Saponaceous,</i>	185		
<i>of Sperma ceti,</i>	<i>ib.</i>		
<i>Starch,</i>	184		
<i>Compound powder of</i>			
<i>Tragacanth,</i>	<i>ib.</i>		
<i>Lovage,</i>	41		
<i>Lozenges of the compound pow-</i>			
<i>der of Tragacanth,</i>	168		
<i>Lunar caustic,</i>	303		
<i>Lungwort,</i>	55		
<i>Lupine,</i>	42		
		M.	
<i>Mace,</i>	42		
<i>What,</i>	n. 47		
<i>Mad dog, method of curing</i>			
<i>his bite,</i>	170		
<i>Madder,</i>	57		
<i>Description of it,</i>	n. 57		
<i>Bones of animals died</i>			
<i>red by feeding on it,</i>	<i>ib.</i>		
<i>Magnesia alba what, and how</i>			
<i>prepared,</i>	n. 88		
<i>Maidenhair, English,</i>	55		
<i>True,</i>	3		
<i>Malaca-bean,</i>	7		
<i>Mallows,</i>	43		
<i>Mandrake,</i>	<i>ib.</i>		
<i>Manna,</i>	<i>ib.</i>		
<i>Its several kinds,</i>	n. 43		
<i>Which best,</i>	<i>ib.</i>		
<i>Directions for its choice,</i>	<i>ib.</i>		
<i>Mare,</i>	75		
<i>Marigold,</i>	15		
<i>Marjoram,</i>	42		
<i>Marshmallows,</i>	6		
<i>Masterwort,</i>	37		
<i>Mastich,</i>	40		
<i>What,</i>	n. 40		
<i>Its characteristics,</i>	<i>ib.</i>		
<i>Spirit of wine applied to</i>			
<i>it as a menstruum,</i>	n. 41		
<i>Water applied as a</i>			
<i>menstruum,</i>	<i>ib.</i>		
<i>Herb-,</i>	44		
<i>-Thyme of Syria,</i>	<i>ib.</i>		
<i>Maudlin,</i>	4		
<i>May weed,</i>	26		
<i>Meadowsweet,</i>	70		
<i>Mechoacan,</i>	44		
<i>Where found,</i>	n. 44		
<i>Description of it,</i>	<i>ib.</i>		
<i>Adulterated with Bry-</i>			
<i>ony roots,</i>	<i>ib.</i>		
<i>How distinguished</i>			
<i>therefrom,</i>	<i>ib.</i>		
<i>Its medical virtues,</i>	<i>ib.</i>		
<i>Medlar,</i>	45		
<i>Melilot,</i>	44		

I N D E X.

<p><i>Melons</i>, 44 <i>Water</i>, 24 <i>Mercury</i> (the herb) English, 14 French, 45 <i>Mercury</i>. See <i>Quicksilver</i>. <i>Calcined red</i>, 317 Often imported from abroad, n. 317 Parable in great per- fection at home, <i>ib.</i> What aqua fortis most proper, <i>ib.</i> Its bright sparkling appearance to what owing, <i>ib.</i> Of the London Phar- macopœia, n. 318 <i>Of Life</i>, 330 Of what composed, n. 331 Method of abating its virulence, <i>ib.</i> <i>Precipitate, brown</i>, of Wurtz, 316 Not different from Sweet precipitate, n. 317 <i>Green</i>, 318 <i>Red</i>, see <i>Mercury cal-</i> <i>cined red</i>, 317 <i>Sweet</i>, 316 Of the London Dif- pensatory, n. 316 <i>White</i>, 315 Inconveniencies of the process, n. 315 Cautions, <i>ib.</i> <i>Yellow</i>. See <i>Turpeth</i> <i>mineral</i>. <i>Sublimate corrosive</i>, 320 Another way, n. 320 How made to ap- pear in the form of a cake, n. 321 The sublimation how known to be com- pleted, <i>ib.</i> <i>Sweet</i>, 321 Danger in mixing the ingredients, n. 321 How to be avoid- ed, <i>ib.</i></p>	<p><i>Mercury Sublimate</i>, its dulcifi- cation by what means effected, n. 322 Whether sublima- tion of any use in this process, <i>ib.</i> <i>Sugared</i>, 323 <i>Mezereon</i>, 45 *<i>Milk of gum Ammoniacum</i>, n. 153 *<i>Prepared with iron</i>, 358 of <i>Sulphur</i>, 297 <i>Milfoil</i>, 45 <i>Millepedes</i>, 76 Prepared, 104 <i>Millet</i>, 45 <i>Minerals</i>, 79 <i>Mint</i>, garden, 45 Horse, <i>ib.</i> <i>Mistletoe</i>, 69 <i>Mitbridate</i>, 179 <i>Moneywort</i>, 47 <i>Mosaic gold</i>, 306 History of the process, n. <i>ib.</i> The products describ- ed, n. 307 What, and of what composed, n. 308 <i>Mother of pearl</i>, 76 <i>Thyme</i>, 64 <i>Motherwort</i>, 18 <i>Mouse-ear</i>, 11 <i>Mugwort</i>, 10 <i>Mulberries</i>, 45 <i>Mullein</i>, 67 <i>Musk</i>, 76 What, n. 76 Where found, <i>ib.</i> Described, <i>ib.</i> Characteristics of its ge- nuineness and purity, <i>ib.</i> & n. 77 Spirit of wine applied to it as a menstruum, <i>ib.</i> Why disused in medicine, <i>ib.</i> Hint for its introduction, <i>ib.</i> Its extraordinary effects in convulsive and other disorders, <i>ib.</i></p>
---	--

Mustard,

I N D E X.

<p><i>Oil of Lavender,</i> 225 Best method of obtaining it to advantage, n. 225 Characterized, n. 226 <i>Lemon-peel,</i> 227 Described and characterized, n. 227 <i>Lillies,</i> 200 <i>Linseed,</i> 199 <i>Mace,</i> expressed, <i>ib.</i> Distilled, 228 <i>Marjoram,</i> 224 Described, n. 224 Rendered more fragrant by rectification, <i>ib.</i> <i>Mint,</i> 224 <i>Mucilages,</i> 200 <i>Mustard-seed,</i> 199 <i>Nutmegs,</i> <i>ib.</i> <i>Olives,</i> ripe, <i>ib.</i> Unripe, <i>ib.</i> <i>Origanum,</i> 224 <i>Palm.</i> See <i>Palm-oil.</i> <i>Penny-royal,</i> 224 Description of it, n. 224 <i>Pimento,</i> recommended as a substitute for dearer oils, n. 236 <i>Rosemary,</i> 224 Description of it, n. 224 Cautions to be observed in distilling it, <i>ib.</i> <i>Roses,</i> 200 <i>Rue,</i> <i>ib.</i> Distilled, 224 Description of it, 225 How obtained in larger quantity than by the usual treatment, n. 224 <i>St. John's wort,</i> 200 <i>Sassafras,</i> 228 Characterized, n. 228 Medical virtues of the remaining decoction, <i>ib.</i></p>	<p><i>Oil of Savin,</i> 232 <i>Sulphur</i> by the bell, 294 The process tedious, n. 294 To what owing, <i>ib.</i> A more commodious method, 295 Quantity of acid obtainable thereby, <i>ib.</i> Improvements on it, n. 296 Whether different from oil of vitriol, <i>ib.</i> The process capable of being so managed, as to afford a sufficient quantity of acid to supply the demand of oil of vitriol, <i>ib.</i> <i>Tartar per deliquium,</i> 255 Wherein preferable to solutions of fixed salts in water, n. 255 <i>Turpentine,</i> by the retort, 232 Ethereal, 233 Not preferable to that drawn with water, n. 233 By the alembic, 234 <i>Vitriol,</i> 287 Inconvenience of using vitriol too little calcined, n. 287 How far to be calcined, <i>ib.</i> The distillation how long to be continued, n. & 288 How separated from the phlegm, 288 <i>Walnuts,</i> 199 <i>Wax,</i> 273 Disused, and why, n. 273</p>
--	--

I N D E X.

<i>Oil of Wax</i> , most commodious method of making it,	n. 273	<i>Ointment, Basilicon</i> ,	206
Rectified,	274	of Calamine stone,	<i>ib.</i>
<i>Wormwood-tops</i> ,	199	red Desiccative,	<i>ib.</i>
Distilled,	n. 222	of Elder,	210
The plant when best for distillation,	<i>ib.</i>	*Emollient,	n. 207
<i>Oils</i> , improper correctors of refinous purgatives,	n. 27	Epispastic,	207
Distilled, their different kinds,	n. 221	Against the Itch,	205
<i>Empyreumatic</i> , what,	<i>ib.</i>	With Mercury,	<i>ib.</i>
<i>Essential</i> , what,	<i>ib.</i>	of Marshmallows,	207
How obtained,	222 <i>seq.</i>	Mercurial, 208,*n.	208
Directions for the choice of the subject,	n. 222	Nervine,	<i>ib.</i>
Addition of salt whether useful,	229	Nutritum,	209
Whether the quantity of oil is increased by acids,	n. 230	Ophthalmic,	<i>ib.</i>
Quantity of water and of the vegetable to be put into the still at once, determined,	n. 223	Pomatum,	<i>ib.</i>
Length of the maceration how ascertained,	n. 229, n. 223	of Pompholyx,	207
The oil how separated from the water,	n. 223	Poplar,	209
Advantage of reserving the water for future distillations,	n. 230	Roses,	<i>ib.</i>
Their colour, taste and smell variable,	n. 225	Saturnine,	210
General remarks on them,	n. 235	*Sulphur,	
Their adulterations how best discovered,	<i>ib.</i>	*Tar,	
<i>Ointment, Egyptian</i> ,	204	of Tutty,	210
of Arcæus,	205	*Camphorated	
		Vermifuge,	211
		White,	205
		Camphorated,	<i>ib.</i>
		Yellow,	206
		<i>Oker</i> ,	88
		Red,	90
		<i>Olibanum</i> ,	48
		<i>Oliues</i> ,	<i>ib.</i>
		<i>Oneyberry</i> ,	35
		<i>Onions</i> ,	21
		<i>Opium</i> ,	49
		How obtained,	n. 49
		Described and characterized,	<i>ib.</i>
		Its solvents,	<i>ib.</i>
		Analyfed,	<i>ib.</i>
		Prepared,	104, n. 105
		<i>Opopanax</i> ,	50
		Description and characters of it,	n. 50
		Spirit of wine applied to it as a menstruum,	<i>ib.</i>
		Water applied as a menstruum,	<i>ib.</i>
		Prepared,	105

I N D E X.

<p><i>Oil of Lavender,</i> 225 Best method of obtaining it to advantage, n. 225 Characterized, n. 226 <i>Lemon-peel,</i> 227 Described and characterized, n. 227 <i>Lillies,</i> 200 <i>Linseed,</i> 199 <i>Mace,</i> expressed, <i>ib.</i> Distilled, 228 <i>Marjoram,</i> 224 Described, n. 224 Rendered more fragrant by rectification, <i>ib.</i> <i>Mint,</i> 224 <i>Mucilages,</i> 200 <i>Mustard-seed,</i> 199 <i>Nutmegs,</i> <i>ib.</i> <i>Olives,</i> ripe, <i>ib.</i> Unripe, <i>ib.</i> <i>Origanum,</i> 224 <i>Palm.</i> See <i>Palm-oil.</i> <i>Penny-royal,</i> 224 Description of it, n. 224 <i>Pimento,</i> recommended as a substitute for dearer oils, n. 236 <i>Rosemary,</i> 224 Description of it, n. 224 Cautions to be observed in distilling it, <i>ib.</i> <i>Roses,</i> 200 <i>Rue,</i> <i>ib.</i> Distilled, 224 Description of it, 225 How obtained in larger quantity than by the usual treatment, n. 224 <i>St. John's wort,</i> 200 <i>Sassafras,</i> 228 Characterized, n. 228 Medical virtues of the remaining decoction, <i>ib.</i></p>	<p><i>Oil of Savin,</i> 232 <i>Sulphur</i> by the bell, 294 The process tedious, n. 294 To what owing, <i>ib.</i> A more commodious method, 295 Quantity of acid obtainable thereby, <i>ib.</i> Improvements on it, n. 296 Whether different from oil of vitriol, <i>ib.</i> The process capable of being so managed, as to afford a sufficient quantity of acid to supply the demand of oil of vitriol, <i>ib.</i> <i>Tartar per deliquium,</i> 255 Wherein preferable to solutions of fixed salts in water, n. 255 <i>Turpentine,</i> by the retort, 232 Ethereal, 233 Not preferable to that drawn with water, n. 233 By the alembic, 234 <i>Vitriol,</i> 287 Inconvenience of using vitriol too little calcined, n. 287 How far to be calcined, <i>ib.</i> The distillation how long to be continued, n. & 288 How separated from the phlegm, 288 <i>Walnuts,</i> 199 <i>Wax,</i> 273 Disused, and why, n. 273</p>
--	--

I N D E X.

<i>Oil of Wax</i> , most commodious method of making it,	n. 273	<i>Ointment, Basilicon</i> ,	206
Rectified,	274	of <i>Calamine stone</i> ,	<i>ib.</i>
<i>Worm-wood-tops</i> ,	199	<i>red Desiccative</i> ,	<i>ib.</i>
Distilled,	n. 222	of <i>Elder</i> ,	210
The plant when best for distillation,	<i>ib.</i>	* <i>Emollient</i> ,	n. 207
<i>Oils</i> , improper correctors of resinous purgatives,	n. 27	<i>Epispastic</i> ,	207
Distilled, their different kinds,	n. 221	<i>Against the Itch</i> ,	205
<i>Empyreumatic</i> , what,	<i>ib.</i>	With <i>Mercury</i> ,	<i>ib.</i>
<i>Essential</i> , what,	<i>ib.</i>	of <i>Marshmallows</i> ,	207
How obtained,	222 <i>seq.</i>	<i>Mercurial</i> ,	208,*n. 208
Directions for the choice of the subject,	n. 222	<i>Nervine</i> ,	<i>ib.</i>
Addition of salt whether useful,	229	<i>Nutritum</i> ,	209
Whether the quantity of oil is increased by acids,	n. 230	<i>Ophthalmic</i> ,	<i>ib.</i>
Quantity of water and of the vegetable to be put into the still at once, determined,	n. 223	<i>Opodeldoc</i> ,	<i>ib.</i>
Length of the maceration how ascertained,	n. 229, n. 223	<i>Pomatum</i> ,	<i>ib.</i>
The oil how separated from the water,	n. 223	of <i>Pompholyx</i> ,	207
Advantage of reserving the water for future distillations,	n. 230	<i>Poplar</i> ,	209
Their colour, taste and smell variable,	n. 225	<i>Roses</i> ,	<i>ib.</i>
General remarks on them,	n. 235	<i>Saturine</i> ,	210
Their adulterations how best discovered,	<i>ib.</i>	* <i>Sulphur</i> ,	<i>ib.</i>
<i>Ointment, Egyptian</i> ,	204	* <i>Tar</i> ,	<i>ib.</i>
of <i>Arçæus</i> ,	205	of <i>Tutty</i> ,	210
		* <i>Campborated</i>	<i>ib.</i>
		<i>Vermifuge</i> ,	211
		<i>White</i> ,	205
		<i>Campborated</i> ,	<i>ib.</i>
		<i>Yellow</i> ,	206
		<i>Oker</i> ,	88
		Red,	90
		<i>Olibanum</i> ,	48
		<i>Olivæ</i> ,	<i>ib.</i>
		<i>Oneberry</i> ,	35
		<i>Onions</i> ,	21
		<i>Opium</i> ,	49
		How obtained,	n. 49
		Described and characterized,	<i>ib.</i>
		Its solvents,	<i>ib.</i>
		Analyzed,	<i>ib.</i>
		Prepared,	104, n. 105
		<i>Opopanax</i> ,	50
		Description and characters of it,	n. 50
		Spirit of wine applied to it as a menstruum,	<i>ib.</i>
		Water applied as a menstruum,	<i>ib.</i>
		Prepared,	105

I N D E X.

<p><i>Orach</i>, garden, 11 Stinking, <i>ib.</i> <i>Orange-tree</i>, <i>ib.</i> <i>Orchis</i>, 61 <i>Origanum</i>, 49 <i>Orpiment</i>, 82 What, n. 82 Where found, <i>ib.</i> Its different colours, <i>ib.</i> How affected by fire, <i>ib.</i> Not poisonous in its crude state, <i>ib.</i> But becomes so when its parts have been separated by fire, n. 83 <i>Orpine</i>, 26 <i>Orrice</i>, common, 39 Florence, 38 <i>Osmund-royal</i>, 31 <i>Osteocolla</i>, 88 <i>Ox</i>, 78 <i>Oxymel, pectoral</i>, 162 <i>Simple</i>, 163 <i>of Squills</i>, 162 <i>Oysters</i>, 77 <i>Oyster-shells</i> prepared, 106 Of use in removing disorders of the sto- mach, n. 195 Their virtue to what owing, <i>ib.</i></p> <p style="text-align: center;">P.</p> <p><i>Palm-tree</i>, 50 <i>-Oil</i>, what, n. 50 Its medical uses, <i>ib.</i> How altered by keep- ing, <i>ib.</i> <i>Panacæa of Mercury</i>, 322 Whether different from Mercurius dulcis, n. 322 <i>Panic</i>, 51 <i>Pareira brava</i>, <i>ib.</i> Described, n. 51 Its medicinal virtue, <i>ib.</i> <i>Parsley</i>, common, 52 Macedonian, <i>ib.</i></p>	<p><i>Parfneps</i>, garden, 52 Water, <i>ib.</i> Wild, <i>ib.</i> <i>Peach tree</i>, <i>ib.</i> <i>Peacock</i>, 78 <i>Pearls</i>, 76 Prepared, 104 <i>Pearl-ashes</i>, n. 39 Whether a pure al- caline salt, <i>ib.</i> <i>Pease</i>, 54 <i>Pellitory of Spain</i>, 55 <i>of the Wall</i>, 35 <i>Penny-royal</i>, 55 <i>Harts</i>, <i>ib.</i> <i>Pepper, black</i>, 53 Described, n. 53 How to be chosen, <i>ib.</i> Yields an oil on distillation, <i>ib.</i> Spirit of wine ap- plied to it as a menstruum, n. 54 <i>Guinea</i>, 16 <i>Jamaica</i>, 54 Described, n. 54 Yields an excellent oil, <i>ib.</i> n. 236 <i>Long</i>, 53 Described, n. 53 How to be chosen, <i>ib.</i> <i>White</i>, 53 What, n. 53 How obtained, <i>ib.</i> Whence its diffe- rence from the black, <i>ib.</i> <i>Peruvian bark</i>, 23 Its different kinds described, n. 23 Which best, <i>ib.</i> <i>Petroleum</i>, 89 What, n. 89. Where found, <i>ib.</i> Its different kinds de- scribed and charac- terized, n. 89, n. 90 Its chemical analysis, n. 90 <i>Pigeon</i>,</p>
---	--

I N D E X.

- Pigeon*, 75
Pike, fish, 76
Pilewort, 22
Pills, general rules for making, 193
 Æthiopic, 180
 **Chalybeat*, n. 188
 Coccia, 185
 Common, 187
 Ephraetic, 187
 With steel, 188, *n. 188
 **Purging*, n. 188
 Fætid, 188
 of Gamboge, *ib.*
 **Garlick*, 360
 Gum, 189, *n. 189
 Mercurial, 189
 Laxative, 189, *n. 190
 Pacific, of Matthew, 190, *n. 190
 Pectoral, *ib.*
 Rudius's, 190
 Rufus's, 187
 Scillitic, 191, *360
 Their medical virtues, n. 291
 How varied in extemporaneous prescription, *ib.*
 Stomachic, 192, *n. 192
 of Storax, 102
 **Tar*, 360
 Two ingredients, 186
Pimento, 54
 Described, n. 54
 Yields an aromatic oil on distillation, *ib.*
Pine-tree, 52
Pistacio Nuts, 48
Pitch, 54
 Burgundy, *ib.*
Plasters, general rules for making, 218
Plaster, *Adbæsive*, 212, *n. 212
 Anodyne, 212
 Antihysterick, *ib.*
 Cephalic, 213
 **Common*, n. 212
 Defensivæ, 213, *n. 214
Plaster, *Diachylon*, with
 Gums, 214
 Simple, *ib.*
 Diapalme, 215
 Epispastic, 215, *n. 215
 Compound, 215
 **Gum*, n. 215
 of Hemlock with gum Ammoniacum, 213
 Melilot, 216
 Mercurial, *ib.* *n. 216
 Oxycroceum, 217
 Red lead, 216
 With Soap, *ib.*
 **Saponaceous*, n. 217
 Stomach, 217, *n. 217
 **Suppurating*, 348
 Volatile, 218
 **Wax*, n. 212
 **Warm*, 348
Plantain, 54
Pæony, female, *ib.*
 Male, *ib.*
Poley-mountain, *ib.*
Polypody, 55
Pomegranate, garden, 55
 Wild, *ib.*
Pompholyx of the ancients,
 what, n. 84
Pompkin, 52
Poplar, black, 55
Poppies, black, 51
 White, *ib.*
 Wild, *ib.*
Potashes, 39
 Their different kinds, n. 39
 Which best, *ib.*
 Liable to abuse, *ib.*
 To be purified before they are used in medicine, *ib.*
Potential Cautey, 267
Poterius's Antihæctic, 333
 **Potion*, *Balsamic*, 361
 **Lithontripctic*, *ib.*
Powders, general rules for making, 175
 Powder,

I N D E X.

<i>Powder, Antiepileptic,</i>	169	<i>Quicksilver,</i> how obtained,	n. 86
<i>Aromatic,</i>	172, *n. 172	Its adulteration how	discovered,
<i>of Arum,</i> compound,	170		<i>ib.</i>
<i>Against the Bite of a</i>		Effect of fire and agi-	
<i>mad dog,</i>	169	tation upon it,	n. 87
Its efficacy in the		Its solvents,	<i>ib.</i>
cure of this dis-		<i>Quinces,</i>	28
order,	n. 169		
<i>Cephalic,</i>	171	R.	
<i>of Contrayerva,</i> com-		<i>Ragwort,</i>	36
ound,	171	<i>Raisins,</i>	70
<i>Cornachines,</i>	172	<i>Red lead,</i>	308
<i>of Crabs claws,</i> com-		How made in large	
ound,	171	quantity	n. 308
To promote <i>Deliv-</i>		Its increase of weight,	<i>ib.</i>
<i>ery,</i>	173	<i>Regulus of Antimony,</i>	326
<i>Of five ingredients,</i>	<i>ib.</i>	A more conveni-	
<i>Four ingredients,</i>	<i>ib.</i>	ent method,	n. 326
<i>Hiera picra,</i>	<i>ib.</i>	<i>Martial,</i>	327
<i>Sena,</i> compound,	<i>ib.</i>	<i>Stellated,</i>	<i>ib.</i>
<i>Styptic,</i>	174	<i>Resin of Guaiacum,</i>	243
Its good effects		<i>Jalap,</i>	<i>ib.</i>
in uterine hæ-		<i>Peruvian bark,</i>	<i>ib.</i>
morrhagies,	n. 174	<i>Scammony,</i>	<i>ib.</i>
* <i>Testaceous,</i> com-		White,	56
ound,	n. 171	<i>Rest-barrow,</i>	48
* <i>With wax,</i>	<i>ib.</i>	<i>Rhapontic,</i>	56
<i>of Gum Tragacanth,</i>		<i>Rhodium-wood;</i>	56
compound,	173	Description of it,	n. 56
<i>Vermifuge,</i>	174, *n. 175	Yields a fragrant oil on	
* <i>Purging,</i>	<i>ib.</i>	distillation,	<i>ib.</i>
<i>Preparations of simples,</i>	100	Hint for applying it to	
Use of water in the		medical uses,	<i>ib.</i>
preparation of ear-		Spirit of wine applied to	
thy, &c. substan-		it as a menstruum,	<i>ib.</i>
ces,	n. 102	<i>Rhubarb,</i>	56
<i>Preserves,</i>	166	Of different sorts,	n. 56
<i>Primrose,</i>	55	Description and charac-	
<i>Prunes, Damask,</i>	<i>ib.</i>	ters of the best,	<i>ib.</i>
French,	<i>ib.</i>	Water, and spirit, appli-	
<i>Pudding-pipe tree,</i>	19	ed to it as menstrea,	<i>ib.</i>
<i>Pumice-stone,</i>	90	The resinous extract so-	
<i>Purslain,</i>	55	luble in water,	<i>ib.</i>
		<i>Rice,</i>	49
Q.		<i>Rob of elder,</i>	165
<i>Queen of the Meadows,</i>	70	<i>Rocket,</i>	30
<i>Quicklime,</i>	84	<i>Rosemary,</i>	57
<i>Quicksilver,</i> 86. See <i>Mercury.</i>		<i>Roses, Damask,</i>	<i>ib.</i>
Its characters,	n. 86	Red,	<i>ib.</i>
		<i>Rue,</i>	

I N D E X.

<p><i>Rue</i>, garden, 58 <i>Goats-</i>, 33 <i>Rupture-wort</i>, 35 <i>Rye</i>, 63</p> <p style="text-align: center;">S.</p> <p><i>Saffron</i>, 26 Its different kinds, n. 26 Described, <i>ib.</i> Which best, n. 27 English how distinguished from the foreign, n. 27 Its solvents, <i>ib.</i> Loses its virtue by drying, <i>ib.</i> <i>Bastard</i>, 18 Its seeds described and characterized, n. 18 Considered as medicines, <i>ib.</i> <i>Of metals</i>, 324 Cautions in making it, n. 324</p> <p><i>Sagapenum</i>, 58 Described, n. 58 Usually adulterated with bdellium, n. 13, 58 Its characteristics, n. 58 Spirit of wine applied to it as a menstruum, <i>ib.</i> <i>Prepared</i>, 105</p> <p><i>Sage</i>, common, 59 <i>Of Virtue</i>, <i>ib.</i> <i>Wood-</i>, <i>ib.</i></p> <p><i>Sago</i>, <i>ib.</i> <i>St. John's-wort</i>, 36 <i>Sal Ammoniac</i>, 90 Described, n. 90 How obtained, <i>ib.</i> Its characters, n. 91 Its medical virtues, <i>ib.</i> Factitious, 269 How made in Egypt, n. 270 Obtainable from urine, n. 269 From foot, <i>ib.</i> Whether sea-salt necessary, <i>ib.</i></p>	<p><i>Sal Ammoniac</i>, method of purifying it, 272 Its volatile salt, 270 <i>Gemmae</i>, 92 Its different kinds, n. 92 Where found, <i>ib.</i></p> <p><i>Prunellæ</i>, 279 Method of making it in large quantities, n. 280 The nitre not improved by this preparation, n. 280 Best method of preparing nitre, <i>ib.</i></p> <p><i>Salt of Amber</i>, 300 Characterized, n. 95 Cautions to be observed in its distillation, n. 300 Rectified by sublimation, 301 By crystallisation, n. 301</p> <p><i>Common</i>, 92 How obtained, n. 92 Differences in it from the manner of preparation, <i>ib.</i> Its characters, <i>ib.</i> Its uses in medicine, n. 93</p> <p><i>Essential</i>, how obtained, 245 What vessels most proper for this process, n. 246 The evaporation how long to be continued, <i>ib.</i> Use of the oil added before crystallisation, n. 247 Inconveniencies of the process, n. 248 Methods of expediting it, <i>ib.</i> Spießius's method, <i>ib.</i> Stahl's method, n. 249 Which most likely to succeed, <i>ib.</i></p>
---	--

I N D E X.

<p><i>Salt of Centaury,</i> 247 <i>Eyebright,</i> <i>ib.</i> <i>Fumitory,</i> <i>ib.</i> <i>Oak,</i> 248 <i>Plantane,</i> <i>ib.</i> <i>Sorrel,</i> 245 Its characters, n. 247 <i>Succory,</i> 247 <i>Fixed,</i> how obtained, 250 Directions for the choice of the subject, n. 250 The calcination how best performed, <i>ib.</i> The ashes how to be elixated, <i>ib.</i> Criterion of their being duly prepared, n. 251 Whether they differ from one another, <i>ib.</i> The colour which they acquire by calcination, no certain criterion of their strength, n. 255 <i>of Broom,</i> 251 <i>Bean-stalks,</i> <i>ib.</i> <i>Wormwood,</i> 249 <i>of Hartshorn,</i> 264 Rectified, 266 How perfectly depurated, n. 266 <i>Polychrest,</i> 280 Not different from cheaper preparations, n. 280 <i>Sea.</i> See Common Salt. <i>of Steel,</i> 302 <i>of Tartar,</i> 254 Quantity obtained, n. 254 Its strength how increased, 255 Quantity of moisture it imbibes from the air, n. 255 <i>of Tin,</i> 305</p>	<p><i>Salt of Vitriol,</i> 286 The crystals apt to be fouled by a sediment which subsides from the liquor, n. 287 This inconvenience how avoided, <i>ib.</i> <i>Volatile of Sal Ammoniac,</i> 271 <i>Wonderful of Glauber,</i> 278 <i>Sampire,</i> 26 <i>Sandarach of the Greeks,</i> what, n. 82 <i>Sanicle,</i> 59 <i>Sapa of elder,</i> 165 <i>Sarcocolla,</i> 60 What, n. 60 Its characters, <i>ib.</i> <i>Sarsaparilla,</i> 61 Described, n. 61 <i>Sassafras,</i> 61 Description of it, n. 61 Yields an oil on distillation, <i>ib.</i> <i>Satyriou,</i> 61 <i>Sauce-alone,</i> 4 <i>Saunders, white,</i> 59 What, n. 59 Its characters, n. 60 <i>Yellow,</i> 59 What, n. 59 Its characters, n. 60 An excellent balsam obtained from it, <i>ib.</i> In what it differs from the white, <i>ib.</i> <i>Red,</i> 60. Characterized, <i>ib.</i> Affords a red resin, <i>ib.</i> <i>Savin,</i> 58 <i>Savoury,</i> 61 <i>Saxifrage,</i> Burnet-, 52 Meadow, 61 White, <i>ib.</i> <i>Scabious,</i> <i>ib.</i> <i>Scammony,</i> 62 <i>Scammony,</i></p>
---	---

I N D E X.

<p><i>Scammony</i>, described, n. 62 Spirit of wine applied to it as a menstruum, <i>ib.</i> <i>Sciatica-creffes</i>, 37 <i>Scorpion</i>, 78 <i>Scurvy-grass</i>, garden, Sea, 24 <i>Sea cow</i>, 76 <i>Onions</i>, 62 <i>Sebestens</i>, 63 <i>Selfheal</i>, 55 <i>Sena</i>, 64 Of different sorts, n. 64 Which best, <i>ib.</i> Described, <i>ib.</i> How to be chosen, <i>ib.</i> Its stalks whether useful, <i>ib.</i> Water applied to it as a menstruum, <i>ib.</i> On what its purgative virtue depends, <i>ib.</i> Its griping quality how best prevented, <i>ib.</i> <i>Seneka</i>, 63 Its uses in medicine, n. 63 <i>Septic stone</i>, 261 <i>Sermountain</i>, 65 <i>Service-tree</i>, <i>ib.</i> <i>Sesamum</i>, 64 <i>Seseli</i>, common, 65 of <i>Marseilles</i>, 64 <i>Setfoil</i>, 68 <i>Sheep</i>, 78 <i>Shepherds purse</i>, 15 <i>Silesian earth</i>, 93 <i>Silk-worm</i>, 73 Its bags and raw filk yield a large quanti- ty of volatile salt, <i>ib.</i> <i>Silver</i>, 81 <i>Silver-weed</i>, 10 <i>Simples</i>, 1 Rules for gathering them, 98 General titles including several of them at once, 97 Preparations of, 100 <i>Sinapism</i>, compound, 220 Simple, <i>ib.</i> <i>Skinks</i>, 78</p>	<p><i>Slate</i>, Irish, 87 <i>Sloes</i>, 55 <i>Smallage</i>, 8 <i>Snails</i>, 76 <i>Snakeroot</i>, Virginian, 64 <i>Sneezewort</i>, 55 <i>Soap</i>, black, 60 of <i>Tartar</i>, 260 The process how faci- litated, <i>ib.</i> & n. 261 Experiments to deter- mine the best method of making it, n. 261 <i>White</i>, 60 <i>Soapwort</i>, <i>ib.</i> <i>Solomons seal</i>, 65 <i>Solution of Mercury</i>, 314 <i>Soot of wood</i>, 32 <i>Sorrel</i>, 2 <i>Southernwood</i>, male, 1 Female, <i>ib.</i> <i>Sowbread</i>, 10 <i>Spanish flies</i>. See <i>Cantbarides</i>. <i>Sparagus</i>, 10 <i>Speedwell</i>, female, 69 Male, <i>ib.</i> <i>Spiders</i>, 72 <i>Spignel</i>, 45 <i>Spike</i>, common, 65 <i>Spirits volatile</i>. See <i>volatile</i> <i>Salts</i>. <i>Spirit</i>, <i>Æthereal of turpentine</i>, 233 of <i>Amber</i>, 300 Cautions to be ob- served in its dis- tillation, n. 300 <i>Blood</i>, 267 Cautions in distil- ling this subject, <i>ib.</i> <i>Hartshorn</i>, 263 Most convenient apparatus for dis- tilling hartshorn, n. 264 That of the whole- sale chemists, n. 263 Cautions, 264 Rectified, 265, & n. 266 <i>Lawender</i>, 119, *n. 120 C c <i>Spirit</i></p>
--	--

I N D E X.

<p><i>Spirit of Minderevus,</i> 272</p> <p><i>Nitre,</i> 281</p> <p style="padding-left: 2em;"><i>Boerhaave's,</i> n. 281</p> <p style="padding-left: 2em;"><i>Hoffman's,</i> <i>ib.</i></p> <p style="padding-left: 2em;">*Different uses of these two processes, <i>ib.</i></p> <p style="padding-left: 2em;">Its red colour no mark of strength, <i>ib.</i></p> <p style="padding-left: 2em;">To what owing, <i>ib.</i></p> <p style="padding-left: 2em;"><i>Dulcified,</i> 281</p> <p style="padding-left: 2em;"><i>Hoffman's,</i> n. 282</p> <p style="padding-left: 2em;">Inconvenience of employing weak spirits, <i>ib.</i></p> <p style="padding-left: 2em;">Cautions to be observed in mixing the ingredients, <i>ib.</i></p> <p style="padding-left: 4em;">& n. 283</p> <p style="padding-left: 2em;">In conducting the distillation, n. 283</p> <p style="padding-left: 2em;">A water-bath recommended for this purpose, <i>ib.</i></p> <p><i>Saline aromatic,</i> 121, *n. 121</p> <p><i>of Sal ammoniac,</i> 270</p> <p style="padding-left: 2em;">A more commodious method, n. 270</p> <p style="padding-left: 2em;"><i>Sweet,</i> n. 271</p> <p style="padding-left: 2em;">Characterized, <i>ib.</i></p> <p><i>Salt per se,</i> 275</p> <p style="padding-left: 2em;">Inconveniencies of the process, n. 275, n. 276</p> <p style="padding-left: 2em;">How rectified, <i>ib.</i></p> <p style="padding-left: 2em;"><i>Dulcified,</i> 279</p> <p style="padding-left: 2em;">Cautions, n. 279</p> <p><i>Glaubers,</i> 276</p> <p style="padding-left: 2em;">What proportions of the ingredients most proper, n. 277</p> <p style="padding-left: 2em;">Best method of conducting the process, <i>ib.</i></p>	<p><i>Spirit of Scurvygrass,</i> 119</p> <p style="padding-left: 2em;"><i>Sulphur,</i> 294</p> <p style="padding-left: 2em;"><i>Vinegar,</i> 124</p> <p style="padding-left: 2em;"><i>Vitriol,</i> 287</p> <p style="padding-left: 2em;"><i>Dulcified,</i> 288</p> <p style="padding-left: 2em;">Characterized, n. 289</p> <p style="padding-left: 2em;">History of the process, with directions for performing it with success, <i>ib.</i></p> <p style="padding-left: 2em;">The distilling vessel apt to burst, n. 290</p> <p style="padding-left: 4em;">How prevented, <i>ib.</i></p> <p><i>Urine,</i> 267</p> <p style="padding-left: 2em;"><i>With quicklime,</i> <i>ib.</i></p> <p><i>Wine, camphorated,</i> 145</p> <p style="padding-left: 2em;"><i>Rectified,</i> 119</p> <p><i>Spleenwort,</i> 21</p> <p><i>Sponge,</i> 65</p> <p><i>Spurge, greater,</i> 30</p> <p style="padding-left: 2em;"><i>Lesser,</i> <i>ib.</i></p> <p style="padding-left: 2em;"><i>Olive,</i> 45, 68</p> <p style="padding-left: 2em;"><i>Laurel,</i> 40</p> <p><i>Squill,</i> 62</p> <p style="padding-left: 2em;">Described, n. 62</p> <p style="padding-left: 2em;">How to be chosen, <i>ib.</i></p> <p style="padding-left: 2em;">Its internal part not poisonous, n. 63</p> <p style="padding-left: 2em;">Its use in medicine, <i>ib.</i></p> <p><i>Squinanth,</i> 62</p> <p style="padding-left: 2em;">Described and characterized, n. 62</p> <p><i>Stæchas, Arabian,</i> 65</p> <p><i>Stag,</i> 75</p> <p><i>Staves-acre,</i> 65</p> <p><i>Starch,</i> 68</p> <p><i>Steel,</i> 86</p> <p style="padding-left: 2em;"><i>Soluble,</i> 310</p> <p style="padding-left: 2em;"><i>Sugared,</i> 167</p> <p style="padding-left: 2em;"><i>Sulphurated,</i> 311</p> <p style="padding-left: 4em;">Another method, n. 311</p> <p style="padding-left: 2em;"><i>Tartarized,</i> 310</p> <p><i>Stone, Infernal,</i> 303</p> <p style="padding-left: 2em;">Cautions to be observed in its preparations, n. 303, n. 304.</p> <p style="padding-left: 4em;"><i>Stone,</i></p>
---	---

I N D E X.

<p><i>Stone, Medicinal,</i> 292 <i>Septic,</i> 261 <i>Stone parsley,</i> 7 <i>Storax Calamita, what,</i> 65 Described and characterized, n. 65 <i>Facitious,</i> n. 66 Of what composed, <i>ib.</i> <i>Liquid,</i> 66 Of two sorts, n. 66 Described, <i>ib.</i> How obtained, <i>ib.</i> <i>Red, description of it,</i> <i>ib.</i> <i>in the Reed,</i> 65 <i>Strawberry bush,</i> 32 <i>Succory,</i> 23 <i>Sugar, brown,</i> 58 <i>Candy,</i> <i>ib.</i> <i>White,</i> <i>ib.</i> <i>of Barley,</i> 168 <i>Lead,</i> 309 What preparation of lead most proper for making it, n. 310 What vessels most convenient, <i>ib.</i> Cautions, <i>ib.</i> How made to shoot into large transparent crystals, <i>ib.</i> <i>Roses,</i> 168 A more convenient method of making it, n. 168 <i>Sulphur, golden of Antimony,</i> 327 Considered as a medicine, n. 327 Its emetic quality how blunted, <i>ib.</i> Its virtues to what owing, n. 328 <i>Common,</i> 95 What, n. 95 How obtained, <i>ib.</i> Its characters, <i>ib.</i> Solvents, n. 96</p>	<p><i>Sulphur, common, its medical virtues,</i> <i>ib.</i> How best purified, <i>ib.</i> <i>Native,</i> 95, n. 96 <i>Vinum of the Shops,</i> what, n. 96, n. 294 <i>Sumach,</i> 66 <i>*Suppositories,</i> 362 <i>Swallow-wort,</i> 69 <i>Syrups, general Rules for making,</i> 160 Inconveniencies attending them, n. 158 List of such as are omitted in this edition, n. 160 <i>Syrup, Balsamic,</i> 155 <i>of Buckthorn,</i> 159 <i>Clowe july-flowers,</i> 156 <i>Comfry,</i> 159 <i>Kermes,</i> 156 <i>Lemon-juice,</i> <i>ib.</i> <i>Marshmallows,</i> 154, *n. 154 <i>Meconium,</i> 156 <i>Orange-juice,</i> 155 <i>-peel,</i> <i>ib.</i> <i>Pectoral,</i> 157 <i>of Pæony,</i> 158 <i>Poppies white,</i> 156 Subject to variation in point of strength, n. 156 Best method of making an opiate syrup, n. 157 <i>Wild,</i> 157 <i>five Roots,</i> 158 <i>Roses, dry,</i> <i>ib.</i> <i>Pale,</i> <i>ib.</i> <i>Sena and Rhubarb,</i> 159 <i>Squills,</i> <i>ib.</i> <i>Sugar,</i> <i>ib.</i> <i>Violets,</i> 160</p> <p style="text-align: center;">T.</p> <p><i>Tacamahacca,</i> 66 Of two sorts, n. 66 Described, n. 66, n. 67 <i>Tacamahacca,</i></p>
---	---

I N D E X.

<i>Tacamabacca</i> , which best,	n. 66,	<i>Tincture of Antimony</i> , of what	composed,	n. 127
	n. 67			n. 128
<i>Talc</i> ,	95		Sometimes proves	
<i>Tamarinds</i> ,	67		emetic,	<i>ib.</i>
<i>Tamarisk</i> ,	<i>ib.</i>		Its colour to what	
<i>Tansy</i> ,	<i>ib.</i>		owing,	n. 128
Wild,	10	<i>Antiphthisic</i> ,		127
<i>Tar</i> ,	54	<i>Balsamic</i> ,		128
<i>Tartar</i> ,	70	<i>of Cantharides</i> ,		128,
What, and how ob-			*n. 129	
tained,	n. 70	<i>Castor</i> ,		129
Of two sorts,	<i>ib.</i>	What menstruum		
Which best,	<i>ib.</i>	most proper,		<i>ib.</i>
How to be chosen,	<i>ib.</i>	<i>Cephalic</i> ,		130
How rendered soluble		<i>Purging</i> ,		131
in water,	<i>ib.</i>	<i>of Health</i> ,		141
Its analysis,	n. 71	Exceptionable in-		
Its medical virtues,	<i>ib.</i>	redients in it,		n. 142
Method of refining it		<i>Hellebore black</i> ,		131
near Montpellier,	n. 253	Caution in mak-		
<i>Emetic</i> ,	336	ing it,		n. 131
<i>Regenerated</i> ,	258	<i>Jalap</i> ,		132
Its characters,	259, n. 260	<i>Compound</i> ,		<i>ib.</i>
Method of purifying		Different uses		
it,	n. 259	of the two		
Necessary cautions for		tinctures,		n. 132
conducting the pro-		<i>Ipecacuanha</i> ,		132,
cesses,	n. 258, n. 259			*n. 133
Its medical virtues,	n. 260	<i>Lacca</i> ,		133
<i>Soluble</i> ,	257	<i>Mint</i> ,		134
Most commodious way		<i>Myrrh</i> ,		<i>ib.</i>
of making it.	n. 257	How best made,		n. 46
<i>Vitriolated</i> ,	256	Experiments to		
A cheap substitute for		determine whe-		
it,	n. 256	ther alkaline		
<i>Tea</i> ,	67	salts are of any		
<i>Thyme</i> ,	<i>ib.</i>	use in making		
<i>Mother of</i> ,	64	this tincture,		<i>ib.</i>
<i>Tin</i> ,	93			n. 134
<i>Calcined</i> ,	305	<i>Myrrh and Aloes</i> ,		135
<i>Tinctures</i> , general rules for		<i>Opium</i> ,		136
making,	146	<i>Peruvian bark</i> ,		129
Apt to vary in their		<i>Rhubarb</i> ,		138
strength on keeping,		<i>Bitter</i> ,		139, *n. 139
	n. 131	<i>Sweet</i> ,		139
<i>Tincture of Amber</i> ,	143	<i>Roses</i> ,		<i>ib.</i>
<i>Antimony</i> ,	127			
Cautions in mak-				
ing it,	n. 127			

I N D E X.

<p><i>Tincture of Roses</i>, cautions in making it, n. 140</p> <p><i>Sacred</i>, 140, *n. 140</p> <p><i>of Saffron</i>, 130</p> <p style="padding-left: 2em;">Inconveniencies of that made with wine, n. 130</p> <p style="padding-left: 2em;"><i>Snakeroot compound</i>, 142</p> <p style="padding-left: 2em;"><i>Soot</i>, 131</p> <p style="padding-left: 2em;"><i>Steel</i>, 133</p> <p style="padding-left: 2em;">What menstruum most proper, n. 133</p> <p style="padding-left: 2em;"><i>Stomachic</i>, 142</p> <p style="padding-left: 2em;"><i>Sudorific</i>, 143</p> <p style="padding-left: 2em;"><i>of balsam of Tolu</i>, 144</p> <p><i>Titles including several simples</i>, 97</p> <p><i>Toad</i>, 73</p> <p style="padding-left: 2em;"><i>Prepared</i>, 102</p> <p><i>Toadstax</i>, 42</p> <p><i>Tobacco</i>, 47</p> <p style="padding-left: 2em;"><i>pipe-clay</i>, 85</p> <p><i>Tormentil</i>, 68</p> <p><i>Tragacanth, gum</i>, 68</p> <p style="padding-left: 2em;">Described and characterized, n. 68</p> <p style="padding-left: 2em;">How obtained, <i>ib.</i></p> <p style="padding-left: 2em;">Water applied to it as a menstruum, <i>ib.</i></p> <p><i>Treacle, Edinburgh</i>, 183, *n. 183</p> <p style="padding-left: 2em;"><i>Venice</i>, 181</p> <p style="padding-left: 2em;"><i>-Mustard</i>, 67</p> <p><i>Trefoil, Marsh</i>, 68</p> <p style="padding-left: 2em;"><i>Sweet</i>, 42</p> <p><i>Troches</i>, general rules for making, 198</p> <p style="padding-left: 2em;"><i>Cardialgic</i>, 195</p> <p style="padding-left: 2em;"><i>Cyphi</i>, <i>ib.</i></p> <p style="padding-left: 2em;"><i>Hedychroi</i>, 196</p> <p style="padding-left: 2em;"><i>of Japan-earth</i>, 197</p> <p style="padding-left: 2em;"><i>Myrrh</i>, <i>ib.</i></p> <p style="padding-left: 2em;"><i>Pectoral, black</i>, 194</p> <p style="padding-left: 4em;"><i>White</i>, <i>ib.</i></p> <p style="padding-left: 2em;"><i>Red lead</i>, 197</p> <p style="padding-left: 2em;"><i>white of Rhazes</i>, 194, *n. 194</p> <p style="padding-left: 2em;"><i>Scillitic</i>, 197</p> <p style="padding-left: 2em;"><i>of Sulphur</i>, 196</p> <p style="padding-left: 2em;"><i>Vipers</i>, 198</p>	<p><i>Turpeth</i>, 68</p> <p style="padding-left: 2em;"><i>Mineral</i>, 318</p> <p style="padding-left: 2em;">What proportion of the ingredients most proper, n. 319</p> <p style="padding-left: 2em;">Most convenient method of making it in large quantity, <i>ib.</i></p> <p style="padding-left: 2em;">Caution, <i>ib.</i></p> <p style="padding-left: 2em;">Inconvenience of the common method of washing it, <i>ib.</i></p> <p style="padding-left: 2em;">Way ofedulcorating it, so as to render its strength equal and certain, <i>ib.</i></p> <p><i>Turmeric</i>, 28</p> <p style="padding-left: 2em;">Of two sorts, n. 28</p> <p style="padding-left: 2em;">Described, <i>ib.</i></p> <p style="padding-left: 2em;">How to be chose, <i>ib.</i></p> <p><i>Turneps</i>, 56</p> <p><i>Turpentine of Chio</i>, 67</p> <p style="padding-left: 2em;"><i>Common</i>, <i>ib.</i></p> <p style="padding-left: 2em;"><i>Strafsburgh</i>, <i>ib.</i></p> <p style="padding-left: 2em;"><i>Venice</i>, <i>ib.</i></p> <p><i>Tutsy</i>, 86</p> <p style="padding-left: 2em;"><i>Prepared</i>, 106</p> <p style="text-align: center;">V.</p> <p><i>Valerian, garden</i>, 68</p> <p style="padding-left: 2em;"><i>Wild</i>, 69</p> <p style="padding-left: 2em;">Preferable to the garden for medicinal purposes, n. 69</p> <p style="padding-left: 2em;">Of service in epilepsies, <i>ib.</i></p> <p style="padding-left: 2em;">Spirit of wine applied to it as a menstruum, <i>ib.</i></p> <p><i>Vegetables</i>, 1</p> <p><i>Verdigrease</i>, 86</p> <p><i>Vervain</i>, 69</p> <p><i>Vetch, bitter</i>, 49</p> <p><i>Vine</i>, 70</p> <p><i>Vinegar</i>, <i>ib.</i></p> <p style="padding-left: 2em;"><i>Distilled</i>, 124</p> <p style="padding-left: 2em;">What vinegar most proper, n. 124</p> <p style="padding-left: 2em;"><i>Vinegar</i>, <i>ib.</i></p>
---	---

I N D E X.

<p><i>Waters, Simple</i>, the plants in what state to be chosen, 108</p> <p style="padding-left: 2em;">How prepared for distillation, <i>ib.</i></p> <p style="padding-left: 2em;">The distillation how to be performed, <i>ib.</i></p> <p style="padding-left: 2em;">How long continued, <i>ib.</i> & n. 108</p> <p style="padding-left: 2em;">Different treatments adapted to different subjects, 108, 109, & n. 109</p> <p style="padding-left: 2em;">Fermentation, to what subjects applicable, <i>ib.</i></p> <p style="padding-left: 2em;">Cohobation, its use, 109, & n. 109</p> <p style="padding-left: 2em;"><i>Compound</i>, general rules for distilling, 118</p> <p style="padding-left: 2em;"><i>Saline</i>, 249</p> <p><i>Wax</i>, what, and how obtained, n. 72</p> <p style="padding-left: 2em;">Characterized, <i>ib.</i></p> <p style="padding-left: 2em;">How whitened, <i>ib.</i></p> <p style="padding-left: 2em;">Analysed, <i>ib.</i> 273</p> <p><i>Whale</i>, 75</p> <p><i>Wheat</i>, 68</p> <p><i>*Whey, Plague-</i>, 361</p> <p style="padding-left: 2em;"><i>*Vinegar-</i>, <i>ib.</i></p> <p><i>Wine, Emetic</i>, 145</p> <p style="padding-left: 2em;"><i>Steel</i>, 144</p> <p style="padding-left: 2em;">Of the London Dispensatory, n. 144</p>	<p><i>Wine, with Woodlice</i>, 145</p> <p><i>Winter-cherries</i>, 4</p> <p><i>Winters bark</i>, 71</p> <p style="padding-left: 2em;">Described, n. 71</p> <p style="padding-left: 2em;">Where found, <i>ib.</i></p> <p style="padding-left: 2em;">How distinguished from <i>Canella alba</i>, <i>ib.</i></p> <p><i>Wood</i>, 34</p> <p><i>Wolfsbane</i>, wholesome, 8</p> <p><i>Woodbine</i>, 16</p> <p><i>Wood-sorrel</i>, 3</p> <p><i>Wood-lice</i>, 76</p> <p style="padding-left: 2em;">Prepared, 104</p> <p><i>Wormseed</i>, 60</p> <p><i>Wormwood, common</i>, 1</p> <p style="padding-left: 2em;"><i>Roman</i>, 2</p> <p style="padding-left: 2em;">Its conserve useful in dropsies, n. 2</p> <p style="padding-left: 2em;">How distinguished from the common, <i>ib.</i></p> <p style="padding-left: 2em;"><i>Sea</i>, n. 2</p> <p style="padding-left: 2em;">Y.</p> <p><i>Yarrow</i>, 45</p> <p style="padding-left: 2em;">Z.</p> <p><i>Zedoary</i>, 71</p> <p style="padding-left: 2em;">Description of it, n. 71</p> <p style="padding-left: 2em;">Of two sorts, <i>ib.</i></p> <p style="padding-left: 2em;">In what they differ from one another, <i>ib.</i></p> <p style="padding-left: 2em;">Affords a thick oil on distillation, <i>ib.</i></p>
--	---

I N D E X

MEDICAMENTORUM.

	A.		Aqua Benedicta,	122
A	CACIA Germanica,	55	composita,	123,*339
	Acetum Distillatum,	124	Bryoniæ composita,	112
	Lithargyrites,	126	Calcis,	123
	Rosaceum,	125	Cardui benedicti,	107
	Rutaceum,	<i>ib.</i>	Ceraforum nigrorum,	<i>ib.</i>
	Sambucinum,	<i>ib.</i>	Chamæmeli,	<i>ib.</i>
	Scilliticum,	126	Cinnamomi cum vino,	109
	Theriacle,	<i>ib.</i>	sine vino,	<i>ib.</i>
Adeps præparatus,	100		Epidemia,	113,*n.113
Æthiops mineralis,	323		*Acida,	n.117
Alcohol vini,	129		Fœniculi,	107
Aloe præparata,	100		Fortis duplex,	284
Amalgama Jovis,	305		simplex,	283
Ammoniacum gummi præparatum,	101		Hyssopi,	107
Animalia,	72		Melissæ,	<i>ib.</i>
Antihecticum Poterii,	333		Menthæ,	<i>ib.</i>
Antimonium diaphoreticum			Mirabilis,	113
dulce,	325		Ophthalmica,	123,*n.123
nitratum,	324		Petroselini,	107
*preparatum,	n.102		composita,	114
Apes præparatæ,	101		Phagedænica,	124
Aqua Absinthii composita,	111		*Picea,	339
Alexeteria,	111,*n.112		Pæoniæ composita,	115
Aluminosa,	122		Pulegii,	107
Angelicæ,	107		Raphani composita,	116,
*Antihysterica,	n.112		*n.116	
Artemisicæ,	107		Regia,	285
Aromaticæ,	n.114		Reginæ Hungariæ,	110
			Rosarum,	107
			Aqua	

I N D E X.

Aqua Rutæ,	107	Calx Jovis,	305
Sabinæ,	<i>ib.</i>	Calx Mercurii,	314
Sambuci,	<i>ib.</i>	Cataplasma Discutiens,	219
Sapphirina,	124	*Emolliens,	341
Styptica,	<i>ib.</i>	Suppurans,	219,*341
Theriacalis,	117	*Theriacale,	341
Aquæ falinæ,	249	camphora-	
Aquila alba,	321	tum,	342
Aurum mosaicum,	307	Cauticum lunare,	303
		Cauterium potentiale,	267
B.		*Cervisia Aperiens,	342
Balsamum Anodynum Batea-		*Cephalica,	<i>ib.</i>
num,	202,*n.202	*Diuretica,	<i>ib.</i>
ad Apoplecticos,	201	*ad Scorbuticos,	343
Guidonis,	<i>ib.</i>	Cerussa,	309
Locatelli,	<i>ib.</i>	Chalybs præparatus,	104
*Piceum,	n. 203	Saccharatus,	167
Saponaceum,	202	Sulphuratus,	311
Sulphuris Anisatum,	299	Tartarizatus,	310
Crassum,	298	Chelæ cancerorum præparatæ,	103
Junipera-		Cinnabaris antimonii,	329
tum,	299	Colcothar vitrioli,	286, 288
Succinatum,	<i>ib.</i>	Collyrium album,	343
Terebinthi-		aluminosum,	<i>ib.</i>
natum,	298	Colophonia,	233
Traumaticum,	202,	Condita,	166
*n. 203.		Confectio alkermes,	176
Viride,	203	*Roborans,	n. 178
Univerfale,	210	Conferva Absinthii,	167
Bezoardicum Joviale,	332	Anthos,	<i>ib.</i>
Minerale,	331	Aurantiorum,	<i>ib.</i>
Bolus Armena præparata,	101	Cochleariæ,	<i>ib.</i>
*Alexeterius,	339	Cynobati,	<i>ib.</i>
*e Castoreo,	<i>ib.</i>	Lujulæ,	<i>ib.</i>
*Diaphoreticus,	340	Malvæ,	<i>ib.</i>
*Diureticus,	<i>ib.</i>	Menthæ,	<i>ib.</i>
*Guaiacinus,	<i>ib.</i>	Rofarum,	<i>ib.</i>
*Jalappæ cum mercurio,	<i>ib.</i>	Rutæ,	<i>ib.</i>
*Mercurialis,	<i>ib.</i>	Corallia præparata,	103
*Pectoralis,	<i>ib.</i>	Cornu cervi calcinatum,	265
*Rhei cum mercurio,	341	præparatum,	103
*Theriacalis,	<i>ib.</i>	Cremor tartari,	254
Bufo præparatus,	102	Crocus Martis aperiens,	312
Butyrum antimonii,	328	astringens,	<i>ib.</i>
		Metallorum,	324
C.		Cryftalli tartari,	252
Calaminaris lapis præparatus,	102		
Calomelas,	322		

Decoctum

I N D E X.

	Elixir Proprietatis, 137
	cum acido, 138
D.	
Decoctum Album, 147,*343	Sacrum, 140
compositum, 147	Salutis, 141,*n.141
*Antihecticum, 344	Stomachicum, *143
*Astringens, <i>ib.</i>	Vitrioli, 144,*n.145
*Bardanae, <i>ib.</i>	Emplastrum Adhaesivum, 212,
*Campechense, 345	*n.212
Commune pro clyf-	Anodynum, 212
tere, 148,*345	Antihystericum, <i>ib.</i>
Diafscordii, 148	*Calidum, 348
*Diureticum, 345	Cephalicum, 213
Emolliens pro fotu, 148	*Cereum, 212
Hordei, 345	de Cicuta cum am-
ad Ictericos, 149	moniaco, 213
Lignorum, <i>ib.</i>	*Commune, 212
ad Nephriticos, 150	Defensivum, 213,
Nitrosum, <i>ib.</i>	*n.214
Pectorale, <i>ib.</i>	Diachylon cum
Serpentariae compo-	gummi, 214
situm, 151,*345	simplex, <i>ib.</i>
Tamarindorum cum	Diapalme, 215
fena, 151,*346	Epispasticum, 215,
*Vulnerarium, 346	*n.215
Diacassia, 177	compositum, 215
Diacodium, 156	*Gummosum, n.215
Diafscordium, 178	è Meliloto, 216
	Mercuriale, 216
	*n.216
E.	de Minio, 216
Elaterium, 165	cum sapone, <i>ib.</i>
Electuarium Antidysentericum, 176,	Oxycroceum, 217
*346	*Saponaceum, n.217
*cum rheo, <i>ib.</i>	Stomachicum, 217
è Baccis lauri, 176	*n.217
*Balsamicum, 346	*Suppurans, 348
Cardiacum, 177	Volatile, 218
*Cephalicum, 347	Emulsio Arabica, 153,*349
*Haemorrhoidale, <i>ib.</i>	Communis, 152,*348
Lenitivum, 178,	*Enema de Amylo, 349
*n.179	*Anodynum, <i>ib.</i>
*ad Nephriticos, 347	*Anticolicum, <i>ib.</i>
Pectorale, 181	*Astringens, 349
*Peruvianum febrifugum, 347	*Balsamicum, 350
*Roborans, <i>ib.</i>	*Domesticum, <i>ib.</i>
*Siftens, 348	*Emolliens, <i>ib.</i>
Elixir Pectorale, 137	*Foetidum, <i>ib.</i>
Polychrestum, <i>ib.</i>	Purgans, <i>ib.</i>
1	*Enema,

I N D E X.

*Enema Terebinthinatum,	351	*Infusum Lini,	354
Ens veneris,	290	*Pectorale,	<i>ib.</i>
*Expressio millepedarum,	351	Sennæ,	152
Extractum Absinthii,	238	*Injectio balsamica,	355
Centaurii minoris,	239	*Mercurialis,	<i>ib.</i>
Chamæmeli,	240	*Jalapium Ammoniacum,	<i>ib.</i>
Corticis Peruviani,	241	*Antihystericum,	356
Gentianæ,	239	*Cardiacum,	<i>ib.</i>
Hellebori nigri,	<i>ib.</i>	*Diaphoreticum,	<i>ib.</i>
Jalappæ,	240	*Acidum,	<i>ib.</i>
Ligni Campechensis,	243	*Diureticum,	<i>ib.</i>
Opii,	104	*Fœtidum,	357
Plantaginis,	237	*Hydragogum,	<i>ib.</i>
Rudii,	190	*Mofchatum,	<i>ib.</i>
		*Salinum,	<i>ib.</i>
		*Scilliticum,	358
		*Siftens,	<i>ib.</i>
F.		L.	
Flores Benzoini,	234	*Lac Ammoniacum,	n.153
Martis,	313	*Ferratum,	358
Salis ammoniaci,	272	Sulphuris,	297
Sulphuris,	293	Lapis Infernalis,	303
*Fotus anodynus,	351	Medicamentosus,	292
*Aromaticus,	352	Septicus,	267
*Emolliens,	<i>ib.</i>	Laudanum liquidum,	136,*n.136
*Roborans,	<i>ib.</i>	Lazuli lapis præparatus,	103
		*Linimentum Anodynum,	368
G.		Arcæi,	205
Galbanum præparatum,	103	*Hæmorrhoidale,	359
*Gargarisma Astringens,	352	*Mercuriale,	<i>ib.</i>
*Commune,	<i>ib.</i>	Liquamen falis tartari,	255
*Emolliens,	353	Lithargyri præparati,	103
Gelatina Berberorum,	163	Lohoch ex Amylo,	184
Cornu cervi,	<i>ib.</i>	*Balsamicum,	359
Cydoniorum,	164	Commune,	184,*n.184
Ribesiorum,	<i>ib.</i>	Diatragacanthi,	184
Gilla vitrioli,	286	de Lino,	<i>ib.</i>
		de Manna,	<i>ib.</i>
H.		*Pectorale,	359
*Haustus Diaphoreticus,	353	Saponaceum,	185
*Salinus.	<i>ib.</i>	de Spermate ceti,	<i>ib.</i>
Hæmatites præparatus,	103		
Hepar Sulphuris,	295	M.	
Hiera picra,	173	Magma Hedychroi,	196
		Margaritæ præparatæ,	104
I.		Mars Saccharatus,	167
Infusum Amarum,	152	Solubilis,	310
cum fenna,	<i>ib.</i>	Sulphuratus,	311
*Antiscorbuticum,	354		
*Cephalicum,	<i>ib.</i>		

Martis

I N D E X.

<p>Martis limatura præparata, 104 Mel mercuriale, 162 Rosatum, <i>ib.</i> Mercurii Calx, 314 Solutio, <i>ib.</i> Mercurius Calcinatus ruber, 317 Præcipitatus albus, 315 dulcis, 316 flavus, 318 fuscus Wur- tzii, 316 ruber, 317 viridis, 318 Saccharatus, 323 Sublimatus corrosivus, 320 dulcis, 321 Vitæ, 330 Millepedæ præparatæ, 104 Mineralia, 79 Minium, 308 Mithridatium, 179 Miva cydoniorum, 164</p> <p style="text-align: center;">N.</p> <p>Nitrum sibiatum, 325</p> <p style="text-align: center;">O.</p> <p>Oculi cancrorum præparati, 104 Oleum Absinthii stillatitium, 222 Absinthites, 199 Amygdalarum amara- rum, <i>ib.</i> dulcium, <i>ib.</i> Anethinum, 200 Anisi stillatitium, 226 Baccarum juniperi stilla- titium, 230 Lauri stillati- tium, 232 Carvi, 227 Caryophyllorum, <i>ib.</i> Ceræ, 273 Chamæmeli stillatitium, 225 Chamæmelinum, 200 Cinnamomi, 228 Cort. Limonum, 227 Cornu cervi, 263 Cumini, 227 Fœniculi, <i>ib.</i></p>	<p>Oleum Hyperici, 200 Hyssopi, 222 Juglandium, 199 Lavendulæ, 225 Laurinum, 199 Ligni guaiaci, 234 Sassafras, 228 Liliorum alborum, 200 Lumbricorum, <i>ib.</i> Macis expressum, 199 stillatitium, 228 Majoranæ, 222 Menthæ, <i>ib.</i> Mucaginum, 200 Nucis moschatæ expres- sum, 199 stillatitium, 228 Olivarum maturum, 199 Omphacinum, <i>ib.</i> Origani, 222 Pulegii, <i>ib.</i> Rorismarini, <i>ib.</i> Rosarum, 200 Rutaceum, <i>ib.</i> Rutæ stillatitium, 222 Sabinæ, 232 Seminis Lini, 199 Sinapi, <i>ib.</i> Succini, 300 Sulphuris per campā- nam, 294 Tartari per deliquium, 255 Terebinthinæ, 232 Vitrioli, 287 Opium præparatum, 104 Opopanax præparatus, 105 Oxymel Pectorale, 162 Scilliticum, <i>ib.</i> Simplex, 163</p> <p style="text-align: center;">P.</p> <p>Panacæa mercurii, 322 Pilulæ Æthiopicæ, 186 *ex Allio, 360 *Aloeticæ, 186 Coccinæ, 186,*n.186 *Chalybeatæ, <i>ib.</i> Communes, 187 de Duobus, <i>ib.</i> Pilulæ</p>
---	---

I N D E X.

<p>Pilulæ Ecphrasticæ cum aculeo, 187,*n. 187 Chalybeatæ, 188,*n. 188 Fœtidæ, 188 de Gambogia, <i>ib.</i> Gummofæ, 189,*n. 189 Mercuriales, 189 laxantes, 189,*n. 189 Pacificæ Matthæi, 190,*n. 190 Pectorales, <i>ib.</i> *Piceæ, n. 191 Rudii, 190 Rufi, 187 Scilliticæ, 191,*n. 191 Stomachicæ, 192,*n. 192 e Styrace, 192 Plumbum ustum, 105 *Potio balsamica, 361 *Lithonriptica, <i>ib.</i> Pulvis Antiepilepticus, 169 Antilyssus, <i>ib.</i> Ari compositus, 170 Cephalicus, 171 e Chelis cancrorum compositus, <i>ib.</i> Contrayervæ compositus, 171,*n. 171. Cornachini, 172 Diapenté, 173 Diaromatôn, 172,*n. 172 Diafennæ, 173 Diateffaron, <i>ib.</i> Diatragacanthi, <i>ib.</i> Hieræ picræ, <i>ib.</i> ad Partum, <i>ib.</i> Stypticus, 174 *Testaceus ceratus, n. 173 *compositus, <i>ib.</i> Vermifuges, 174,*n. 174 *Purgans, <i>ib.</i></p> <p style="text-align: center;">R.</p> <p>Regulus antimonii, 326 Martialis, <i>ib.</i> Resina Corticis Peruviani, 243 Guaiaci, <i>ib.</i> Jalappæ, <i>ib.</i></p>	<p>Resina Scammonii, 243 Rob Sambuci, 165</p> <p style="text-align: center;">S.</p> <p>Saccharum hordeatum seu penidiatum, 168 Rosatum, <i>ib.</i> Saturni, 309 Sagapenum præparatum, <i>ib.</i> Sal Ammoniacum factitium, 105 volatile, 271 Chalybis, 312 Cornu cervi, 263 Essentiale Acetosæ, 245 Centaurii minoris, 247 Cichorii, <i>ib.</i> Euphrasæ, <i>ib.</i> Fumariæ, <i>ib.</i> Plantaginis, 248 Quercus, <i>ib.</i> Fixum Absinthii, 249 Fabarum stipit. Genistæ, <i>ib.</i> Jovis, 305 Mirabile Glauberi, 278 Polychrestum, 280 Prunellæ, 279 Succini, 300 rectificatum, 301 Tartari, 254 Sanguis hirci præparatus, 105 Sapa Sambuci, 165 Sapo Tartareus, 260 *Serum Acetosum, 361 *Epidemium, <i>ib.</i> Sief album, 194 Sinapismus simplex, 220 compositus, <i>ib.</i> Solutio Mercurii, 314 Spiritus Aceti, 124 Æthereus terebinthinæ, 233 Cochleariæ, 119 Cornu cervi, 263 Lavendulæ compositus, 119,*n. 119 Mindereri, 272 Nitri, 281 dulcis, <i>ib.</i> Spiritus</p>
--	---

I N D E X.

<p>Spiritus Salinus aromaticus, 121, *n. 121</p> <p> Salis, 275</p> <p> Salis Ammoniaci, 270</p> <p> Salis dulcis, 279</p> <p> Glauberi, 276</p> <p> Succini, 300</p> <p> Sulphuris, 294</p> <p> Vini camphoratus, 145</p> <p> Rectificatus, 119</p> <p> Vitrioli, 287</p> <p> dulcis, 288</p> <p>Succi Antiscorbutici, 165</p> <p>Succinum præparatum, 105</p> <p>Succus Glycyrrhizæ, 164</p> <p> Prunorum sylvestrium, 165</p> <p>Sulphur auratum Antimonii, 327</p> <p>*Suppositoria, 362</p> <p>Syrupus de Althæa, 154,*n. 154</p> <p> e cortice Aurantiorum, 155</p> <p> e succo Aurantiorum, <i>ib.</i></p> <p> Balsamicus, <i>ib.</i></p> <p> Caryophyllorum, 156</p> <p> Kermesinus, <i>ib.</i></p> <p> e succo Limonum, <i>ib.</i></p> <p> de Meconio, <i>ib.</i></p> <p> Papaveris albi, <i>ib.</i></p> <p> Rhæados, 157</p> <p> Pectoralis, <i>ib.</i></p> <p> Pœoniæ, 158</p> <p> Quinque radicum, <i>ib.</i></p> <p> de Rhamno, 159</p> <p> Rosarum pallidarum, 158</p> <p> de Rosis ficcis, <i>ib.</i></p> <p> Sacchari, 159</p> <p> Scilliticus, <i>ib.</i></p> <p> de Sena & Rheo, <i>ib.</i></p> <p> de Spina cervina, <i>ib.</i></p> <p> e Symphyto, <i>ib.</i></p> <p> Violarum, 160</p> <p style="text-align: center;">T.</p> <p>Tabellæ Diatragacanthi, 168</p> <p>Tartarus Emeticus, 336</p> <p> Regeneratus, 258</p> <p> Solubilis, 257</p> <p> Vitriolatus, 256</p> <p>Testæ Ostreorum præparatæ, 106</p> <p> *Ovorum præparatæ, <i>ib.</i></p>	<p>Theriaca Andromachi, 181</p> <p> Edinensis, 183,*n. 184</p> <p>Tinctura Antimonii, 127</p> <p> Antiphthifica, <i>ib.</i></p> <p> Balsamica, 128</p> <p> Cantharidum, 128, *n. 128</p> <p> Castorei, 129</p> <p> Cephalica, 130</p> <p> purgans, 131</p> <p> Cort. Peruviani, 129</p> <p> Croci, 130</p> <p> Fuliginis, 131</p> <p> Hellebori nigri, <i>ib.</i></p> <p> Jalappæ, 132</p> <p> composita, <i>ib.</i></p> <p> Ipecacuanhæ, 132, *n. 132</p> <p> Lacæ, 133</p> <p> Martis, <i>ib.</i></p> <p> Menthæ, 134</p> <p> Myrrhæ, <i>ib.</i></p> <p> et aloes, 135</p> <p> Opii, 136</p> <p> Rhabbarbari, 138</p> <p> amara, 139, *n. 139</p> <p> dulcis, 139</p> <p> Rosarum, <i>ib.</i></p> <p> Sacra, 140,*n. 140</p> <p> Salutifera, 141</p> <p> Serpentariæ composita, 142</p> <p> ad Stomachicos, <i>ib.</i></p> <p> Succini, 143</p> <p> Sudorifica, <i>ib.</i></p> <p> Tolutana, 144</p> <p>Trochisci albi Rhazis, 194,*n. 194</p> <p> Bechici albi, 194</p> <p> nigri, <i>ib.</i></p> <p> Cardialgici, 195</p> <p> Cypheos, <i>ib.</i></p> <p> Dia sulphuris, 196</p> <p> Hedychroi, <i>ib.</i></p> <p> de Minio, 197</p> <p> de Myrrha, <i>ib.</i></p> <p> Scillitici, <i>ib.</i></p> <p> de Terra Japonica, <i>ib.</i></p> <p> Viperini, 198</p> <p style="text-align: right;">Turpethum</p>
--	---

I N D E X.

Turpethum minerale,	318	Unguentum Citrinum,	206
Tutia præparata,	106	Deficcativum ru- brum,	<i>ib.</i>
V.		Dialthææ,	207
Vegetabilia,	1	Diapompholygos,	<i>ib.</i>
Vinum Chalybeatum,	144	*Emolliens, n.	207
Emeticum,	145	Epispasticum,	207
Millepedatum,	<i>ib.</i>	Mercuriale,	208,
Vitrum Antimonii,	334	n.*208	
ceratum,	335	Nervinum, 208,	* <i>ib.</i>
Vitriolum calcinatum,	286	Nutritum,	209
Martis,	312	Ophthalmicum,	<i>ib.</i>
Unguentum Ægyptiacum,	204	Oppodeltoch,	202
Album,	205	*Piceum,	362
Camphoratum,	<i>ib.</i>	Pomatum,	209
Antipforicum,	<i>ib.</i>	Populeon,	<i>ib.</i>
cum Mer- curio,	<i>ib.</i>	Rosaceum,	<i>ib.</i>
feu linimentum Ar- cæi,	<i>ib.</i>	Sambucinum,	210
Basilicon,	206	Saturninum,	<i>ib.</i>
e Lapide Calami- nari,	<i>ib.</i>	*Sulphureum,	362
		Tutiæ,	210
		*Camphora- tum,	362
		Vermifugum,	211

F I N I S.

E R R A T A.

Page 5. lin. ult. not. for del. read de l'. Pag. 8. col. 2. lin. 10. for Clivers read *Clivers*. Page 16. col. 1. l. 7. after Caprifolium add *Honey-suckle*. Page 99. l. 4. after flowers, insert, but of some the tops in flower are to be preferred. Page 123. *running title*, for VINEGARS read WATERS by INFUSION, &c. Page 128. l. 20. for Guaiacum, read Guaiacum. Page 133. l. 6 of the note, for This, read A. Page 180. l. ult. for Scinks, read Skinks. Page 181. l. 21. for Hedychron, read Hedychroon. Page 236. l. ult. after pag. add 308. P. 359. l. 7. 20. P. 360. l. 2. and P. 361. l. 7. for White, read Yolk.

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