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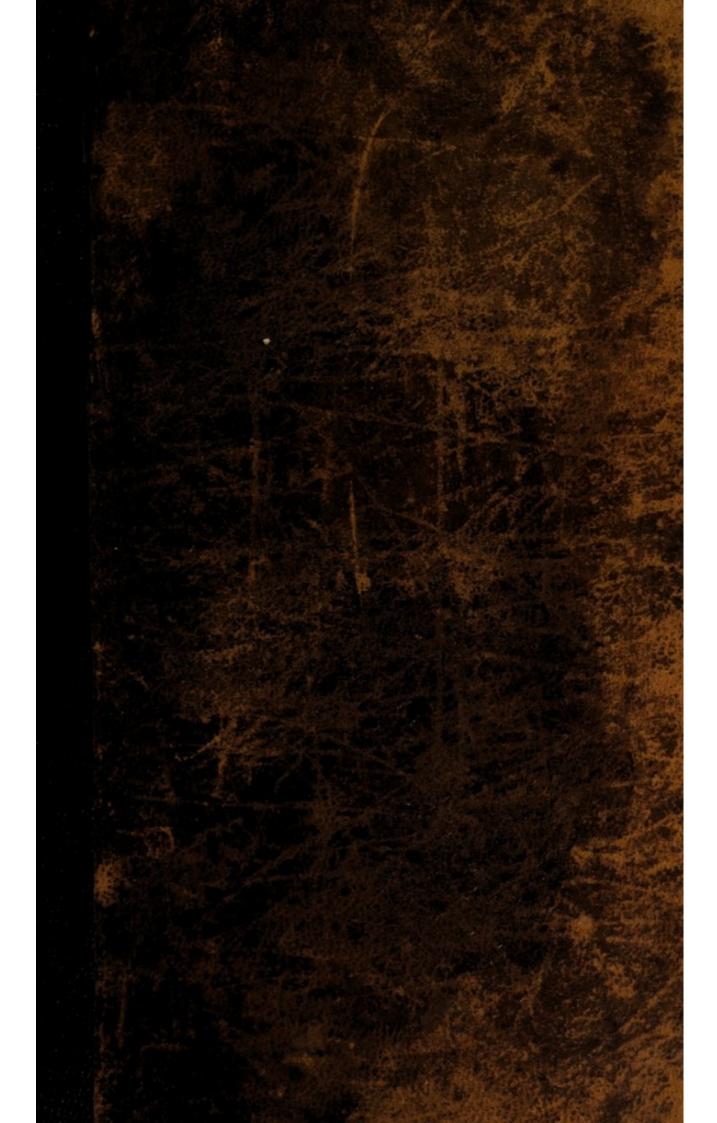
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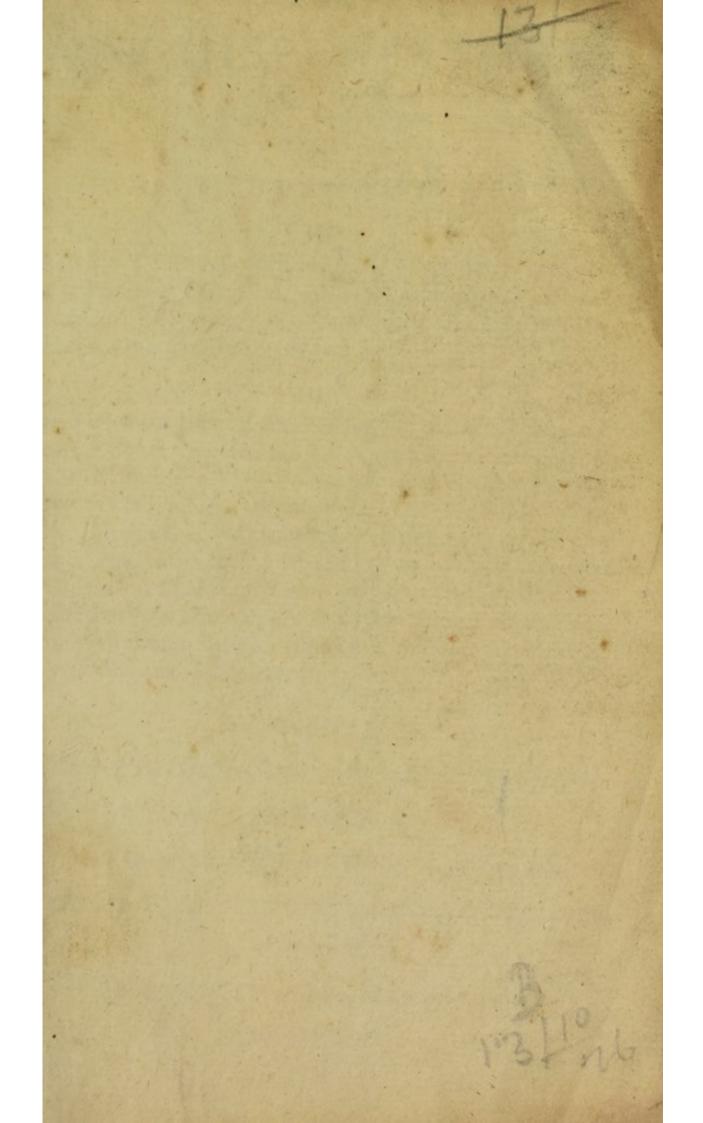
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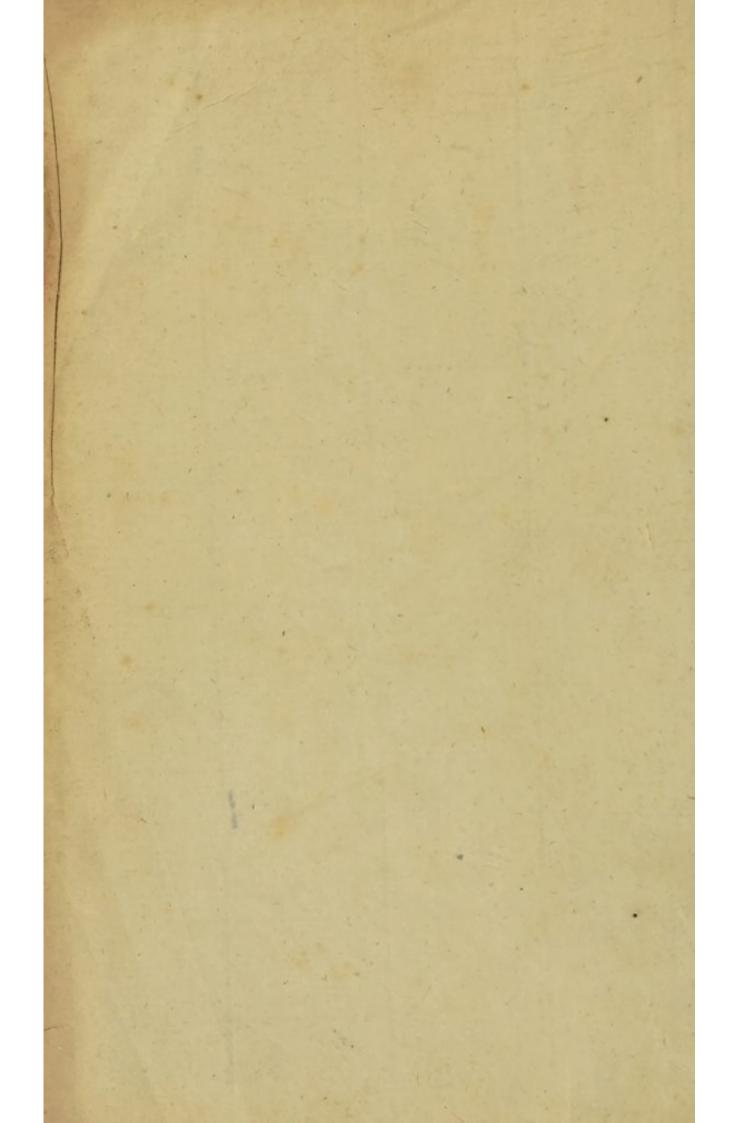


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# NEW DISPENSATORY:

CONTAINING,

I.

The ELEMENTS of PHARMACY.

II.

The MATERIA MEDICA, or an Account of the Substances employed in Medicine; with the Virtues and Uses of each Article, so far as they are warranted by Experience and Observation.

### III.

The Preparations and Compositions of the new London and Edinburgh Pharmacopoetas; with such of the old ones as are kept in the Shops; the most celebrated foreign Medicines; the most useful of those directed in the Hospitals; sundry elegant extemporaneous Forms, &c. digested in such a Method as to compose a regular System of Pharmacy; with Remarks on their Preparation and Uses; the Means of distinguishing Adulterations; of performing the more difficult and dangerous Processes with Ease and Sasety, &c.

The Whole interspersed

With Practical Cautions and Observations.

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

The FIFTH EDITION, carefully Revised and Improved.

LONDON,

Printed for C. Nourse, in the STRAND.

MDCCLXXXV.



# AUTHOR'S PREFACE.

HE New Dispensatory was intended as a regular book of practical and scientific pharmacy; composed of principles agreeable to those, on which the colleges of London and Edinburgh have proceeded, in the late reformation of their officinal pharmacopæias; containing full and clear directions, drawn from actual experience, for the preparation of the several medicines, particularly where accompanied with any difficulty or danger; and assigning every where, as far as possible, their real virtues and uses; intentions, which though of primary importance in a work of this kind, do not seem to have been at all regarded, in the other dispensatories that have hitherto appeared.

The author has had the satisfaction of finding that his endeavours have not been in vain; that though the work fell very far short of the perfection which he wished for, it was distinguished with approbations even beyond his hopes; with approbations, which have induced the compilers of the other dispensatories to horrow very considerable parts of it in their last editions; in one of which, besides many paragraphs and entire pages here and there, the greatest part of two hundred pages together is illiberally

copied from this work.

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In this edition, I have made many material corrections and additions; and retrenched fundry exceptionable particulars, which, in compliance with common prejudices, had been admitted in the first

attempt.

The first part contains the Elements of Pharmacy, or what is commonly called Pharmaceutical Chemiftry. The general neglect of this interesting and useful study, as applied to medicinal subjects, has engaged me to greatly enlarge this part, and to labour it with more care and precision. I have endeavoured to give a concife and fystematic view of the general properties and relations of vegetable, animal, and mineral bodies; the different medicinal principles they contain; the means of extracting and feparating their native component parts, without making any alteration in their qualities; and the different forms and powers which they assume, from different natural or artificial operations, or from the mixture and coalition of one with another; avoiding every where all hypothetical reasonings, and delivering only the direct result of experiment and observation. To this history is added a practical account of the instruments and operations of the art, which, it is hoped, will give the reader a full idea of them, without the tediousness of minute details.

The next part contains the Materia Medica, or medicinal fimples, which, for reasons assigned in the introduction to this part, are all ranged in alphabetic order. Rationales of the operations of medicines. which are at best but conjectural and unsatisfactory, have no place in this practical work: but some general observations, of the sensible effects of certain classes of medicines, in Cartheuser's manner, it has been thought expedient to retain, with some amend-

ments from the former editions.

In treating of the feveral fimples themselves, I have given, where necessary, a description of the simple, with the marks of its genuineness and goodness; and pointed out the distinguishing characters of such as, from a refemblance in external appearance, are liable to be confounded with others of different qualities. With regard to their virtues, particular care has been taken to reject the fabulous ones, which are still preserved in other books of this kind; and to give only those, which have either been confirmed by repeated experience, or may be rationally inferred from the sensible qualities of the subject, or from its agreement in smell, taste, &c. with others of known virtue. Under each simple are mentioned all the preparations made from it, and all the compositions in which it is an ingredient, in the London and Edinburgh pharmacopæias. Many of the capital articles I have examined pharmaceutically, and shewn in what separable part of the mixt its virtue refides, by what means the active principle is best extracted or preserved, and in what form the substance itself or its preparations are most commodiously and advantageously exhibited. At the end of this part, the directions for the collection and preservation of medicinal substances are re-confidered.

The third and fourth parts contain the preparations and compositions of the new London and Edinburgh pharmacopæias; with a few of the old ones, which I am informed are still kept in some shops, and occasionally called for; several of the more celebrated medicines which have come into esteem in France and Germany; many from our hospitals; and some elegant extemporaneous prescriptions, such as are directed in practice.

In

In the distribution of these materials, it has been found necessary to depart from the order hitherto received. In other dispensatories, and in a former edition of this, medicines are divided into two general heads, officinal and extemporaneous. This division is apparently faulty: for many of those called officinal are strictly extemporaneous, being made only as they are wanted: and many of those, which are called extemporaneous, are very well fitted for keeping: if we should appropriate the term officinal to those which have the fanction of public colleges, then this absurdity would follow, that medicines of as tedious preparation as any in the book, even Baumé's extract of opium, which requires several months continual boiling, would be extempo-

raneous preparations.

To avoid this impropriety, and that of repeating the same forms, and frequently almost the same compositions, in different parts of the book; I have ranged medicines of fimilar preparation or compofition in one class, without regard to the inessential circumstances of their being used at London or at Edinburgh, at Paris or at Berlin, in the shops or in the hospitals; and have endeavoured to dispose them in fuch a manner, as to form, so far as could be done with fuch materials, one regular whole, a connected fystem of practical pharmacy. That the medicines of the London and Edinburgh colleges may be the more readily known from the others, their titles are printed in a larger character. The distinction, indeed, between preparations and compositions, the former of which make the third part, and the latter the fourth, is not perhaps altogether unexceptionable, confidering the great multiplicity and diversity of the subjects, many of which partake of the nature of both, though some more of one, and others of the other: but this does not at all affect the plan, or produce any disorder in the fystem, which continues the same whether this distinction is retained or dropt.

The Edinburgh medicines are taken from the last edition of the Pharmacopæia Edinburgensis, published in the year 1756, a complete translation of which has

not before appeared.

In translating the several prescriptions, wherever the originals appeared too concife or obscure, the liberty has been taken of expressing the directions in a more full and clear manner, with care not to vary the fense. The ingredients in the several compositions are, for the greater distinctness (a point which throughout the whole has been particularly aimed at) ranged in different lines, as in the originals. For want of some method of this kind, there are instances of ingredients being confounded, and two articles mistaken for one.

To the feveral medicines is subjoined, where it feemed requifite, an account of the principles on which they are built; together with their virtues, use, and dose; and the cautions necessary to be obferved in the exhibition of them. To the more difficult or dangerous operations is added a full description of the method of performing them with advantage and fafety; and to fuch medicines, as are liable to fophistication, the means of distinguishing the genuine from the adulterated. In these practical remarks on the particular preparations, and on the general classes of them at the beginning of the respective chapters and sections, the author has laboured with diligence. If he has succeeded in executing his intentions, the directions are fuch, as

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may enable every apothecary to prepare, as it is his

duty to do, all his own medicines.

The tables, inferted in a former edition, were fo well received, that the other dispensatories have copied them entire. One of these tables, however, that of specific gravities, appears, on re-examining it, to be exceptionable: great part of it was drawn from Dr. Friend's experiments, in his Prælectiones chymicæ, in which the numbers, by some accident, have been so faultily set down, that no dependence can be had upon them; and few other hydrostatical experiments have been made on medicinal fubstances or their preparations. I have therefore now thrown out that table, but preferved all that was valuable in it, reduced to a more useful form, in the table of the weights of certain measures of different fluids. I have likewife added feveral new ones, greatly enlarged the others, so as to render them of more utility in practice, and distributed them in the different parts of the work to which they belong. The facts on which they are built, where no authority is mentioned, are in all cases (except only in the above-mentioned table of weights) from my own experience.

The author is fufficiently fenfible, that there are still many imperfections in this performance; but hopes it will appear, that he has every where confulted the dignity of the art, the ease and advantage

of the operator, and the health of the patient.

# ADVERTISEMENT

### TO THE FIFTH EDITION.

IT is now some years since Dr. Lewis himself obliged the public with an improved edition of this most elegant and useful work. Since that period great improvement has been made in natural history, by the attention and labour of learned and ingenious men; and the Materia Medica considerably enriched with many valuable and useful articles. Therefore the editor (a new impression being called for) has thought it necessary to make fuch additions to the work as should render the present edition complete and perfect. Besides these additions, be has added to the vegetable articles of the Materia Medica the Linnaan names, where they were found to differ from those of the other botanic writers which Dr. Lewis chose to use. He has likewise introduced, in their proper places, the new articles which have been lately received into the catalogue of the Edinburgh college; and also corrected the former compositions of the Edinburgh Pharmacopaia by the last edition of that work; still retaining many compositions,

positions, which it may, perhaps, gratify many readers to see, though they are now expunged by the Edinburgh college.

The new articles are marked with an afterifk, that they may be more readily distinguished.——And as there is no other material alteration in the original, the editor hopes these additions, to a work so universally established, and approved for its useful information, will not have been made in vain.

<sup>\*\*</sup> In the last edition of the Edinburgh Pharmacopæia (printed in the year 1783) all the medicines, liquids and solids, are adjusted by Troy weight only.

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\*\* The useful compositions of the Pharmacopæia pauperum, which made a distinct part in a former edition, are here distributed in the two foregoing parts, all the medicines of similar forms being now, for the convenience of the reader, placed together.

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### THE

# NEW DISPENSATORY.

# PARTI. Elements of Pharmacy.

### CHAPTER I.

Definition and division of Pharmacy.

HARMACY is the art of preparing and compounding natural and artificial substances for medicinal purposes, in a manner suitable to their respective properties, and the intentions of cure.

This art has been commonly divided into two branches, GA-LENICAL and CHEMICAL: but no rational principle of distinction between them has as yet been fixed on. If it be a chemical process to evaporate juice of plantane over a gentle fire till it becomes thick, it is furely not less chemical to evaporate the juice of sloes in the same manner; and yet the former only is ranked among the chemical, and the latter among the galenical preparations. Frequently, also, one and the same preparation is in different pharmacopœias referred to the different branches; thus distilled waters and distilled spirits, which make the first of the galenical articles in one pharmacopæia, make the first of the chemical in another.

It is agreed on both fides, that essential oils, extracts, resins, volatile and fixt salts, the artificial neutral salts, metallic preparations, and other like productions, belong to the chemical pharmacy; and pills, boluses, troches, electaries, draughts, ointments, plasters, poultices, &c. to the galenical; as if the distinction was founded,

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neither

neither on the nature of the operation, nor of the materials, nor of the effect produced, but merely on the form in which the medicine is intended to be taken or applied. Thus, the diffolution of mercury in aquafortis is ranked among the chemical preparations; while the very same process, with the additional circumstance of uniting an unctuous material, which renders it, if any thing, still more chemical, is nevertheless reckoned a galenical one, because the product is used as an ointment. It cannot surely be supposed, that this is a just division; or that the same process or preparation can become chemical or not chemical, according to the intention to which it is applied or to the form in which the product is used.

it is applied, or to the form in which the product is used.

If vitriol of iron (that is, iron united with a certain acid) and any volatile alkaline falt, as that of hartshorn or fal ammoniac, be put together into water, in due proportions, the pungent smell of the volatile salt will be immediately suppressed; this salt uniting with the acid of the vitriol into a new compound, while the iron is separated and thrown out. This is undoubtedly a chemical effect; and this effect will happen, wherever those two ingredients meet together in a moist state, whatever the form of the medicine be. It is obvious, therefore, that the galenical forms are by no means independent of chemistry; and that this science extends to mixtures of the most simple kind.

The London college has very judiciously rejected this division; a division apparently derived from prejudice and superficial know-ledge, and which has been continued only in compliance with custom. Pharmacy, in its full extent, is no other than a branch of chemistry, and the most simple pharmaceutical preparations are so far chemical, as they have any dependence upon the properties or

relations of the materials.

PHARMACY, according to our definition, may be divided into THEORETICAL and PRACTICAL. Theoretical Pharmacy teaches the knowledge of the medicinal substances themselves, their various properties, qualities, and relations to one another, and their general effects on the human body: Practical pharmacy, the skilful performance of the several processes, or operations, by which they are adapted to particular uses.

What is here called theory is not to be understood as confisting of speculative truths, or philosophical investigations, calculated for explaining the phenomena, or teaching the rationale of the effects produced. The theory of pharmacy is the direct result of experiment and observation, or rather a general and comprehensive view of experiments and facts themselves; it may be termed SCIENTIFIC

PHARMACY, in distinction from mere manual labour.

Scientific pharmacy includes all those facts which relate to—the reduction of medicinal substances into different forms, and the

forms

forms in which particular fubstances are most commodiously or advantageously used-their relations to one another in regard to miscibility, and the means by which those, that of themselves are not miscible, may be made to unite-the separation of the medicinal from the inactive matter, and of different kinds of medicinal matter from one another when combined together in the same subject, on the principle of one being diffoluble in liquors which will not dissolve the other, of one being exhalable by heat while the other remains fixt, &c .- the alterations which the medicinal parts themfelves undergo, in different circumstances, and by different methods of treatment-the production of new properties and medicinal powers from the coalition of diffimilar things-with many other particulars analogous to thefe.

It is obvious, that a perfect acquaintance with pharmacy, confidered in this light, is effentially necessary to the due exercise of the art of physick. Without it, the prescriber must often err in the choice of materials for the different forms of preparation or composition, or in adapting a manner of preparation to given materials; and often be deceived also in the medicinal effects, which the known powers of the ingredients, feparately, gave

room to expect.

It would be inconsistent with the nature of a dispensatory, to wholly detach the scientific part of pharmacy from that which is more directly practical; for the science gradually results in the course of the practical details. In this first part of the work it has been thought expedient to premife a fummary view of the general elements of the art, both practical and scientific, that the reader may be the better prepared for the particular subjects and processes, which follow in the second and third parts.



# CHAPTER II.

A general view of the properties and relations of medicinal substances.

### SECT. I.

### Vegetables.

VEGETABLES are organized bodies, containing, in certain vessels, different kinds of substances, in which their medicinal virtues consist, and which are found to differ greatly, not only in their quantity, but likewise in their quality, according to the age of the plant, the season of the year, and the soil in

which it is produced.

Thus some herbs in their infancy abound most with odoriferous matter; of which others yield little or none till they have attained to a more advanced age. Many fruits, in their immature state, contain an austere acid juice, which by maturation is changed into a fweet: others, as the orange, are first warm and aromatic, and afterwards, by degrees, become filled with a ftrong acid. The common grain, and fundry other feeds, when beginning to vegetate, are in taste remarkably sweet; yet the kernels of certain fruits prove, at the same period, extremely acrid. The roots of fome of our indigenous plants, whose juice is, during summer, thin and watery, if wounded early in the spring, yield rich balsamic juices, which exposed to a gentle warmth, foon concrete into folid gummy-refins, superior to many of those brought from abroad. In open exposures, dry soils, and fair warm seasons, aromatic plants prove stronger and more fragrant, and fetid ones weaker in smell, than in the opposite circumstances. To these particulars therefore due regard ought to be had in the collecting of plants for medicinal uses.

It may be proper to observe also, that the different parts of one plant are often very different in quality from one another. Thus the bitter herb wormwood rises from an aromatic root; and the narcotic poppy-head includes seeds which have no narcotic power. These differences, though very obvious in the common culinary plants, do not seem to have been sufficiently observed, or attended to, in the medicinal ones.

The medicinal juices of vegetables, and the active parts with which they are impregnated, may, generally, be extracted and sepa-

rated, by simple operations, without any alteration being made in their native qualities. They may, likewise, be variously altered and transformed, by operations not less simple. By fermentation and the power of fire, vegetables, and all the substances that exist in them (the pure watery part excepted) totally change their nature, and are converted or resolved into products of another order. It will be proper to take a view of these productions first; some of them being subservient to the separation of the native principles, and to the better understanding of their properties.

### I. Productions from vegetables by fermentation.

THE sweet and acescent juices of fruits, insusions of malted grain, and almost all vegetable juices or insusions that are either simply sweet or of a sweetness mixed with acidity, on being kept in a place of temperate warmth, in a vessel not closely stopt, ferment, grow turbid, throw off a large quantity of gross matter, and are converted by degrees into a vinous liquor; from which may be separated, by processes hereafter described, a pure inflammable spirit.

It is needless to observe, how different these productions are, in their medicinal as well as their more obvious properties, from the liquors that afforded them. The native juices of fruits attenuate the animal fluids, and relax the solids, so as to prove in some cases useful aperient medicines, and to occasion, when imprudently taken, dangerous fluxes; whereas the vinous and spirituous liquors, produced from them by sermentation, have the opposite effects, constringing the solids, and thickening or coagulating the fluids.

In vinous liquors there are great diversities, independently of their being more or less watery; for some of the native qualities of vegetable juices and infusions, as colour, flavour, viscidity, &c. often remain in the wine, not being totally subduable by that degree of fermentation by which the liquor is rendered vinous: but of these diversities the spirit is never found to partake: this, separated from the wine and properly purified, is always one and the same thing, from whatever kind of vegetable liquor it was produced.

Besides the gross matter thrown off during the sermentation, there separates from sundry wines, after the sermentation is completed, another kind of substance. The sides and bottom of the cask become gradually incrustated with a saline concrete, called TARTAR, of an acid taste, and of a reddish or white colour, according to that of the wine. The colour is adventitious to the salt, for the tartar may be purished from it by solution in water: when thus purished, the tartar of all wines is found to be the same.

There is separated also, in fermentation, a substance of a much more active nature than any of the preceding. When the fermentation is at its height, a subtile, pungent, elastic, incoercible VA-POUR is discharged; which, when copiously accumulated in close rooms, extinguishes fire, and instantaneously suffocates animals, without producing any apparent difease, or any injury that can be perceived upon diffection. Boerhaave fays he does not remember that fo immediate, mortal, and subtile a poison has been hitherto discovered: that if a large vessel, full of the juice of grapes in high fermentation, should discharge its accumulated vapour through a fmall orifice, and a ftrong healthy man should draw in the vapour at his nostrils, he would instantly fall down dead; or if he received but little thereof, become apoplectic; or, if still less, would remain an ideot during life, or become paralytic: and that these accidents befal those who imprudently remain long in close vaults where large quantities are fermenting. It may be observed that this vapour, when not collected in fuch a quantity as to extinguish a small flame, as that of a candle, is generally not dangerous, or at least not mortal to animals.

There are several substances, of themselves not susceptible of fermentation, which nevertheless may be brought into it by the admixture of those that are; as by adding to them, along with a proper quantity of water, a portion of the yeast or head thrown up to the surface of fermenting liquors. To this expedient recourse is sometimes had for unlocking the texture of certain compact vegetable matters, in order to enable them to give out more readily some of their medicinal principles. In these cases, the fermentation must be continued but for a little time; lest the resolution of the subject should proceed beyond the intended limits, and the principles, expected from it, be converted into other products.

The fermentable juices of fruits, boiled till they become thick, are found to be indisposed to ferment, and this not only in their thick state, but when diluted again with water; though there appears to be scarcely any other alteration produced in them by the boiling. Hence liquids, prone to fermentation, may thus be preferved. How far this diminution of their fermentability may affect

their medical virtues, is not as yet clear.

The degree or the species of fermentation, by which wines and inflammable spirits are produced, is called vinous fermentation. If the process be further protracted, more gross matter is thrown off, and new changes succeed, but in a slower and less tumultuary manner than before. The heating inebriating wine becomes by degrees a cooling acid VINEGAR, which seems to counteract the effects of the other: the more the wine abounded with inflammable spirit, the more does the vinegar abound with uninflammable acid.

There

There are, however, certain qualities of vegetables, which are not completely subdued even by this second stage of fermentation; some vinegars being apparently more coloured, and containing more of an oily and viscid matter than others. By adding to the fermentable liquor subjects of other kinds, the qualities both of wines and vinegars may be still further diversified, so as to adapt them to particular medicinal uses.

It is observable, that though the acetous fermentation will always succeed the vinous, unless industriously prevented, yet it is not always preceded thereby; for many, perhaps all, fermentable liquors may be made to pass to the acetous state, without any intermediate

period of true vinofity.

If the process be still further continued, further changes take place. The matter putrefies: and at length, what little liquor remains unevaporated, is found to be mere water, and the solid substance at the bottom appears to be the same with common mould.

This is reckoned by the chemists one of the stages of fermentation, and distinguished by the name of the putrefactive stage. It is far more general in its object than the other two; every vegetable matter being susceptible of putrefaction, but some particular kinds

only being adapted to vinous or acetous fermentation.

Putrefaction discovers one difference in vegetables, which, though not taken notice of, so far as I know, by any writer, seems worthy of being remarked. The generality of vegetables rot and turn to mould, without yielding any very offensive smell from the beginning to the end of the resolution: but there are some which emit, throughout the whole process, a strong setor, very nearly of the same kind with that which accompanies the putrefaction of animal substances.

### 2. Productions from vegetables by fire.

FIRE, the other grand agent in the resolution of bodies, produces in vegetables decompositions of a different kind. Its general effects are the following.

VEGETABLE substances, burnt in the open air, are reduced partly into ASHES, and partly into FLAME and SMOKE; which last, condensed in long canals or otherwise, forms a nauseous bitter black soot. In the burning of most vegetables, an acid vapour accompanies the smoke; but the soot is never found to partake of it.

Vegetables urged with a red heat in close vessels (the vessel containing the subject being made to communicate with another placed beyond the action of the fire for receiving the matters forced out

by the heat) give over a WATERY LIQUOR called phlegm; an ACID LIQUOR called spirit; an elastic incoercible vapour, which appears to be AIR, and to which an exit must be occasionally allowed, lest it burst the vessels or blow off the receiver; a thin oil, and, at length, a very thick dark-coloured oil, both which are of an acrimonious taste, and a burnt setid smell, whence they are called empyreumatic oils. There remains behind a black coal, not dissoluble in any kind of liquors, not susceptible of putrefaction, not alterable by the most vehement degree of fire, so long as the air is excluded, but which, on admitting air to it, burns, without slaming, and with little or no smoke, and leaves a very small quantity of white ashes.

The white ashes of vegetables, insused or boiled in water, impart to it a pungent saline substance, called fixt alkaline salt, which may be separated in a solid form by evaporating the water. The remaining part of the ashes, which is by far the largest in quantity, is a pure EARTH, differing from that which is the result of putrefaction, in being readily dissoluble by every

acid liquor, while the other is not acted upon by an acid.

Such is the general analysis of vegetables by fire. But there are fome vegetables, which, as they seem to shew, during putrefaction, some analogy in their matter with that which constitutes animal bodies, discover also a like analogy in the present resolution, yielding little or no acid; and, instead of a fixt alkaline salt which remains in the ashes, affording a volatile alkaline salt which arises along with the aqueous and oily principles.

ALKALINE falts, and acid or four substances, are looked upon as being opposite in their nature to one another. Most of the bodies, which are dissoluble in alkaline liquors, are precipitated or thrown out from the solution on the addition of an acid; and most of those, which are dissoluble in acids, are in like manner precipitated by alkalies. If an acid and an alkali be directly mixed together, there generally ensues an effervescence or tumulturary discharge of air-bubbles; though alkalies, both fixt and volatile, may be so prepared as to make no effervescence with acids, and in this case they are far more pungent than in their common state.

In all cases, the alkali and acid, uniting together, compose a new body, called a NEUTRAL SALT, which has neither the sourness of the one ingredient, nor the peculiar pungency of the other, and which will not dissolve those substances which either the acid or

the alkali feparately would diffolve.

To these characters, it may be added, that alkaline salts change the colour of blue flowers or their insusions, as of violets, to a green, and acids to a red, while the neutral compound, formed by the coalition of the two, makes no alteration in the colour. It must be observed, however, that to change blue flowers to a green, is not universally a mark of alkalies, for some solutions of earthy bodies in acids have the same effect: these last may be distinguished from alkalies, by adding to them a known alkali, which will immediately precipitate the earth, and form a neutral compound with the acid.

FIXT alkaline falts, perfectly purified, appear to be one and the fame, from whatever kind of vegetable they were produced; those of some marine plants excepted, of which hereafter. In volatile alkalies, and in the pure earthy part of the ashes, there appears to be, respectively, the like identity.

Empyreumatic oils differ somewhat in the degree of acrimony and fetidness, and the acid spirits differ in degree of strength, or in the quantity of water with which they are diluted; how far they may differ in any other respects, is little known, these preparations hav-

ing been rarely used or examined.

It may be observed, that the alkaline salts, both of the fixt and of the volatile kind, are entirely creatures of the fire, being never found to exist naturally in any vegetable: the oil, doubtless, præexisted in the subject, but owes its acrimony and fetidness to the fire; for the most mild and insipid oils receive the same qualities on being urged with the same degree of heat: the acid, which is likewise naturally contained in vegetable subjects, proves always tainted, in the present process, with the ill smell and taste of the oil that accompanies it; but whether the acid itself suffers any

change in its nature, is unknown.

When chemistry began first to be formed into a rational science, and to examine the component parts and internal constitution of bodies, it was imagined, that this resolution of vegetables by fire, discovering to us all their active principles, unclogged and unmixed with one another, would afford the furest means of judging of their medicinal powers. But, on profecuting these experiments, it was foon found that they were infufficient for that end: that the analyfes of poisonous and esculent plants agreed often as nearly with one another as the analyses of one plant: that by the action of a burning heat, two principles of vegetables are not barely separated, but altered, transposed, and combined into new forms; insomuch that it was impossible to know in what form they existed, and with what qualities they were endowed, before these changes and transpositions happened. If, for example, thirty-two ounces of a certain vegetable substance be found to yield ten ounces and a half of acid liquor, above one ounce and five drams of oil, and three drams and a half of fixt alkaline falt; what idea can this analysis give of the medicinal qualities of gum Arabic?

3. Substances naturally contained in vegetables, and separable by art without alteration of their native qualities.

### 1. Gross oils.

GROSS oils abound chiefly in the kernels of fruits and in certain feeds; from which they are commonly extracted by expreffion, and hence are distinguished by the name of expressed oils.
They are contained also in all the parts of all vegetables that have
been examined, and may be forced out by vehemence of fire; but
here their qualities are greatly altered in the process by which they
are extracted or discovered, as we have seen under the foregoing
head.

These oils, in their common state, are not dissoluble either in vinous spirits or in water, though, by means of certain intermedia, they may be united both with the one and the other. Thus a skilful interposition of sugar renders them miscible with water into what are called lohochs and oily draughts: by the intervention of gum or mucilage they unite with water into a milky sluid: by alkaline salts they are changed into a soap, which is miscible both with watery and spirituous liquors, and is perfectly dissolved by the latter into an uniform transparent sluid. The addition of any acid to the soapy solution absorbs the alkaline salt; and the oil, which of course separates, is found to have undergone this remarkable change, that it now dissolves without any intermedium, in pure spirit of wine.

Expressed oils, exposed to the cold, lose greatly their fluidity: some of them, in a small degree of cold, congeal into a consistent mass. Kept for some time in a warm air, they become thin and highly rancid: their soft, lubricating, and relaxing quality is changed into a sharp acrimonious one: and in this state, instead of allaying, they occasion irritation; instead of obtunding corrosive humours, they corrode and instance. These oils are liable to the same noxious alteration while contained in the original subject: hence the rancidity which the oily seeds and kernels, as almonds and those called the cold seeds, are so liable to contract in keeping. Nevertheless on triturating these feeds or kernels with water, the oil, by the intervention of the other matter of the subject, unites with the water into an emulsion or milky liquor, which, instead of growing rancid, turns sour on standing.

In the heat of boiling water, and even in a degree of heat as much exceeding this as the heat of boiling water does that of the human body, these oils suffer little dissipation of their parts. In a greater heat, they emit a pungent vapour, seemingly of the acid kind; and when suffered to grow cold again, they are found to have acquired a greater degree of consistence than they had before, together with an acrid taste. In a heat approaching to ignition, in close vessels, the

greatest

greatest part of the oil arises in an empyreumatic state, a black coal remaining behind.

### 2. Gross sebaceous matter.

FROM the kernels of some fruits, as that of the chocolate nut, we obtain, instead of a fluid oil, a substance of butyraceous confistence; and from others, as the nutmeg, a folid matter as firm as tallow. These concretes are most commodiously extracted by boiling the subject in water; the sebaceous matter, liquefied by the heat, separates and arises to the surface, and resumes its proper

confistence as the liquor cools.

The substances of this class have the same general properties with expressed oils, but are less disposed to become rancid in keeping than most of the common fluid oils. It is supposed by the chemists, that their thick confistence is owing to a larger admixture of an acid principle: for, in their resolution by fire, they yield a vapour more fenfibly acid than the fluid oils; and fluid oils, by the admixture of concentrated acids, are reduced to a thick or folid mass.

### 3. Essential oils.

Essential oils are obtained only from those vegetables, or parts of vegetables, that are confiderably odorous. They are the direct principle, in which the odour, and oftentimes the warmth, pungency, and other active powers of the subject, reside; whence

their name of effences or effential oils.

Essential oils unite with rectified spirit of wine, and compose with it one homogene transparent fluid; though some of them require for this purpose a much larger proportion of the spirit than others. Water also, though it does not dissolve their whole substance, may be made to imbibe some portion of their more subtile matter, fo as to become confiderably impregnated with their flavour: by the admixture of fugar, gum, the yolk of an egg, or alkaline falts, they are made totally dissoluble in water. Digested with volatile alkalies, they undergo various changes of colour, and some of the less odorous acquire considerable degrees of fragrance; whilst fixt alkalies univerfally impair their odour.

In the heat of boiling water, these oils totally exhale; and on this principle they are commonly extracted from subjects that contain them; for no other fluid, that naturally exists in vegetables, is exhalable by that degree of heat, except the aqueous moisture, from which greatest part of the oil is easily separated. Some of these oils arise with a much less heat, a heat little greater than that in which water begins visibly to evaporate. In their resolution by

a burning heat, they differ little from expressed oils.

Effential oils, exposed for some time to a warm air, suffer an alteration very different from that which the expressed undergo.

Instead

Instead of growing thin, rancid, and acrimonious, they gradually become thick, and at length harden into a solid brittle concrete; with a remarkable diminution of their volatility, fragrancy, pungency, and warm stimulating quality. In this state, they are found to consist of two kinds of matter; a sluid oil, volatile in the heat of boiling water, and nearly of the same quality with the original oil; and of a grosser substance which remains behind, not exhalable without a burning heat, or such a one as changes its nature, and resolves it into an acid, an empyreumatic oil, and a black coal.

The admixture of a concentrated acid instantly produces, in effectial oils, a change nearly similar to that which time effects. In making these kinds of commixtures, the operator ought to be on his guard: for when a strong acid, particularly that of nitre (of which hereaster) is poured hastily into an essential oil, a great heat and ebullition ensue, and often an explosion happens, or the mixture bursts into slame. The union of expressed oils with acids is

accompanied with much less conflict.

### 4. Concrete essential oil.

Some vegetables, as roses and elecampane roots, instead of a stuid essential oil, yield a substance possessing the same general properties, but of a thick or sebaceous consistence. This substance appears to be of as great volatility, and subtility of parts, as the stuid oils: it equally exhales in the heat of boiling water, and concretes upon the surface of the collected vapour. The total exhalation of this matter, and its concreting again into its original consistent state, without any separation of it into a stuid and a solid part, distinguishes it from essential oils that have been thickened or indurated by age or by acids.

### 5. Camphor.

CAMPHOR is a folid concrete, obtained chiefly from the woody parts of certain Indian trees. It is volatile like effential oils, and foluble both in oils and inflammable spirits: it unites freely with water by the intervention of gum, but very sparingly and imperfeelly by the other intermedia that render oils miscible with watery liquors. It differs from the sebaceous as well as fluid effential oils, in suffering no sensible alteration from long keeping; in being totally exhalable, not only by the heat of boiling water, but in a warm air, without any change or separation of its parts, the last particle that remains unexhaled appearing to be of the same nature with the original camphor; in its receiving no empyreumatic impression, and fuffering no refolution, from any degree of fire to which it can be exposed in close vessels, though readily combustible in the open air; in being diffolved by concentrated acids into a liquid form; and in feveral other properties which it is needless to specify in this place. 6. Refin.

### 6. Refin.

Essential oils, indurated by age or acids, are called refins. When the indurated mass has been exposed to the heat of boiling water, till its more subtile part, or the pure essential oil that remained in it, has exhaled, the gross matter, left behind, is likewise called refin. We find, in many vegetables, refins analogous both to one and the other of these concretes; some containing a subtile oil, separable by the heat of boiling water; others contain-

ing nothing that is capable of exhaling in that heat.

Refins in general diffolve in rectified spirit of wine, though some of them much more difficultly than others: it is chiefly by means of this diffolvent, that they are extracted from the subjects in which they are contained. They dissolve also in oils both expressed and essential; and may be united with watery liquors by means of the same intermedia which render the sluid oils miscible with water. In a heat less than that of boiling water, they melt into an oily sluid, and in this state they may be incorporated one with another. In their resolution by sire, in close vessels, they yield a manifest acid, and a large quantity of empyreumatic oil.

### 7. Gum.

Gum differs from the foregoing substances, in being uninstammable: for though it may be burnt to a coal, and thence to ashes, it never yields any stame. It differs remarkably also in the proportion of the principles into which it is resolved by fire; the quantity of empyreumatic oil being far less, and that of acid far greater. In the heat of boiling water, it suffers no dissipation: nor does it liquefy like resins; but continues unchanged, till the heat is so far increased as to scorch or turn it to a coal.

By a little quantity of water, it is foftened into a vifcous adhefive mass, called mucilage: by a larger quantity it is disfolved into
a sluid, which proves more or less glutinous, according to the proportion of gum. It does not dissolve in vinous spirits, or in any
kind of oil: nevertheless, when softened with water into a mucilage,
it is easily miscible both with the sluid oils and with resins, which,
by these means, become soluble in watery liquors, along with the
gum, and are thus excellently sitted for medicinal purposes.

This elegant method of uniting oils with aqueous liquors, which has been kept a fecret in few hands, appears to have been known to Dr. Grew. "I took (fays he) oil of annifeeds, and pouring it upon another body, I so ordered it, that it was thereby turned into a perfect milk-white balfam or butter; by which means the oil became mingleable with any vinous or watery liquor; easily and instantaneously dissolving therein, in the form of a milk. And note, this is done without the least alteration of the smell, taste,

"any other stillatitious oil may be transformed into a milk-white butter, and in like manner be mingled with water or any other liquor; which is of various use in medicine, and what I find oftentimes very convenient and advantageous to be done." (Grew, of mixture, chap. v. inst. i. § 7.) This enquiry has lately been further prosecuted, in the first volume of the Medical Observations published by a society of physicians in London; where a variety of experiments is related, of rendering oils both essential and expressed, and different unctuous and resinous bodies, soluble in water by the mediation of gum.

As oily and refinous substances are thus united to water by the means of gum, so gums may in like manner be united to spirit of wine by the intervention of refins and essential oils; though the spirit does not take up near so much of the gum, as water does of

the oil or refin.

Acid liquors, though they thicken pure oils or render them confistent, do not impede the dissolution of gum, or of oils blended with gum. Alkaline salts, on the contrary, both fixt and volatile, though they render pure oils dissoluble in water, prevent the solution of gum, and of mixtures of gum and oil. If any pure gum be dissolved in water, the addition of any alkali will occasion the gum to separate, and fall to the bottom in a consistent form: if any oily or resinous body was previously blended with the gum, this also separates, and either sinks to the bottom, or rises to the top, according to its gravity.

### 8. Gum-resin.

By gum-resin is understood a mixture of gum and resin. Many vegetables contain mixtures of this kind, in which the component parts are so intimately united, with the interposition perhaps of some other matter, that the compound, in a pharmaceutical view, may be considered as a distinct kind of principle; the whole mass dissolving almost equally in aqueous and in spirituous liquors; and the solutions being not turbid or milky, like those of the grosser mixtures of gum and resin, but perfectly transparent. Such is the astringent matter of bistort root, and the bitter matter of gentian. It were to be wished that we had some particular name for this kind of matter; as the term gum-resin is appropriated to the grosser mixtures, in which the gummy and resinous parts are but loosely joined, and easily separable from one another.

### 9. Saline matter.

Or the faline juices of vegetables there are different kinds, which have hitherto been but little examined: the fweet and acid ones are the most plentiful, and those which are the most known.

8

These juices, exposed to a heat equal to that of boiling water, suffer generally no other change than the evaporation of their watery moisture; the saline matter remaining behind, along with such of the other not volatile parts as were blended with it in the juice. From many, after the exhalation of great part of the water, the saline matter gradually separates in keeping, and concretes into little solid masses, leaving the other substances dissolved or in a moist state: from others, no means have yet been found of

obtaining a pure concrete falt.

These salts dissolve not only in water like other saline bodies, but many of them, particularly the sweet, in rectified spirit also. The gross oily and gummy matter, with which they are almost always accompanied in the subject, dissolves freely along with them in water, but is by spirit in great measure left behind. Such heterogeneous matters, as the spirit takes up, are almost completely retained by it, while the salt concretes; but of those, which water takes up, a considerable part always adheres to the salt. Hence essential salts, as they are called, prepared in the common manner from the watery juices of vegetables, are always found to partake largely of the other soluble principles of the subject; whilst those extracted by spirit of wine prove far more pure. By means of rectified spirit, some productions of this kind may be excellently freed from their impurities; and perfect saccharine concretions obtained from many of our indigenous sweets.

There is another kind of faline matter, obtained from some resinous bodies, particularly from benzoine, of a different nature
from the foregoing, and supposed by some of the chemists to be a
part of the essential oil of the resin, coagulated by an acid, with
the acid more predominant, or more disengaged, than in the other
kinds of coagulated or indurated oils. These concretes dissolve
both in water and in vinous spirits, though difficultly and sparingly
in both: they shew some marks of acidity, have a considerable
share of smell like that of the resin from which they are obtained,
exhale in a heat equal to that of boiling water or a little greater,

and prove inflammable in the fire.

## General observations on the foregoing principles.

I. ESSENTIAL oils, as already observed, are obtainable only from a few vegetables, and camphor from a much smaller number: but gross oil, resin, gum, and saline matter, appear to be common, in greater or less proportion, to all; some abounding more with

one, and others with another.

2. The feveral principles are in many cases intimately combined; so as to be extracted together from the subject, by those dissolvents, in which some of them, separately, could not be dissolved. Hence watery insusions, and spirituous tinctures of a plant contain, respectively, more than water or spirit is the proper dissolvent of.

3. After

3. After a plant has been sufficiently insused in water, all that spirit extracts from the residuum may be looked upon as consisting wholly of such matter as directly belongs to the action of spirit. And contrariwise, when spirit is applied first, all that water extracts afterwards may be looked upon as consisting only of that matter of which water is the direct dissolvent.

4. If a vegetable substance, containing all the principles we have been speaking of, be boiled in water, the essential oil, whether shuid or concrete, and the camphor, and volatile essential salt, will gradually exhale with the steam of the water, and may be collected by receiving the steam in proper vessels placed beyond the action of the heat. The other principles not being volatile in this degree of heat, remain behind: the gross oil and sebaceous matter float on the top: the gummy and saline substance, and a part of the resin, are dissolved by the water, and may be obtained in a solid form by straining the liquor, and exposing it to a gentle heat till the water has exhaled. The rest of the resin, still retained by the subject, may be extracted by spirit of wine, and separated in its proper form, by exhaling the spirit. On these soundations, most of the substances contained in vegetables may be extracted, and obtained in a pure state, however they may be compounded toge-

ther in the fubject.

5. Sometimes one or more of the principles is found naturally disengaged from the others, lying in distinct receptacles within the fubject, or extravalated and accumulated on the furface. Thus, in the dried roots of angelica, cut longitudinally, the microfcope difcover veins of refin. In the flower-cups of hypericum, and the leaves of the orange tree, transparent points are distinguished by the naked eye, which, on the first view, seem to be holes, but, on a closer examination, are found to be little vesicles filled with essential oil. In the bark of the fir, pine, larch, and some other trees, the oily receptacles are extremely numerous, and fo copiously supplied with the oily and refinous fluid, that they frequently burst, especially in the warm climates, and discharge their contents in great quantities. The acacia tree in Egypt, and the plum and cherry among ourfelves, yield almost pure gummy exudations. From a species of ash is secreted the saline sweet substance manna; and the only kind of fugar with which the ancients were acquainted, appears to have been a natural exudation from the cane.

6. The foregoing principles are, so far as is known, all that naturally exist in vegetables; and all that art can extract from them, without such operations as change their nature, and destroy their original qualities. In one or more of these principles, the colour, smell, taste, and medicinal virtues of the subject, are

almost always found concentrated.

7. In some vegetables, the whole medicinal activity resides in one principle. Thus, in sweet almonds, the only medicinal principle

ciple is a gross oil; in horse-radish root, an essential oil; in jalap root, a resin; in marshmallow root, a gum; in the leaves of forrel, a saline acid substance.

8. Others have one kind of virtue residing in one principle, and another in another. Thus Peruvian bark has an astringent resin, and a bitter gum; wormwood, a strong slavoured essential oil, and

a bitter gum-refin.

9. The gross insipid oils and sebaceous matters, the simple insipidgums, and the sweet and acid saline substances, appear to nearly agree, respectively, among themselves, in their medicinal qualities,

as well as in their pharmaceutic properties.

10. But essential oils, refins, and gum-refins, differ greatly in different subjects. As effential oils are universally the principle of odour in vegetables, it is obvious that they must differ in this respect as much as the subjects from which they are obtained. Refins frequently partake of the oil, and consequently of the differences depending thereon; with this further diversity, that the gross refinous part often contains other powers than those which refide in oils. Thus from wormwood a refin may be prepared, containing not only the firong smell and flavour, but likewise the whole bitterness of the herb; from which last quality the oil is entirely free. The bitter, astringent, purgative and emetic virtues of vegetables reside generally in different forts of refinous matter, either pure, or blended with gummy and faline parts; of which kind of combinations, there are many fo intimate, that the component parts can fearcely be separated from one another, the whole compound dissolving almost equally in aqueous and spirituous menstrua.

11. There are some substances also, which, from their being totally dissoluble in water, and not at all in spirit, may be judged to be mere gums; but which, nevertheless, possess virtues never to be found in the simple gums. Such are the aftringent gum called

acacia, and the purgative gum extracted from aloes.

or presiding spirits, different in different plants, of too great tenuity to be collected in their pure state, and of which oils, gums, and resums are only the matrices or vehicles. This enquiry is foreign to the purposes of pharmacy, which is concerned only about grosser and more sensible objects. When we obtain from an odoriserous plant an essential oil, containing in a small compass the whole fragrance of a large quantity of the subject, our intentions are equally answered, whether the substance of the oil be the direct odorous matter, or whether it have diffused through it a fragrant principle more subtile than itself. And, when this oil, in long keeping, loses its odour, and becomes a resin, it is equal in regard to the present considerations, whether the effect happen from the avolation of a subtile principle, or from a change produced in the substance of the oil itself

# SECT. II.

#### Animals.

I N animal bodies we find certain fubstances, which have a great resemblance, in their general properties, to those of the veget-

able kingdom.

Animal oils and fats, like the gross oils of vegetables, are not, of themselves, dissoluble either in water or vinous spirits; but they may be united with water by the intervention of gum or mucilage; and most of them may be changed into soap, and thus rendered miscible with spirit, as well as water, by fixt alkaline salts.

The odorous matter of some odoriferous animal substances, as musk, civet, castor, is, like essential oil, soluble in spirit of wine, and volatile in the heat of boiling water. Cartheuser relates, that from castor an actual essential oil has been obtained, in a very small

quantity, but of an exceedingly ftrong diffusive smell.

The vesicating matter of cantharides, and those parts of sundry animal substances, in which their peculiar tastes reside, are dissolved by rectified spirit, and seem to have some analogy with refins and gummy resins.

The gelatinous principle of animals, like the gum of vegetables, disfolves in water, but not in spirit or in oils: like gums also, it renders oils and fats miscible with water into a milky liquor.

Some infects, particularly the ant, are found to contain an acid juice, which approaches nearly to the nature of vegetable acids.

There are however fundry animal juices, which differ greatly, even in these general kinds of properties, from the corresponding ones of vegetables. Thus animal serum, which appears analogous to vegetable gummy juices, has this remarkable difference, that though it mingle uniformly with cold or warm water, yet, on considerably heating the mixture, the animal matter separates from the watery sluid, and concretes into a solid mass. Some have been apprehensive, that the heat of the body, in some distempers, might rise to such a degree, as to produce this dangerous or mortal concretion of the serous humours: but the heat requisite for this effect is greater than the human body appears capable of sustaining; being nearly about the middle point between the greatest human heat commonly observed and that of boiling water.

THE foft and fluid parts of animals are strongly disposed to run into putrefraction: they putrefy much sooner than vegetable matters, and, when corrupted, prove more offensive.

This process takes place, in some degree, in the bodies of living animals; as often as the juices stagnate long, or are prevented, by an obstruction of the natural emunctories, from throwing off their

more volatile and corruptible parts.

The doctrine of putrefaction, both in living and in dead animals, has received great light from the curious and interesting experiments and observations of Dr. Pringle. He observes, that if the corruption be great and sudden, a sever or a slux ensue; but that if the accumulation of corrupted matter be so slow, that the body becomes habituated to the putrefaction, a scurvy prevails. Hence the frequency of this last distemper, in long voyages, on board unventilated ships, from corrupted air and provisions; in marshy countries, from similar causes; and in a less degree, in all northern climates, in moist situations, from a want of due perspiration.

During putrefaction, a quantity of air is generated; all the humours become gradually thinner, and the fibrous parts more lax and tender. Hence the tympany, which succeeds the corruption of any of the viscera, or the imprudent suppression of dysenteries by astringents; and the weakness and laxity of the vessels observable in

fcurvies, &c.

The crassamentum of human blood changes by putrefaction into a dark livid-coloured liquor; a few drops of which tinge the ferum of a tawny hue; like that of the ichor of fores and dysenteric fluxes, and of the white of the eye, the saliva, the serum of blood drawn from a vein, and that which oozes from a blister, in deep scurvies, and the advanced state of malignant severs.

The putrid crassamentum changes a large quantity of recent urine to a slame-coloured water, so common in severs and in the scurvy. This mixture, after standing an hour or two, gathers a cloud, resembling what is seen in the crude water of acute distempers; with some oily matter on the surface, like the scum which

floats on fcorbutic urine.

The ferum of blood deposits, in putrefaction, a sediment refembling well-digested pus, and changes to a faint olive green. A ferum, so far putrefied as to become green, is perhaps never to be seen in the vessels of living animals: but in dead bodies this serum is to be distinguished by the green colour which the sless acquires in corrupting. In salted meats, this is commonly ascribed to the brine, but erroneously; for that has no power of giving this colour, but only of qualifying the taste, and in some degree the ill effects of corrupted aliments. In soul ulcers, and other sores, where the serum is left to stagnate long, the matter is likewise found of this colour, and is then always acrimonious.

The putrefaction of animal substances is prevented or retarded by all faline matters, even by the fixt and volatile alkaline salts, which have generally been supposed to produce a contrary effect. Of all

the falts that have been made trial of, sea salt seems to refist putrefaction the least: in small quantities, it even accelerates the process. The vegetable bitters, as chamomile flowers, are much stronger antiseptics, not only preserving flesh long uncorrupted, but likewife fomewhat correcting it when putrid: the mineral acids have this last effect in a more remarkable degree. Vinous spirits, aromatic and warm substances, most of the diaphoretic drugs, and the acrid plants falfely called alkalescent, as scurvygrass and horseradish, are also found to refist putrefaction; and some of the abforbent earths, as chalk, to promote it.

It is observable, that notwithstanding the strong tendency of animal matters to putrefaction, yet broths made from them with the admixture of vegetables, instead of putrefying, turn four. Dr. Pringle finds, that when animal flesh in substance is beaten up with bread, or other farinaceous vegetables, and a proper quantity of water, into the confistence of a pap, this mixture likewise, kept in a heat equal to that of the human body, grows in a little time four; while the vegetable matters, without the flesh, suffer no fuch change. (See the appendix to Dr. Pringle's observations on

the difeases of the army.)

ANIMAL substances, burnt in the open air, are resolved, like vegetables, into foot and ashes, but, with this difference, that no fixt alkaline falt can be obtained from the ashes, and that no acid vapour accompanies the smoke. They emit, during the burning, a fetid fmell, of a peculiar kind, by which animal substances may be distinguished at once from all those of the vegetable kingdom. In close vessels, they give over, after the watery moisture, a volatile alkaline falt, which either concretes into a folid form, or diffolves in the water, and thus composes what is called spirit; together with an empyreumatic oil, of a more fetid kind than the oils of vegetables: without the least footstep of acid throughout the whole process. A black coal remains, which, in the open air, burns into white ashes void of saline matter.

It was observed in the preceding section, that some few vegetables, in this resolution of them by fire, discover some agreement, in their matter, with bodies of the animal kingdom; yielding a volatile alkaline falt in confiderable quantity, with little or nothing of the acid or fixt alkali, which the generality of vegetables afford. In animal substances also there are some exceptions to the general analysis: from animal fats, instead of a volatile alkali, an acid liquor is obtained, and their empyreumatic oil wants the peculiar

offenfiveness of the other animal oils.

# SECT. III.

#### Minerals.

#### Oils and Bitumens.

IN the mineral kingdom is found a fluid oil, called naphtha or petroleum, floating on the furface of waters, or issuing from clefts of rocks, particularly in the eastern countries, of a strong smell, very different from that of vegetable or animal oils, limpid almost as water, highly inflammable, not soluble in spirit of wine, and more averse to union with water than any other oils.

There are different forts of these mineral oils, more or less tinged, and of a more or less agreeable, and a stronger or weaker, smell. By the admixture of concentrated acids, which raise no great heat or conslict with them, they become thick, and at length

confistent; and, in these stages, are called bitumens.

These thickened or concreted oils, like the corresponding products of the vegetable kingdom, are generally soluble in spirit of wine, but much more difficultly, more sparingly, and for the most part only partially: they liquesy by heat, but require the heat to be considerably stronger. In a proper degree of heat, they give out a sluid oil, greatly resembling the native petrolea; a small quantity of a black coaly matter remaining behind. Their smells are various; but all of them, either in their natural state, or when melted, or set on fire, yield a peculiar kind of strong scent, called, from them, bituminous.

#### Earths.

In treating of vegetables and animals, we forbore to speak of their earthy matters, that the distinguishing characters of the several classes of earthy bodies might be the more easily apprehended, by having them placed here in one synoptical view: the little impropriety of joining the vegetable and animal earths to the mineral, must be overlooked for the sake of that advantage. Under the mineral earths are included stones, these being no other than earths in an indurated state.—The different kinds of these bodies hitherto taken notice of, are the following:

- I. Earths foluble in the nitrous, marine, and vegetable acids, but not at all or exceedingly sparingly in the vitriolic acid. When previously dissolved in other acids, they are precipitated by the addition of this last, which thus unites with them into inspid, or nearly insipid concretes, not dissoluble in any liquor. Of this kind are,
- I. The mineral calcareous earth: distinguished by its being convertible, in a strong fire without addition, into an acrimonious calx, called quicklime. This earth occurs in a variety of forms in the mi-

neral kingdom. The fine foft chalk, the coarfer limestones, the hard marbles, the transparent spars, the earthy matter contained in waters, and which, separating from them, incrustates the sides of caverns, or hangs in icicles from the top, receiving from its different appearances different appellations; how strongly soever some of these bodies have been recommended for particular medicinal purposes, are at bottom no other than different forms of this calcareous earth, fimple pulverization depriving them of the fuperficial characters by which they were diffinguished in the mass. Most of them contain generally a greater or less admixture of some of the indiffoluble kinds of earth; which, however, affects their medicinal qualities no otherwise, than by the addition which it makes to their bulk. Chalk appears to be one of the pureft, and is therefore in general preferred. They all burn into a strong quicklime: in this flate, a part of them dissolves in water, which thus becomes impregnated with the aftringent and lithontriptic powers that have been erroneously ascribed to some of the earths in their natural state.

2. The animal calcareous earth: burning into quicklime, like the mineral. Of this kind are oyster shells, and all the marine shells that have been examined; though with some variation in the

strength of the quicklime produced from them.

3. The earth of bones and horns: not at all burning into quick-lime. This kind of earth is more difficult of folution in acids than either of the preceding. It is accompanied in the subjects with a quantity of gelatinous matter, which may be separated by long boiling in water, and more perfectly by burning in the open air: the earth may be extracted also from the bone or horn, though difficultly, by means of acids; whereas vegetables, and the soft parts of animals, yield their pure earth by burning only.

- II. Earths foluble with ease in the vitriolic as well as other acids; and yielding, in all their combinations therewith, saline concretes soluble in water.
- gative liquor. This earth has not yet been found naturally in a pure state. It is obtained from the purging mineral waters and their salts, from the bitter liquor which remains after the crystallization of sea falt from sea water, and from the fluid which remains uncrystallized in the putrefaction of some sorts of rough nitre. The ashes of vegetables appear to be nearly the same kind of earth.

2. Aluminous earth: composing with the vitriolic acid a very astringent liquor. This earth also has not been found naturally pure. It is obtained from alum, which is no other than a combination of it with the vitriolic acid: it may likewise be extracted,

by firong boiling in that acid, from clays and boles.

III. Earths

- III. Earths which by digestion in acids, either in the cold or in a moderate warmth, are not at all dissolved.
- bardness in the fire. Of this kind of earth there are several varieties, differing in some particular properties: as the purer clays, which, when moistened with water, form a very viscous mass, difficultly diffusible through a larger quantity of the fluid, and slowly subsiding from it: boles, less viscous, more readily miscible with water, and more readily subsiding: and ochres, which have little or nothing of the viscosity of the two foregoing, and are commonly impregnated with a yellow or red ferrugineous calx.

2. Crystalline earth: naturally hard, so as to strike sparks with steel: becoming friable in a strong fire. Of this kind are slints, crystals, &c. which appear to consist of one and the same earth, differing in the purity, hardness and transparency of the mass.

- 3. Gypseous earth: reducible by a gentle-heat into a soft powder, which unites with water into a mass, somewhat viscous and tenacious while moist, but quickly drying and becoming hard. A greater heat deprives the powder of this property, without occasioning any other alteration. Such are the transparent selenitæ; the sibrous stony masses improperly called English tale; and the granulated gypsa or plaster of Paris stones. Though these bodies, however, have been commonly looked upon as mere earths, of a distinct kind from the rest, they appear, both from analytical and synthetical experiments, to be no other than combinations of the mineral calcareous earth with vitriolic acid. (See the characters of the earths of the first class.)
- 4. Talky earth: fearcely alterable by a vehement fire. The masses of this earth are generally of a fibrous or leafy texture; more or less pellucid, bright or glittering; smooth and unctuous to the touch; too flexible and elastic to be easily pulverized; soft, so as to be cut with a knife. In these respects some of the gyp-feous earths greatly resemble them, but the difference is readily discovered by fire; a weak heat reducing the gypseous to powder, while the strongest makes no other alteration in the talky, than somewhat diminishing their flexibility, brightness, and unctuosity.

#### Metals.

Or metals, the next division of mineral bodies, the most obvious characters are, their peculiar bright aspect, perfect opacity, and great weight; the lightest of them is six, and the heaviest upwards of nineteen times heavier than an equal bulk of water.

They all melt in the fire; except platina, a metallic body, which has not been applied to any medical use, and which is therefore

excluded from this general view of medicinal subjects.

C 4

water,

Gold and filver, how long soever they are continued in fusion, remain unchanged and undiminished. The other metals, if air be admitted to them, are gradually converted, with different degrees of facility, into a powdery or friable substance, called calx, destitute of the metallic aspect, and much lighter in proportion to its bulk, than the metal itself. This change in their obvious properties is generally accompanied with a notable alteration in their medicinal virtues: thus quicksilver, which taken into the body in its crude state and undivided, seems inactive, when calcined by fire, proves, even in small doses, a strong emetic and cathartic, and, in smaller ones, a powerful alterative in chronical disorders; while regulus of antimony, on the contrary, is changed, by the same treatment, from a high degree of virulence to a state of inactivity.

Calces of mercury and arfenic exhale in a heat below ignition; those of lead and bismuth, in a red or low white heat, run into a transparent glass; the others are not at all vitrescible, or not without extreme vehemence of fire. Both the calces and glasses recover their metallic form and qualities again, by the skilful addition of any kind of inflammable substance that does not contain

a mineral acid.

All metallic bodies dissolve in acids; some only in particular acids, as silver and lead in the nitrous; some only in compositions of acids, as gold in a mixture of the nitrous and marine; and others, as iron, and zinc, in all acids. Some likewise dissolve in alkaline liquors, as copper; and others, as lead, in expressed oils. Fused with a composition of sulphur and fixt alkaline salt, they

are all, except zinc, made foluble in water.

All metallic substances, dissolved in saline liquors, have powerful effects in the human body, though many of them appear in their pure state to be inactive. Their activity is generally in proportion to the quantity of acid combined with them: Thus lead, which in its crude form has no sensible effect, when united with a small portion of vegetable acid into ceruse, discovers a low degree of the styptic and malignant quality, which it so strongly exerts when blended, with a larger quantity of the same acid, into what is called saccharum saturni; and thus mercury, with a certain quantity of the marine acid, forms the violent corrosive sublimate, which by diminishing the proportion of acid becomes the mild medicine called mercurius dulcis.

#### Acids.

THE mineral acids are distinguished by the names of the concretes from which they have been principally extracted; the vitriolic from vitriol, the nitrous from nitre or saltpetre, and the marine from common sea salt. They are all highly corrosive, infomuch as not to be safely touched, unless largely diluted with

water, or united with fuch fubstances as obtund or suppress their acidity. Mixed hastily with vinous spirits, they raise a violent ebullition and heat, accompanied with a copious discharge of noxious sumes: a part of the acid unites intimately with the vinous spirit into a new compound, void of acidity, called dulcified spirit. It is observable, that the marine acid is much less disposed to this union with spirit of wine, than either of the other two: nevertheless, many of the compound salts resulting from the combination of earthy and metallic bodies with this acid, are soluble in that spirit, while those with the other acids are not. All these acids effervesce strongly with alkaline salts, both fixt and volatile, and form with them neutral salts, that is, such as discover no marks either of an acid or alkaline quality.

The nitrous and marine acids are obtained in the form of a thin liquor, the acid part being blended with a large proportion of water, without which it would be diffused into an incoercible vapour: the vitriolic stands in need of so much less water for its condensation as to assume commonly an oily consistence (whence it is called oil of vitriol), and, in some circumstances, even a solid one. Alkaline salts, and the soluble earths and metals, absorb from the acid liquors only the pure acid part; so that the water may now be evaporated by heat, and the compound salt lest in a dry form.

We have already taken notice of two forts of alkaline falt, the volatile alkali of animals, and the fixt alkali of vegetables. In the mineral kingdom, another species of fixt alkali, different in several respects from the vegetable, is found sometimes in a detached state, but more plentifully in combination with the marine acid, with which it composes sea falt. From the coalition of the different acids with these three alkalies, and with the several soluble earths and metallic bodies, result a variety of saline compounds, the principal of which will be particularized in the sequel of this work.

The vitriolic acid, in its concentrated liquid state, is much more ponderous than the other two, emits no visible vapours in the heat of the atmosphere, but imbibes moisture therefrom, and increases in its weight: the nitrous and marine emit copious corrosive sume, the nitrous yellowish red, and the marine white vapours. If bottles, containing the three acids, be stopt with cork, the cork is found in a little time tinged black by the vitriolic, corroded into a yellow substance by the nitrous, and into a whitish one by the marine.

Of the affinities of bodies.

IT is already laid down as a character of one of the classes of earths, that the vitriolic acid precipitates them when they are previously dissolved in any other acid. It is obvious, that, on the same principle, this particular acid may be distinguished from all others. This character serves not only for the acid in its pure state, but likewise

likewise for all its combinations that are soluble in water. If a solution of any compound salt, whose acid is the vitriolic, be added to a solution of chalk in any other acid, the vitriolic acid will part from the substance with which it was before combined, and join itself to the chalk, forming therewith a compound, which, being no longer dissoluble in the liquor, renders the whole milky, for a time,

and, then, gradually fubfides.

This acid may be diftinguished also, in compound salts, by another criterion not less strongly marked. If any salt containing it be mixed with powdered charcoal, and the mixture exposed, in a close vessel, to a moderate strong sire, the acid will unite directly with the inslammable part of the charcoal, and compose therewith a genuine sulphur. Common brimstone is no other than a combination of the vitriolic acid with a small proportion of inslammable matter. With any kind of inslammable matter that is not volatile in close vessels, as the coal of vegetables, of animals, or of bitumens, this acid composes always the same identical sulphur.

The nitrous acid also, with whatever kind of body it be combined, is both distinguished, and extricated therefrom, by means of any inflammable substance brought to a state of ignition: if the subject be mixed with a little powdered charcoal, and made red-hot, a deslagration or sulmination ensues, that is, a bright slame with a hissing noise, and the inflammable matter and the acid being thus consumed or dissipated together, there remains only the substance that was before combined with the acid, and the small quan-

tity of the ashes afforded by the coal.

This property of the nitrous acid, of deflagrating with inflammable substances, and that of the vitriolic, of forming sulphur with them, serve not only as criteria of the respective acids in the various forms and disguises, but likewise for discovering inflammable matter in bodies, when its quantity is too small to be sensible on

other trials.

If a fixt alkaline falt be united with a vegetable acid, as that of vinegar, into a neutral falt; on adding to this compound some marine acid, the acetous acid will be disengaged, so as to exhale totally in a moderate heat, leaving the marine in possession of the alkali: the addition of the nitrous will, in like manner, disposses the marine, which now arises in its proper white sumes, though, without such an addition, it could not be extricated from the alkali by any degree of heat: on the addition of the vitriolic acid, the nitrous gives way in its turn, exhaling in red sumes, and leaving only the vitriolic acid and the alkali united together.

Again, if any metallic body be dissolved in an acid, the addition of any earthy body that is dissoluble in that acid will precipitate the metal: a volatile alkaline salt will, in like manner, precipitate the earth: and a fixt alkali will dislodge the volatile; which

last being readily exhalable by heat, the remaining salt will be the same as if the acid and fixt alkali had been joined together at first, without the intervention of any of the other bodies.

THE power in bodies, on which these various transpositions and combinations depend, is called by the chemists AFFINITY; a term, like the Newtonian attraction, designed to express, not the cause, but the effect. When an acid spontaneously quits a metal to unite with an alkali, they say it has greater affinity to the alkali than to the metal: and when, conversively, they say it has a greater affinity to fixt alkalies than to those of the volatile kind, they mean only that it will unite with the fixt in preference to the volatile, and that, if previously united with a volatile alkali, it will forsake this for a fixt one.

The doctrine of the affinities of bodies is of very extensive use in the chemical pharmacy: many of the officinal processes, as we shall see hereafter, are founded on it: several of the preparations turn out very different from what would be expected by a person unacquainted with these properties of bodies; and several of them, if, from an error in the process, or other causes, they prove unfit for the use intended, may be rendered applicable to other purposes, by such transpositions of their component parts as are pointed out

by the knowledge of their affinities.

I shall here, therefore, subjoin a table of the principal affinities observed in pharmaceutical operations, formed chiefly on that of Mr. Geoffroy (which was published in the Memoirs of the French academy for the year 1718), with such corrections and additions as

later experiments have furnished.

The table is thus to be understood. The substance printed in capitals, on the top of each series, has the greatest affinity with that immediately under it, a less affinity with the next, and so on to the end of the series; that is, if any of the remote bodies have been combined with the top one, the addition of any of the intermediate bodies will disunite them; the intermediate body uniting with the uppermost body of the series, and throwing out the remote one. Thus, in the first series of the affinities of water, a fixt alkali being placed between the water and inslammable spirit, it is to be concluded, that, wherever water and spirit be mixed together, the addition of any fixt alkaline salt will absorb the water, and occasion the pure spirit to be separated. Where several substances are expressed in one series, it is to be understood, that any one of those bodies, which are nearest to the uppermost, will in like manner disengage from it any one of those which are more remote.

# Table of Affinities.

. I. WATER:

Fixt alkaline falt: Inflammable spirit.

2. WATER:

Inflammable spirit: Volatile alkaline salt.

3. WATER.

Inflammable spirit: Sundry compound falts.

4. INFLAMMABLE SPIRIT :

Water: Oils and Refins.

5. VITRIOLIC ACID:

Inflammable principle:
Fixt alkaline falts:
Calcareous earths calcined:
Volatile alkaline falts:
Calcareous earths uncalcined:
Zinc and Iron:
Copper:
Silver.

6. NITROUS ACID:

Inflammable principle:
Fixt alkaline falts:
Calcareous earths calcined:
Volatile alkaline falts:
Calcareous earths uncalcined:

Zinc: Iron: Copper: Lead: Mercury: Silver: Camphor.

7. MARINE ACID:

Fixt alkaline falts:

Calcareous earths calcined: Volatile alkaline falts: Calcareous earths uncalcined: Zinc:

Iron: Tin:

Regulus of antimony:

Copper: Lead: Silver: Mercury.

8. ACETOUS ACID:

Iron: Copper.

9. ALKALINE SALTS:

Vitriolic acid:
Nitrous acid:
Marine acid:
Vinegar:
Tartar:
Oils and Sulphur.

10. SOLUBLE EARTHS :

Vitriolic acid: Nitrous acid: Marine acid.

II. INFLAMMABLE PRINCIPLE:

Nitrous acid: Vitriolic acid: Metallic fubstances: Fixt alkaline salts:

12. SULPHUR:

Fixt alkali, and Quicklime: Iron: Copper: Lead:

Silver:

Silver:

Regulus of antimony:

Mercury: Arfenic:

Ethereal spirit:

14. MERCURY:
Marine acid:
Vitriolic acid:
Nitrous acid.

Vitriolic acid:
Marine acid:
Nitrous acid:
Vinegar:
Oils.

Marine acid:
Vitriolic acid:

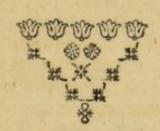
Nitrous acid.

17. COPPER: Vitriolic acid: Marine acid: Nitrous acid.

18. IRON.
Vitriolic acid:
Marine acid:
Nitrous acid.

19. REGULUS of ANTI-

Vitriolic acid:
Nitrous acid:
Marine acid.



#### CHAPTER III.

# Of the Pharmaceutical Apparatus.

ONE of the principal parts of the pharmaceutic apparatus confifts in contrivances for containing and applying fire, and for directing and regulating its power. Of these contrivances, called furnaces, there are different kinds, according to the convenience of the place, and the particular purposes they are intended to answer. I shall here endeavour to give a general idea of the structure of those which are employed in pharmaceutical operations, and of the principles on which they are built.

#### Furnaces.

The most simple furnace is the common stove, otherwise called the furnace for OPEN FIRE. This is usually made of an iron hoop, sive or six inches deep: with a grate or some iron bars across the bottom, for supporting the suel. It either stands upon seet, so as to be moveable from place to place; or is fixt in brickwork. In this latter case, a cavity is left under the grate, for receiving the ashes that drop through it; and an aperture or door, in the forepart of this ash-pit, serves both for allowing the ashes to be occasionally raked out, and for admitting air to pass up through the suel. This surnace is designed for such operations as require only a moderate heat; as insusion, decocition, and the evaporation of liquids. The vessel, containing the subject, is supported over the fire by a trevet.

A deeper hoop or body, cylindrical, parallelopipedal, widening upwards, elliptical, or of other figures; formed of, or lined with, fuch materials as are capable of fullaining a ftrong fire; with a grate and afh-pit beneath, as in the preceding; and communicating at the top with a perpendicular pipe, or chimney; makes a WIND FURNACE.

The greater the perpendicular height of the chimney, the greater will be the draught of air through the furnace, and the more intenfely will the fire burn; provided the width of the chimney is fufficient to allow a free passage to all the air that the furnace can receive through the grate: for which purpose, the area of the aperture of the chimney should be nearly equal to the area of the interstices of the grate.

Hence, where the chimney confifts of moveable pipes, made to fit upon one another at the ends, so that the length can be occa-fionally increased or diminished, the vehemence of the fire will be

increased or diminished in the same proportion.

In furnaces whose chimney is fixed, the same advantage may be procured on another principle. As the intensity of the fire depends wholly upon the quantity of air successively passing through and animating the burning suel, it is obvious, that the most vehement fire may be suppressed or restrained at pleasure, by more or less closing either the ash-pit door by which the air is admitted, or the chimney by which it passes off; and that the fire may be more or less raised again, by more or less opening those passages. A moveable plate, or REGISTER, in any convenient part of the chimney, affords commodious means of varying the width of the passage, and consequently of regulating the heat.

THERE are two general kinds of these wind furnaces; one, with the chimney on the top, over the middle of the furnace; the other with the chimney on one side, and the mouth clear.

In the former, either the upper part of the furnace is contracted to such an aperture, that the chimney may fit upon it; or it is covered with an arched dome, or with a flat plate, having a like aperture in the middle. As in this disposition of the chimney, the infide of the furnace cannot be come at from above; a door is made in the side, a little above the grate, for supplying suel, inspecting the matter in the fire, &c.

For performing FUSIONS in this furnace, the crucible, or melting vessel, is placed immediately among the fuel; with a slip of brick, or some other like support, between it and the grate, to keep the cold air, which enters underneath, from striking on its

bottom.

When defigned as a REVERBERATORY, that is, for distillation in long necks or coated glass retorts, two iron bars are placed across, above the fire, for supporting the vessel, whose neck comes out at an aperture made for that purpose in the side. This aperture should be made in the side opposite to that in which is the door above-mentioned, or at least so remote from it, that the receiver, fitted on the neck of the distilling vessel without the surnace, may not lie in the operator's way when he wants to stir the fire, or throw in fresh suel.

The other kind of wind furnace communicates, by an aperture in its back part near the top, either with an upright pipe of its own, or with the chimney of the room; in which latter case, all other passages into the chimney must be closed up. Here the mouth of the furnace serves for a door, which may be occasionally covered with a plate or tile. Of this kind is the surnace most commonly used for susion in a crucible.

This last construction, by leaving the mouth of the furnace clear, affords the convenience of letting into it a boiling or evaporating pan, a copper still, an iron pot for distilling hartshorn, an

iron fand pot, or other like vessels, of such a size, that they may be supported on the surnace by their rims. The mouth being thus occupied by the vessels, a door must be made in the side for sup-

plying and ftirring the fuel.

When a furnace of this kind is defigned only for a SAND BATH, it is most commodious to have the sand placed on a long iron plate furnished with a ledge of freestone or brickwork at each side. The mouth of the furnace is to be closely covered by one end of this plate; and the canal, by which the furnace communicates with its chimney, is to be lengthened and carried along under the plate; the plate forming the upper side of the canal. In this kind of sand-bath, digestions, &c. requiring different degrees of heat, may be carried on at once; for the heat decreases gradually from the end over the surnace to the other.

When large vessels, as STILLS, and iron pots for distilling hartshorn and aqua-fortis, are fixed in furnaces, a considerable part of the bottom of the vessel is commonly made to rest upon

folid brickwork.

The large still, whose bottom is narrow in proportion to its height, and whose weight when charged with liquor requires great part of it to be thus supported, exposes but a small surface to the action of the fire underneath. To make up for this disadvantage, the heat, which rises at the further end of a long narrow grate, is conveyed all round the sides of the vessel, by a spiral canal, which communicates at top with a common chimney.

The pots for distilling hartshorn and aqua-fortis in the large way have part of their great weight borne up by three strong pins or trunnions, at equal distances round the pot towards the middle, reaching into a brickwork; so that less support being necessary underneath, a greater surface of the wide bottom lies exposed to

the immediate action of the fire.

Is a furnace, communicating with its chimney by a lateral canal, as in the fand furnace above-mentioned, be carried to a confiderable height above the part where this canal enters it; and it be filled with fuel to the top, and closely covered; the fuel will burn no higher than up to the upper side of the canal through which the air passes off, and, in proportion as this lower part of the fuel confumes, it will be supplied by that above, which falls down in its place. Hence in this furnace, called an ATHANOR, a constant heat may be kept up for a considerable length of time, without attendance.

The tower of the athanor, or that part which receives the fuel, is commonly made to widen a little downwards, that the coals may fall the more freely; but not so much as that the part on fire at bottom may be too strongly pressed. A small aperture is made opposite

the

opposite to the canal or flew, or a number of openings according to the fize of the furnace and the degree of heat required, for fupplying air, which is more conveniently admitted in this manner than through the grate, as the interstices of the grate are in time choaked up by the afhes.

This furnace is defigned only for heating bodies exterior to it. Its canal or flew, as in the fand furnace already described, passes under a fand-bath or water-bath; at the further end of which, it rifes perpendicularly to fuch a height, as may occasion a sufficient

draught of air through the fire.

The flew may be so wide, as to correspond to the whole height of the fire-place. A register or sliding plate, placed between the flew and the furnace, enables us to increase or diminish this height, and consequently the quantity of fire, at pleasure. If the space beneath the flew be inclosed to the ground, the heat in this cavity will be confiderable enough to be applicable to some useful purposes.

WITH regard to the materials of furnaces, the fixt ones are built of bricks, cemented together by some good loam or clay. Any kind of loam or clayey composition that is of a proper degree of tenacity, which, when made into a paste with water and well worked, does not stick to the fingers, and which, when thoroughly dried, neither cracks nor melts in a vehement fire, is fit for this use: the purer and more tenacious clays require to have their tenacity lessened by an admixture of fand, or rather of the same kind of clay burnt and grossly powdered.

Smaller portable furnaces are made of strong iron or copper plates, lined to the thickness of an inch or more with the same kind of clayey composition: which, for this use, may be beaten with some

horse-dung, chopt straw, or cut hair or tow.

Very commodious portable furnaces, for a business of moderate extent, may be formed also of the larger kind of the common blacklead melting pots; by cutting a door at the bottom of the pot for the ash-pit, another above this for the fire-place, and introducing a circular iron grate, of such a size, that it may rest between the two doors. [A particular account of the method of preparing these furnaces for different uses may be seen in the first part of the Commercium Philosophico-technicum.]

## Baths.

WHERE a strong degree of heat is requisite, as in the fusion of metals, &c. the vessel containing the subject-matter is placed among the burning fuel, or immediately over it: this is called operating in a naked fire. Where a smaller heat is sufficient, and the vessel employed is either of glass, or of the more tender kinds of earthen ware, the fand-bath or water-bath is used, to defend the vessel from

the immediate action of the fire, and to render the heat less fluc-

tuating.

Both these baths have their particular advantages and inconveniences. In water, the heat is equal through every part of the fluid; whereas in fand, it varies in different parts of one perpendicular line, decreasing from the bottom to the top. Water cannot be made to receive or to transmit to vessels immersed in it, above a certain degree of heat, viz. that which is sufficient to make it boil, and hence it secures effectually against any danger of an excess of heat in those operations wherein the product would be injured by a heat greater than that of boiling water: but this advantage renders it useless for processes which require a greater heat, and for which fand or other like folid intermedia are necessarily employed. There is this convenience also in the fand-bath, that the heat may be readily diminished or increased about any particular vessel, by raising it higher out of the fand, or finking it deeper; that different fubjects may be exposed to different degrees of heat from one fire; and that it keeps the vessels steady. The fand made choice of should be a large coarse-grained kind, separated from the finer parts by washing, and from little stones by the sieve.

# Coating of glasses, and Lutes.

Some processes require to be performed with glass vessels in a naked fire. For these purposes, vessels made of the thinnest glass should be chosen; for these bear the fire, without cracking, much better than those which are thicker and in appearance stronger.

All glaffes, or other veffels that are apt to crack in the fire, must be cautiously nealed, that is, heated by flow degrees: and when the process is finished, they should be as slowly cooled, unless where the vessel is to be broken to get out the preparation, as in some sublimations: in this case it is more adviseable to expose the hot glass suddenly to the cold air, which will soon occasion it to crack, than to endanger throwing down the sublimed matter among the feces by a blow.

As a defence from the violence of the fire, and to prevent the contact of cold air on supplying fresh suel, &c. the glass is to be coated over, to the thickness of about half a crown, with Windfor loam, softened with water into a proper consistence, and beaten up with some horse-dung, or with the other clayey compositions

already mentioned.

These compositions serve also as a lute, for securing the junctures of the vessels in the distillation of the volatile salts and spirits of animals: for the distillation of acid spirits, the matter may be moistened with a solution of fixt alkaline salt instead of water. For most other purposes, a piece of wet bladder, or a paste of flour and water, or of linseed meal (that is, the cake left after the expression)

of oil of linfeed) are sufficient lutes. The few simple lutes, here described, will be found to answer all the purposes of the more operofe compositions recommended for these intentions by the chemical writers.

#### Veffels.

IT would be needless to enter here into a particular detail of the pharmaceutical instruments; as we shall have occasion to mention the principal of them in the following chapter, in speaking of the feveral operations to which they are respectively subservient. In this place, I shall only give the operator a few general cautions with regard to the matter of the vessels designed for containing the

fubject.

Metalline veffels, except those made of gold or filver, are corroded by acids, even by the milder ones of the vegetable kingdom. Copper ones are corroded also by alkaline liquors, and by some neutral ones, as folutions of fal ammoniac: it is observable, that vegetable acids do not act upon this metal by boiling, fo much as by standing in the cold; for even lemon-juice may be boiled in a clean copper vessel, without receiving from it any taste or ill quality; whereas, in the cold, it foon diffolves fo much as to contract a pernicious taint. The tin, with which copper vessels are usually lined, gives likewise a sensible impregnation to acid juices; and this impregnation also is probably not innocent, more especially as a quantity of lead is commonly mixed with the tin.

The common EARTHEN vessels are of a loose porous texture, and hence are apt to imbibe a confiderable quantity of certain liquids, particularly of those of the faline kind; which soon discover their penetrating the vessel, by shooting into saline efflorescences on the outside. Those which are GLAZED have their glazing corroded by acids; by vinegar, and the acid juices of fruits, as well as by the stronger acids of the mineral kingdom. And as this glazing confifts chiefly of vitrified lead, the impregnation, which it communicates to these liquors, is of a very dangerous kind: if vinegar be boiled for some time in a glazed earthen vessel, it will yield, on being inspissated, a true saccharum saturni, that is, a salt

composed of lead and the acetous acid, of which hereafter.

The vessels called, from their hardness and compactness, STONE WARE, are in good measure free from the inconveniences of the coarfer earthen ones. Their glazing, being a part of the clay itfelf superficially vitrified by means of the sumes of common falt, appears to be proof against acids.

GLASS vessels suffer no corrosion, and give no taint, in any of the pharmaceutic operations. These therefore, in such processes

as will admit their use, ought always to be preferred.

#### Weights.

Two different kinds of weights are made use of in this country; one in the merchandize of gold and filver; the other for almost all goods besides. The first we call Troy, the latter Averdupois weight.

The goldsmiths divide the Troy pound into twelve ounces; the ounce into twenty pennyweights; and the pennyweight into twenty-four grains. The Averdupois pound is divided into fixteen

ounces; and the ounce into eight parts, called drams.

The pound of the London and Edinburgh dispensatories (which is the only one made use of in this work) is that of the goldsmiths, divided in the following manner;

The Ounce
The Dram
The Scruple

The grain is equal to the goldsmiths' grain.

The medical or Troy pound is less than the Averdupois, but the ounce and the dram greater. The Troy pound contains 5670 grains; the Averdupois 7000 grains. The Troy ounce contains 480 grains; the Averdupois only 437½. The Troy dram 60; the Averdupois dram somewhat more than 27. Eleven drams Averdupois are equal to five drams Troy; twelve ounces Averdupois to nearly eleven ounces Troy; and nineteen pounds Averdupois to somewhat more than twenty-three pounds Troy.

These differences in our weights have occasioned great consusion in the practice of pharmacy. As the druggists and grocers sell by the Averdupois weight, the apothecaries have not in general kept any weights adjusted to the Troy pound greater than two drams, using for all above Averdupois. By this means it is apparent, that in all compositions, where the ingredients are prescribed some by pounds and others by ounces, they are taken in a wrong proportion to each other; and the same happens when they are directed in lesser denominations than the ounce, as these subdivisions, used by the apothecaries, are made to a different ounce. The mercurial plaster of the late Pharmacopæia, and the mercurial cerate of the present, if compounded by the Averdupois weight, contain about one-sixth less quicksilver than if made, as they ought to be, by the Troy. This error prevailed so far as to be received in some former editions of the London Pharmacopæia itself; but is now happily removed.

#### Measures.

THE measures employed with us in pharmacy are the common wine measures.

A Gallon
The Pint
The Ounce
Contains
The Ounce

By a spoonful is understood, in the London dispensatory, the measure of half an ounce; in the Edinburgh, half an ounce weight

in fyrups, and three drams in distilled waters.

Though the pint is called by Latin writers libra or pound, there is not any known liquor of which a pint measure answers to that weight. A pint of the highest rectified spirit of wine exceeds a pound by above half an ounce; a pint of water exceeds it by upwards of three ounces; and a pint of oil of vitriol weighs more

than two pounds and a quarter.

A table of the weights of certain measures of different fluids may on many occasions be useful, both for assisting the operator in regulating their proportions in certain cases, and for shewing the comparative gravities of the fluids themselves. I have therefore drawn up such a table for a pint, an ounce, and a dram measure, of those liquids, whose gravity has been determined by experiments that can be relied on. The wine gallon contains 231 cubic inches, whence the pint contains  $28\frac{7}{8}$ ; the ounce  $1\frac{163}{128}$ ; and the dram  $\frac{231}{1424}$  of a cubic inch.

Table of the weights of different fluids.

The first of the f	Juna		
	Pint weighs	Ounce measure weighs	Dram meafure weighs
INFLAMMABLE SPIRITS.	ounces drams grains	grains	grains
Æthereal Spirit of Wine Highly-rectified Spirit of Wine Common-rectified Spirit of Wine	11 1 36 12 5 20 13 2 40	336 380 400	42 47 <sup>1</sup> / <sub>2</sub>
Proof Spirit	14 I 36 14 4 48	426	50 53 55
Dulcified Spirit of Nitre	15 2 40	460	57₹
Burgundy	14 1 36 15 1 36	426	53 57
Expressed Oils.	15 6 40	475	59
Oil Olive Linfeed Oil	14 0 0	420 428	52½ 53½
ESSENTIAL Oils. Oil of Turpentine	12 1 4	364	45=
of Orange Peel	= [=]	408	51 52 Oil

	1	11911	Ounce	Dram
	Pi	nt weighs	meafure	measure
	1		weighs	weighs
	1 9	drams	grains	grains
	1	dra gra	Br	200
	1		T DESCRIPTION OF THE PARTY OF T	Winds All
Oil of Rosemary	1		430	54
of Origanum	1		432	54
of Caraway Seeds	1.		432	54
of Nutmegs	1.	-	436	541
of Savin	1.		443	55 2
of Hyffop	1.		443	552
of Cummin Seed			448	56
of Mint			448	56
of Pennyroyal			450	564
of Dill Seed			457	-57
of Fennel Seed			458	57
of Cloves			476	591
of Cinnamon			476	591
of Saffafras			503	63
			200	03
ALKALINE LIQUORS.			1	1
Lixivium saponarium, Pharm. Lond		1600	480	60
Spirit of Sal ammoniae				
Strong Soapboilers' ley			1	641
Lixivium tartari -		17 6 24	1	
Division rateau		24 0 0	720	90
ACID TIQUARS			156347	
Wine Vinegar			1-161	-0
Beer Vinegar -		15 3 44		-
		15 6 56		
Glauber's Spirit of Salt -		17 4	1	
	-	20 2 40	The second second	
Strong oil of Vitriol -	-	28 5 20	860	1071
A	1		13.	
ANIMAL FLUIDS.			-	
Urine	*		0 470	59
Cows' milk	-	15 6 4		
Affes' milk -	-	16 0		
Blood -	-	16 1	4 484	601
			ST.	d
WATERS.	-		1 . 3 %	THE PARTY
Diffilled water	-	15 1 5		
Rain water	-	15 2 4	0 460	571
Spring water -	=	15 3 1	2 462	58
Sea Water	-		0 470	
QUICKSILVER	-	214 5 2	The state of the s	
	100		100000000000000000000000000000000000000	The state of the s

# CHAPTER IV.

# Of the Pharmaceutical Operations.

# SECT. I.

#### Solution.

SOLUTION is an intimate commixture of folid bodies with fluids into one feemingly homogene liquor. The diffolving fluid is called a MENSTRUUM or SOLVENT.

The principal menstrua made use of in pharmacy, are, water,

vinous spirits, oils, acid, and alkaline liquors.

WATER is the menstruum of all salts, of vegetable gums, and of animal gellies. Of salts, it dissolves only a determinate quantity, though of one kind of salt more than another; and being thus saturated, leaves any additional quantity of the same salt untouched.

Experiments have been made for determining the quantities of water which different falts require for the diffolution. Mr. Eller has given a large fet in the Memoirs of the royal academy of sciences of Berlin for the year 1750, from which the following table is extracted.

# Table of the folubility of fluids. Eight ounces by weight of diffilled water diffolved

						13001	No. of Line
00	D.C 1 C			. Add by	oz.	dr.	gr.
	Refined Sugar	Carolin State	1. 63 To 600	-	24	0	0
	Green Vitriol	35 13 TWO	ARE STATE	-	9	4	0
	Blue Vitriol	540 T. Scott	Brita .	-	9	0	0
	White Vitriol	-	-	-	4	4	0
	Epfom Salt	- 1		-	4	0	0
	Purified Nitre	-		-	4	o	0
	Soluble Tartar	-	-	-	4	0	0
	Common Salt	and the state of	-	-	3	4	0
	Sal gemmæ		-	-	3	4	0
	Sal catharticus Gla	uberi	-		3	4	0
	Seignette's Salt	-		-	3	0	0
	Alum -	2 72 // ÷		-	2	4	0
	Sal ammoniac	-	-	-	2	4	0
	Vitriolated Tartar	-	-11	-	I	4	0
	Salt of Hartshorn	1		-	I	4	0
	Sugar of Lead		- 1	-	I	2	0
	Cream of Tartar			-	I	0	0
	Borax -	-	100	9-15	0	4	20
		D <sub>4</sub>				-	ough
						-	5

Though great care appears to have been taken in making these experiments, it is not to be expected, that the proportions of the feveral falts, foluble in a certain quantity of water, will always be found exactly the same with those just set down. Salts differ in their folubility, according to the degree of their purity, perfection, and dryness: the vitriols, and the artificial compound salts in general, differ remarkably in this respect, according as they are more or less impregnated with the acid ingredient. Thus vitriolated tartar, perfectly neutralized, is extremely difficult of folu-The matter which remains in making Glauber's spirit of nitre (See Part III. Chap. viii. Sect. 6.) is no other than a vitriolated tartar, and it diffolves fo difficultly, that the operator is obliged to break the retort in order to get it out; but on adding more of the vitriolic acid, it dissolves with ease. Hence many have been tempted to use an over-proportion of acid in this preparation, and we frequently find in the shops, under the name of vitriolated tartar, this acid foluble falt. The degree of heat occasions also a notable difference in the quantity of falt taken up: in very cold weather, eight ounces of water will disfolve only about one ounce of nitre; whereas, in warm weather, the same quantity will take up three ounces or more. To these circumstances are probably owing, in great part, the remarkable differences in the proportional folubilities of falts, as determined by different authors. It is observable, that common salt is less affected in its solubility, by a variation of heat, than any other falt; for water in a temperate state will dissolve nearly as much of it as very hot water; and accordingly this is the falt in which the different experiments agree the best. In the experiments of Hoffmann, Neumann, and Petit, the proportion of this falt, on a reduction of the numbers, comes out exactly the same, viz. three ounces of the falt to eight of water. Dr. Brownrigg makes the quantity of falt a little more; Dr. Grew, a dram and a scruple more; and Eller, as appears in the above table, four drams more. So, in the trials of fix different persons, made probably in different circumstances, the greatest difference is only one-fixth of the whole quantity of falt; whereas in some other falts there are differences of twice or thrice the quantity of the falt. In the experiments, from which the table is drawn, the water was of the temperature of between 40 and 42 degrees of Fahrenheit's thermometer; or above freezing by about one-seventh of the interval between freezing and the human heat.

Some falts omitted by Eller are here subjoined. The first is taken from Dr. Grew, and the other sour from Neumann.

### Eight ounces of water dissolved

			gr.
Of fixt alkaline Salt - al	pove   8	0	0
Sal diureticus	- 8		0
Sugar-Candy, both brown and white -	- 9	0	0
Sugar of Milk	- 0	2	40
Effential Salt of Sorrel	- 0	I	20

Though water takes up only a certain quantity of one kind of falt, yet, when faturated with one, it will still dissolve some portion of another; and, when it can bear no more of either of these, it will still take up a third, without letting go any of the former. The principal experiments of this kind, that have been made, relative to pharmaceutic subjects, are exhibited in the following table, of which the two first articles are from Grew, and the others from Eller.

# Water, 32 parts by weight,

Nitre Fixt Alkali 7 Common Salt 2 Common Salt - Nitre, near 2 Fixt Alkali	dilloived	diffolved afterwards		
Nitre Fixt Alkali 7 Common Salt 2 Common Salt - Nitre, near 2 Fixt Alkali	-   Sal ammoniac 1			
Common Salt - Nitre, near 2 Fixt Alkali	- Nitre - 1	Sal ammoniac 2		
~	- Fixt Alkali 7	Common Salt 2		
Volatile alkali - Nitre - 4 Sugar -	- Nitre, near 2	Fixt Alkali 23		
		Sugar - 2		
Sal ammoniac - Common Salt $2\frac{1}{2}$	- Common Salt 2	A STATE OF THE STA		
Soluble Tartar - Nitre - 2		La de la proposada		
Vitriolated Tartar - Fixt Alkali 2	r - Fixt Alkali 2	line all the sales I		
Glauber's Salt - Nitre - I Sugar - 1	- Nitre - I	Sugar - I		
Epfom Salt Sugar - 6	-   Sugar - 6			
Borax Fixt Alkali 2				

In regard to the other class of bodies for which water is a menftruum, viz. those of the gummy and gelatinous kind, there is no
determinate point of saturation: the water unites readily with any
proportions of them, forming with different quantities, liquors of
different consistences. This fluid takes up likewise, when assisted
by trituration, the vegetable gummy resins, as ammoniacum and
myrrh; the solutions of which, though imperfect, that is, not
transparent, but turbid, and of a milky hue, are nevertheless applicable to valuable purposes in medicine. It mingles with vinous
spirits, with acid and alkaline liquors, not with oils, but imbibes
some of the more subtile parts of essential oils, so as to become
impregnated with their smell and taste.

Rectified SPIRIT OF WINE is the menstruum of the essential oils, resins and camphor of vegetables; of the pure distilled oils, and several

feveral of the colouring and medicinal parts of animals; of some mineral bituminous substances, as of ambergris; and of soaps, though it does not act upon the expressed oil and fixt alkaline salt, of which soap is composed; whence, if soap contain any superfluous quantity of either the oil or salt, it may, by means of this menstruum, be excellently purified therefrom. It dissolves, by the assistance of heat, volatile alkaline salts; and, more readily, the neutral ones, composed either of fixed alkali and the acetous acid, as the salt diureticus, or of volatile alkali and the nitrous acid, as also the salt of amber, &c. It mingles with water and with acids; not with alkaline lixivia.

OILS dissolve vegetable refins and balfams, wax, animal fats, mineral bitumens, sulphur, and certain metallic substances, particularly lead. The expressed oils are, for most of these bodies, more powerful menstrua than those obtained by distillation; as the former are more capable of sustaining, without injury, a strong heat, which is, in most cases, necessary to enable them to act. It is said, that one ounce of sulphur will dissolve in three ounces of expressed oil, particularly that of linseed, but requires six ounces of essential oil, as that of turpentine.

All ACIDS diffolve alkaline falts, alkaline earths, and metallic fubfiances. The different acids differ greatly in their action upon these last; one diffolving only some particular metals; and another, others.

The vegetable acids dissolve a considerable quantity of zinc, iron, copper, lead, and tin; and extract so much from the metallic part of antimony, as to become powerfully emetic: they dissolve lead more readily, if the metal be previously calcined by

fire, than in its metallic fate.

The marine acid dissolves zinc, iron and copper; and though it scarce acts on any other metallic substance in the common way of making solutions, it may nevertheless be artfully combined with them all except gold: the corrosive sublimate, and antimonial caustic of the shops, are combinations of it with mercury and the metallic part of antimony, effected by applying the acid, in the form of sume, to the subjects, at the same time also strongly heated.

The nitrous acid is the common menstruum of all metallic substances, except gold and the metallic part of antimony; of which two, the proper solvent is a mixture of the nitrous and marine

acids, called aqua regia.

The vitriolic acid, diluted with water, eafily dissolves zinc and iron: in its concentrated state, and assisted by a boiling heat, it may be made to corrode, or imperfectly dissolve, most of the other metals.

ALKALINE lixivia dissolve oils, resinous substances, and sulphur. Their power is greatly promoted by the addition of quick-lime: instances of which occur in the preparation of soap, and in the common caustic. Thus acuated, they reduce the sless, bones, and other solid parts of animals, into a gelatinous matter.

Solutions made in water, and in spirit of wine, possess the virtues of the body dissolved; while oils generally sheathe its activity; and acids and alkalies vary its quality. Hence watery and spirituous liquors are the proper menstrua of the native virtues of

vegetable and animal matters.

Most of the foregoing solutions are easily effected, by pouring the menstruum on the body to be dissolved, and suffering them to stand together, for some time, exposed to a suitable warmth. A strong heat is generally requisite to enable oils and alkaline liquors to perform their office: nor will acids act on some metallic bodies without its assistance. The action of watery and spirituous menstrua is likewise expedited by a moderate heat; though the quantity, which they afterwards keep dissolved, is not, as some suppose, by this means increased: all that heat occasions these to take up, more than they would do in a longer time in the cold, will, when the heat ceases, subside again: this at least is most commonly the case, though there may be some instances of the contrary.

The action of acids on the bodies which they dissolve, is generally accompanied with heat, effervescence, and a copious discharge of sumes. The sumes which arise during the dissolution of some metals in the vitriolic acid, prove inslammable: hence in the preparation of the artificial vitriols of iron and zinc, the operator ought to be careful, especially where the solution is made in a narrow-mouthed vessel, lest, by the imprudent approach of a

candle, the exhaling vapour be fet on fire.

There is another species of solution, in which the moisture of the air is the menstruum. Fixt alkaline salts and those of the neutral kind, composed of alkaline salts, and the vegetable acids, or of soluble earths and any acid except the vitriolic, and some metallic salts, on being exposed for some time to a moist air, gradually attract its humidity, and at length become liquid. Some substances, not dissoluble by the application of water in its grosser form, as the butter of antimony, are easily liquested by this slow action of the aereal moisture. This process is termed Deliquid.

#### S E C T. II.

#### Extraction.

THE liquors which dissolve certain substances in their pure state, serve likewise to extract them from admixtures of other matter. Thus rectified spirit of wine, the menstruum of essential oils

oils and refins, takes up the virtues of the refinous and oily vegetables; as water does those of the mucilaginous and saline; the inactive earthy parts remaining untouched by both. Water extracts likewise from many plants, substances, upon which by themfelves it has little effect; even essential oils being, as we have formerly observed, rendered soluble in that sluid, by the admixture of gummy and saline matter, of which all vegetables participate in a greater or less degree. Thus many of the aromatic plants, and most of the bitters and astringents, yield their virtues to this menstruum.

Extraction is performed by MACERATING or STEEPING the fubject in its appropriated menstruum, in the cold; or DIGESTING or CIRCULATING them, in a moderate warmth; or INFUSING the plant in the boiling liquor, and suffering them to stand in a covered vessel till grown cold; or actually BOILING them together for some

time.

The term digestion is sometimes used for maceration, and, in this case, the process is directed to be performed without heat: where this circumstance is not expressed, digestion always implies the use of heat. Circulation differs from digestion only in this; that the fleam, into which a part of the liquor is resolved by the heat, is, by means of a proper disposition of the vessels, condensed and conveyed back upon the subject. Digestion is usually performed in a matrass (or bolthead), Florence flask, or the like; either of which may be converted into a circulatory veffel, by inverting another into the mouth, and fecuring the juncture with a piece of wet bladder. A fingle matrafs, if its neck be very long and narrow, will answer the purpose as effectually; the vapour cooling and condenfing before it can rife to the top. In a vessel of this kind, even fpirit of wine, one of the most volatile liquors we know, may be boiled without any confiderable loss. The use of this instrument is likewise free from any inconvenience, which may, in some cases, attend the other, of the uppermost vessel being burst or thrown off. As the long-necked matraffes here recommended are difficultly filled or emptied, and likewise very dear, a long glass pipe may be occasionally luted to the shorter ones.

Heat greatly expedites extraction; but by these means proves as injurious to some substances, by occasioning the menstruum to take up their grosser and more ungrateful parts; as it is necessary for enabling it to extract the virtues of others. Thus guaiacum or logwood impart little to aqueous liquors, without a boiling heat, whilst even a small degree of warmth proves greatly prejudicial to the sine bitter of carduus benedictus. This plant, which, insused in boiling, or digested in sensibly hot water, gives a nauseous taste, so offensive to the stomach as to promote vomiting; yields to the cold element a grateful balsamic bitter, the most elegant stomachic

of the shops.

As heat promotes the dissolving power of liquids; so cold, on the other hand, diminishes it. Hence tinctures, or extractions made by a considerable heat, deposit in cold weather a part of their contents, and thus become proportionably weaker: a circumstance which deserves particular regard.

# SECT. III.

# Depuration.

THERE are different methods of depurating or purifying liquors from their feculencies, according as the liquor itself is more or less tenacious, or the feculent matter of greater or less gravity.

Thin fluids readily deposit their more ponderous impurities, upon standing at rest for some time, in a cool place; and may then

be DECANTED, or poured off clear, by inclining the veffel.

Glutinous, unctuous, or thick substances, are to be liquested by a suitable heat; when the grosser feculencies will fall to the bottom; the lighter arising to the surface, to be DESPUMATED or scummed off.

Where the impurities are neither so ponderous as to subside freely to the bottom, nor so light as to arise readily to the surface; they may be separated in great measure by COLATURE through strainers of linen, woollen, or other cloth; and more perfectly by FILTRATION through a soft bibulous kind of paper made for this use.

The grey paper, which covers pill-boxes as they come from abroad, is one of the best for this purpose: it does not easily break when wetted, or tinge the liquor which passes through it, which the reddish fort, called blossom paper, frequently does. The paper is supported by a funnel, or piece of canvas fixed in a frame. When the funnel is used, it is convenient to put some straws or small sticks between the paper and its sides, to prevent the weight of the liquor from pressing the paper so close to it, as not to allow room for this sluid to transude. In some cases a funnel made of wire is put betwixt the paper and the glass funnel. There is also a kind of glass funnel, with ridges down its sides, made on purpose for this use.

Glutinous and unctuous liquors, which do not easily pass through the pores of a filter or strainer, are CLARIFIED, by beating them up with the whites of eggs, which, concreting or growing hard when heated, and entangling the impure matter, arise with it to the surface: the mixture is to be gently boiled, till the scum begins to break, when the vessel is to be removed from the fire, the crust taken off, and the liquor passed through a stannel bag.

Decan-

Decantation, colature, and filtration, are applicable to most of the medicated liquors that stand in need of purification. Despumation and clarification very rarely have place; since these, along with the impurities of the liquor, frequently separate its medicinal parts. Thus, if the decoction of poppy heads, for making diacodium, be solicitously scummed or clarified (as some have been accustomed to do) the medicine will lose almost all that the poppies communicated, and instead of a mild opiate, turn out little other than a plain syrup of sugar.

It may be proper to observe, that the common forts of filtering paper are apt to communicate a disagreeable flavour: and, hence, in filtering fine bitters, or other liquors, whose gratefulness is of primary consequence, the part, which passes through first, ought to

be kept apart for inferior purpofes.

# SECT. IV.

# Crystallization.

ATER, affished by heat, dissolves a larger proportion of saline substances than it can retain when grown cold: hence, on the abatement of the heat, a part of the salt separates from the menstruum, and concretes at the sides and bottom of the vessel. The concretions, unless too hastily formed by the sudden cooling of the liquor, or disturbed in their coalescence by agitation, or other like causes, prove transparent, and of regular figures, re-

fembling in appearance the natural sprig-CRYSTALS.

Salts, diffolved in a large quantity of water, may, in like manner, be recovered from it in their crystalline form, by boiling down the solution, till so much of the sluid has exhaled, as that the remainder will be too little to keep the salt dissolved when grown perfectly cold. It is customary to continue the evaporation, till the salt shews a disposition to concrete even from the hot water, by forming a pellicle on that part which is least hot, viz. on the surface. If large, beautiful and perfectly-sigured crystals are required, this point of time is somewhat too late: for if the salt thus begin to coalesce whilst considerably hot, on being removed into a cold place, its particles will run too hastily and irregularly together; the pellicle at the same time salling down through the liquor, and thus proving a further disturbance to the regularity of the crystallization.

In order to perform this process in perfection, the evaporation must be gentle, and continued no longer than till some drops of the liquor, let fall on a cold glass plate, discover crystalline filaments. When this mark of sufficient exhalation appears, the vessel is to be immediately removed from the fire into a less warm, but

not cold place, and covered with a cloth, to prevent the access of

cold air, and consequently the formation of a pellicle.

All the alkaline falts are excluded from this operation; fixt alkalies never assuming a crystalline form; and the volatile ones escaping before the menstruum exhales. Some even of the neutral kind, particularly those, of which certain metallic bodies are the basis, are so strongly retained by the aqueous sluid, as not to exhibit any appearance of crystallization, unless some other substance be added, with which the water has a greater affinity. The table of affinity shews, that such a substance is spirit of wine; by the prudent addition of which, these kinds of salts separate freely from the menstruum, and form large and beautiful crystals, scarce obtainable by any other means.

The operator must be careful not to add too much of the spirit; lest, instead of a gradual and regular crystallization, the basis of the salt be hastily precipitated in a powdery form. One twentieth part of the weight of the liquor will in most cases be a sufficient,

and in some too large a quantity.

Different falts require different quantities of water to keep them dissolved: and, hence, if a mixture of two or more be dissolved in this sluid, they will begin to separate and crystallize at different periods of the evaporation. Upon this foundation, salts are freed, not only from such impurities, as water is not capable of dissolving and carrying through the pores of a filter, but likewise from admixtures of one another; that which requires most water to dissolve it, shooting first into crystals.

# SECT. V.

# Precipitation.

BY this operation, bodies are recovered from their folutions, by means of the addition of some other substance, with which either the menstruum, or the body dissolved, have a greater affinity

than they have with one another.

Precipitation, therefore, is of two kinds; one, where the sub-stance superadded unites with the menstruum, and occasions that before dissolved to be thrown down: the other, in which it unites with the dissolved body, and falls along with it to the bottom. Of the first we have an example in the precipitation of sulphur from alkaline lixivia, by the means of acids; of the second, in the precipitation of mercury from aqua-fortis by sea falt, or its acid.

The subjects of this operation, as well those which are capable of being precipitated as those which precipitate them, will readily appear from inspection of the table of affinity. The manner of performing it is so simple, as not to stand in need of any particular di-

rections;

rections; no more being required, than to add the precipitant by degrees, so long as it continues to occasion any precipitation. When the whole of the powder has fallen, it is to be well EDULCORATED, that is, washed in several fresh parcels of water, and afterwards dried for use.

Where metals are employed as precipitants, as in the purification of martial vitriol from copper by the addition of fresh iron, they ought to be perfectly clean and free from any rusty or greasy matter; otherwise they will not readily, if at all, dissolve, and consequently the precipitation will not succeed; for the substance to be precipitated separates only by the additional one's dissolving and taking its place. The separated powder, often, instead of falling to the bottom, lodges upon the precipitant, from which it must be occasionally

shaken off, for reasons sufficiently obvious.

Though, in this operation, the precipitated powder is generally the part required for use, yet some advantage may frequently be made of the liquor remaining after the precipitation. Thus when fixt alkaline falt is diffolved in water, and fulphur diffolved in this lixivium; the addition of acids separates and throws down the fulphur, only by virtue of the acid's uniting with, and neutralizing the alkali by which the fulphur was held diffolved: confequently, if the precipitation be made with the vitriolic acid, and the acid gradually dropt in till the alkali be completely fatiated, that is, fo long as it continues to occasion any precipitation or turbidness, the liquor will yield, by proper evaporation and cryftallization, a neutral falt, composed of the vitriolic acid and fixt alkali, that is, vitriolated tartar. In like manner, if the precipitation be made with the nitrous acid, a true nitre may be recovered from the liquor; if with the marine, the falt called spiritus salis marini coagulatus; and if with the acid of vinegar, the fal diureticus.

# SECT. VI.

# Evaporation.

HIS is a third method of recovering folid bodies from their folutions, effected by the means of heat; which evaporating the fluid part, that is, forcing it off in steam, the matter which

was dissolved therein is left behind in its folid form.

This process is applicable to the solutions of all those substances which are less volatile than the menstruum, or which will not exhale by the heat requisite for the evaporation of the sluid; as the solutions of fixt alkaline salts; of the gummy, gelatinous, and other inodorous parts of vegetables and animals in water; and of many resinous and odorous substances in spirit of wine.

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Water extracts the virtues of fundry fragrant aromatic herbs, almost as perfectly as rectified spirit of wine: but the aqueous infusions are far from being equally suited to this process, with those made in spirit; water carrying off the whole odour and flavour of the subject, which that lighter liquor leaves entire behind it. Thus a watery insusion of mint loses in evaporation the smell, taste, and virtues of the herb; while a tincture drawn with pure spirit, yields, on the same treatment, a thick balsamic liquid, or solid gummy resin, extremely rich in the peculiar qualities of the mint.

In evaporating these kinds of liquors, particular care must be had, towards the end of the process, that the heat be very gentle; otherwise the matter, as it grows thick, will burn to the vessel, and contract a disagreeable smell and taste: this burnt slavour is called an empyreuma. The liquor ought to be kept stirring during the evaporation; otherwise a part of the matter concretes on the surface exposed to the air, and forms a pellicle which impedes the further evaporation. (More particular directions, for performing this operation to the greatest advantage, will be given hereafter in the second part.)

#### SECT. VII.

# Distillation.

IN the foregoing operation fluids are rarefied by heat into steam or vapour, which is suffered to exhale in the air, but which the business of distillation is to collect and preserve. For this purpose the steam is received in proper vessels, luted to that in which the subject is contained; and being there cooled, condenses into a sluid form again.

There are two kinds of distillation: by the one, the more subtile and volatile parts of liquors are elevated from the grosser; by the other, liquids, incorporated with solid bodies, are forced out

from them by vehemence of fire.

To the first belong, the distillation of the pure instammable spirit from vinous liquors; and of such of the active parts of vegetables as are capable of being extracted by boiling water or spirit,

and at the same time arising along with their steam.

As boiling water extracts or diffolves the effential oils of vegetables, while blended with the other principles of the subject, without saturation, but imbibes only a determinate, and that a small proportion of them in their pure state; as these oils are the only substances contained in common vegetables, which prove totally volatile in that degree of heat; and as it is in them that the virtues of aromatics, and the peculiar odour and slavour of all plants, reside; it is evident, that water may be impregnated, by distillation,

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with the more valuable parts of many vegetables: that this impregnation is limited, the oil arising in this process pure from those parts of the plant which before rendered it soluble in water without limitation (hence greatest part of the oil separates from the distilled aqueous liquor, and, according to its greater or less gravity, either sinks to the bottom or swims on the surface): and that, consequently, insusions and distilled waters are greatly different from one another; that the first may be rendered stronger and stronger by pouring the liquor on fresh parcels of the subject; but that the latter cannot be in like manner improved by cohobating, or re-distilling them from fresh ingredients. See Part II. Chap. v. Sect. 2.

As the oils of many vegetables do not freely distil with a less heat than that in which water boils; as rectified spirit of wine is not susceptible of this degree of heat; and as this menstruum totally dissolves these oils in their pure state, it follows, that spirit elevates far less from most vegetables than water; but that nevertheless the distilled spirit, by keeping all that it does elevate perfectly dissolved, may, in some cases, prove as strong of the subject

as the distilled water.

The apparatus made use of for distilling spirits, waters, and oils, consist of a still, or copper vessel, for containing the subject, on which is luted a large head with a swan neck. The vapour arising into the head, is hence conveyed through a worm, or long spiral pipe, placed in a vessel of cold water called a refrigeratory; and being there condensed, runs down into a receiver. In the second part of this work, we shall give some improvements in this apparatus for particular purposes; with directions for performing the several processes to the greatest advantage.

It may be observed, that as the parts which are preserved in evaporation cannot arise in distillation, the liquor remaining after the distillation, properly depurated and inspissated, will yield the same extracts as those prepared from the tincture or decoction of the subject made on purpose for that use; the one of these operations collecting only the volatile parts, and the other the more fixt; so that where one subject contains medicinal parts of both kinds, they may thus be obtained distinct, without one's being injured by the pro-

cefs which collects the other.

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The subjects of the second kind of distillation are, the gross oils of vegetables and animals, the mineral acid spirits, and the metallic stud quicksilver; which, as they require a much stronger degree of heat to elevate them than the foregoing liquors can sustain, so they likewise condense without arising so far from the action of the fire. The distillation of these is performed in low glass vessels, called, from their necks being bent to one side, retorts: to the further end of the neck a receiver is luted, which standing without the fur-

the

nace, the vapours foon condense in it, without the use of a refrigeratory: nevertheless, to promote this effect, some are accustomed, especially in warm weather, to cool the receiver, by occasionally applying wet cloths to it, or keeping it partly immersed in a vessel of cold water.

The vapours of some substances are so sluggish, or strongly retained by a fixt matter, as scarce to arise even over the low neck of the retort. These are most commodiously distilled in straightnecked earthen vessels, called longnecks, laid on their sides, so that the vapour passes off laterally with little or no ascent: a receiver is luted to the end of the neck without the surnace: in this manner, the acid spirit of vitriol is distilled. The matter which remains in the retort or longneck, after the distillation, is vulgarly called raput mortuum.

In these distillations, a quantity of elastic air is frequently generated; which, unless an exit is allowed it, blows off or bursts the receiver. The danger of this may, in good measure, be prevented, by slowly raising the fire; but more effectually, by leaving a small hole in the luting, to be occasionally opened or stopt with a wooden plug; or inserting at the juncture an upright pipe of such a height, that the steam of the distilling liquor may not be

able to rife to the top.

#### SECT. VIII.

#### Sublimation.

A Sall fluids are volatile by heat, and, consequently, capable of being separated, in most cases, from fixed matters, by the foregoing process; so various solid bodies are subjected to a similar treatment. Fluids are said to distil, and solids to sublime; though sometimes both are obtained in one and the same operation. If the subliming matter concrete into a mass, it is commonly called a sublimate; if into a powdery form, slowers.

The principal subjects of this operation are, volatile alkaline salts; neutral salts composed of volatile alkalis and acids, as sal ammoniac; the salt of amber, and slowers of benzoine; mercurial preparations; and sulphur. Bodies, of themselves not volatile, are frequently made to sublime by the mixture of volatile ones: thus iron is carried up by sal ammoniac in the preparation of the

flores martiales.

The fumes of folid bodies, in close vessels, rise but a little way, and adhere to that part of the vessel where they concrete. Hence a receiver or condenser is less necessary here than in the preceding operation; a single vessel, as a matrass, or tall vial, or the like, being frequently sufficient. The most commodious apparatus for

the fublimation of particular fubstances, and the most advantageous method of conducting the several processes, will be delivered in the second part.

## SECT. IX.

## Expression.

THE press is chiefly made use of for forcing out the juices of succulent herbs and fruits; and the insipid oils of the unc-

tuous feeds and kernels.

The harder fruits, as quinces, require to be previously well beaten or ground; but herbs are to be only moderately bruised. The subject is then included in a hair bag, and pressed betwixt wooden plates, in the common screw-press, as long as any juice runs from it. See Part III. Chap. ii.

The expression of oils is performed nearly in the same manner as that of juices; only, here, iron plates are substituted for the wooden ones there made use of. The subject is well pounded, and included in a strong canvass bag, betwixt which and the plates of the press a hair-cloth is interposed.

The infipid oils of all the uncluous feeds are obtained, uninjured, by this operation, if performed without the use of heat; which though it greatly promotes the extraction of the oil, at the same time impresses an ungrateful flavour, and increases its dispo-

fition to grow rancid.

The oils expressed from aromatic substances generally carry with them a portion of their essential oil: hence the smell and slavour of the expressed oils of nutmegs and mace. They are very rarely found impregnated with any of the other qualities of the subject: oil of mustard-seed, for instance, is as soft and void of acrimony as that of almonds, the pungency of the mustard remaining entire in the cake left after the expression.

## SECT. X.

## Exficcation.

HERE are two general methods of exficcating or drying moist bodies: in the one, their humid parts are exhaled by heat; in the other, they are imbibed or absorbed by substances, whose soft and spongy texture adapts them to that use. Bodies intimately combined with, or dissolved in, a sluid, as recent vegetables and their juices, require the first: such as are only superficially mixed, as when earthy or indissoluble powders are ground with water, are commodiously separated from it by the second.

Vegetables

Vegetables and their parts are usually exsiccated by the natural warmth of the air: the affishance of a gentle artificial heat may, nevertheless, in general, be not only safely, but advantageously had recourse to. By a moderate fire, even the more tender flowers may be dried, in a little time, without any considerable loss, either of their odour or lively colour; which would, both, be greatly injured or destroyed by a more slow exsiccation in the air. Some plants indeed, particularly those of the acrid kind, as horse-radish, scurvy-grass, and arum, lose their virtues by this process, however carefully performed: but far the greater number retain them un-

impaired, and often improved.

The thicker vegetable juices may be exsiccated by the heat of the sun; or, where this is not sufficient, by that of a water-bath, or an oven moderately warm. The thinner juices may be gently boiled till they begin to thicken, and then treated as the foregoing: this process, termed inspissation or evaporation, has been spoken of already. The juices of some plants, as arum root, briony root, orris root, wild cucumbers, &c. separate, upon standing for some time, into a thick part, which falls to the bottom; and a thin aqueous one, which swims above it: this latter is to be poured off, and the first exsiccated by a gentle warmth: preparations of this kind have been usually called fæculæ; that of the wild cucumber, to be spoken of in its place, is the only one which practice now retains.

Indisfoluble bodies mixed with water into a thick consistence, may be easily freed from the greatest part of it, by dropping them on a chalk-stone, or some powdered chalk pressed into a smooth mass, which readily imbibes their humidity. Where the quantity of sluid is large, as in the edulcoration of precipitates, it may be se-

parated by decantation or filtration.

#### SECT. XI.

#### Comminution.

OMMINUTION is the bare reduction of folid coherent bodies into small particles or powder. The methods of effecting this are various, according to the texture of the subject.

Dry friable bodies, or such as are brittle and not very hard, and mixtures of these with somewhat moist ones, are easily PULVERI-

ZED in a mortar.

For very light, dry substances, refins, and the roots of a tenacious texture, the mortar may in some cases be previously rubbed with a little sweet oil, or a few drops of oil to be occasionally added: this prevents the finer powder of the first from slying off, and the others from cohering under the pestle. Camphor is most com-

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modiously powdered, by rubbing it with a little rectified spirit of wine.

Tough substances, as woods, the peels of oranges and lemons, &c. are most conveniently rasped; and soft oily bodies, as nutmegs,

passed through a grater.

The comminution of the harder minerals, as calamine, crystal, slint, &c. is greatly facilitated by EXTINCTION; that is, by heating them red-hot, and quenching them in water: by repeating this process a few times, most of the hard stones become easily pulverable. This process, however, is not to be applied to any of the alkaline or calcareous stones; lest, instead of an insipid powder, we produce an acrimonious calx or lime.

Some metals, as tin, though strongly cohering in their natural state, prove extremely brittle when heated, insomuch as to be easily divided into small particles by dextrous agitation. Hence the officinal method of pulverizing tin, by melting it, and, at the instant of its beginning to return into a state of solidity, briskly shaking it in a wooden box. The comminution of metals, in this manner,

is termed by the metallurgists GRANULATION.

On a fimilar principle, certain falts, as nitre, may be reduced into powder in large quantity, by diffolving them in boiling water, fetting the folution over a moderate fire, and keeping the falt conflantly stirring during its exsiccation, so as to prevent its particles, disjoined by the fluid, from re-uniting together into larger masses.

Powders are reduced to a great degree of fineness by TRITU-RATING, or rubbing them, for a length of time, in a mortar. Such as are not dissoluble in water, or injured by the admixture of that fluid, are moistened with it into the consistence of a paste, and LE-VIGATED, or ground, on a flat smooth marble or iron plate; or where a large quantity is to be prepared at a time, in mills made for that use.

Comminution, though one of the most simple operations of pharmacy, has, in many cases, very considerable effects. The resinous purgatives, when finely triturated, are more easily soluble in the animal sluids, and consequently prove more cathartic, and less irritating, than in their grosser state. Crude antimony, which, when reduced to a tolerable fine powder, discovers little medicinal virtue, if levigated to a great degree of subtility, proves a powerful alterative in many chronical disorders.

By comminution, the heaviest bodies may be made to float in the lightest fluid\*, for a longer or shorter time, according to their

<sup>\*</sup> Some attribute this effect to a diminution of the specific gravity of the body; and, at the same time, suppose the peculiar virtues of certain medicines, particularly mercury, to be in great measure owing to their gravity.

with an excellent criterion of the fineness of certain powders, and a method of separating the more subtile parts from the grosser, distinguished by the name of ELUTRIATION, or washing over. See Part III. Chap. i.

## SECT. XII.

## Fusion.

HUSION is the reduction of folid bodies into a state of suidity by fire. Almost all natural substances, the pure earths and the folid parts of animals and vegetables excepted, melt in proper degrees of fire; some in a very gentle heat, while others require its utmost violence.

Turpentine, and other foft refinous substances, LIQUEFY in a gentle warmth; wax, pitch, sulphur, and the mineral bitumens, require a heat too great for the hand to support; fixt alkaline salts, common salt, nitre, require a red, or almost white heat to MELT

them; and glass, a full white heat.

Among metallic fubstances, tin, bismuth, and lead, slow long before ignition: antimony likewise melts before it is visibly red-hot, but not before the vessel is considerably so: the regulus of antimony demands a much stronger fire. Zinc begins to melt in a red heat; gold and silver require a low white heat; copper a bright

white heat; and iron, an extreme white heat.

One body, rendered fluid by heat, becomes fometimes a menftruum for another, not fusible of itself in the same degree of fire. Thus red-hot silver melts, upon being thrown into melted lead less hot than itself: and thus if steel, heated to whiteness, be taken out of the surnace, and applied to a roll of sulphur, the sulphur instantly liquesying, occasions the steel to melt with it; hence the chalybs cum sulphure of the shops. This concrete, nevertheless, remarkably impedes the susion of some other metals, as lead, which, when united with a certain quantity of sulphur, is scarce to be

gravity. If these hypotheses were just, it should follow, that the mercurial preparations, by being finely comminuted, would lose proportionably their esticacy; and so indeed mercurius dulcis, for instance, has been supposed to do. But experience shews, that this is far from being the case; and that comminution by no means lessens, but rather increases its power: when reduced to a great degree of subtility, it passes readily into the habit, and operates, according to its quantity, as an alterative or a stalogogue; while, in a grosser form, it is apt to irritate the stomach and bowels, and run off by the intestines, without being conveyed into the blood.

perfectly melted by a very strong fire: hence the method, described in its place, of purifying zinc, a metal upon which sulphur has no

effect from the lead to frequently mixed with it.

Sulphur is the only unmetallic fubstance which mingles in fufion with metals. Earthy, faline, and other matters, even the
calces and glasses prepared from metals themselves, float distinct
upon the surface, and form what is called scoria or dross. Where
the quantity of this is large in proportion to the metal, it is most
commodiously separated by pouring the whole into a conical mould:
the pure metal or regulus, though small in quantity, occupies a
considerable height in the lower narrow part of the cone, and when
congealed, may be easily freed from the scoriæ by a hammer. The
mould should be previously greased, or rather smoked, to make the
metal come freely out; and thoroughly dried and heated, to prevent the explosion which sometimes happens from the sudden contact of melted metals with moist bodies.

#### SECT. XIII.

#### Calcination.

Y calcination is understood, the reduction of solid bodies, by the means of fire, from a coherent to a powdery state, accompanied with a change of their quality; in which last respect, this process differs from comminution.

To this head belong, the burning of vegetable and animal matters, otherwise called ustion, incineration, or concremation; and the change of metals into a powder, which inthe fire either does not melt, or vitrifies, that is, runs into

glass,

The metals which melt before ignition, are calcined by keeping them in fusion for some time. The free admission of air is essentially necessary to the success of this operation; and hence, when the surface of the metal appears covered with calx, this must be taken off, or raked to one side; otherwise the remainder, excluded from the air, will not undergo the change intended. If any coal, or other inflammable matter that does not contain a mineral acid, be suffered to fall into the vessel, the essected from this operation will not be produced, and part of what is already calcined, will be REVIVED or REDUCED; that is, it will return into its metallic form again.

Those metals which require a strong fire to melt them, calcine with a much less heat than is sufficient to make them flow. Hence the burning or SCORIFICATION of such iron or copper vessels, a are long exposed to a considerable fire without defence

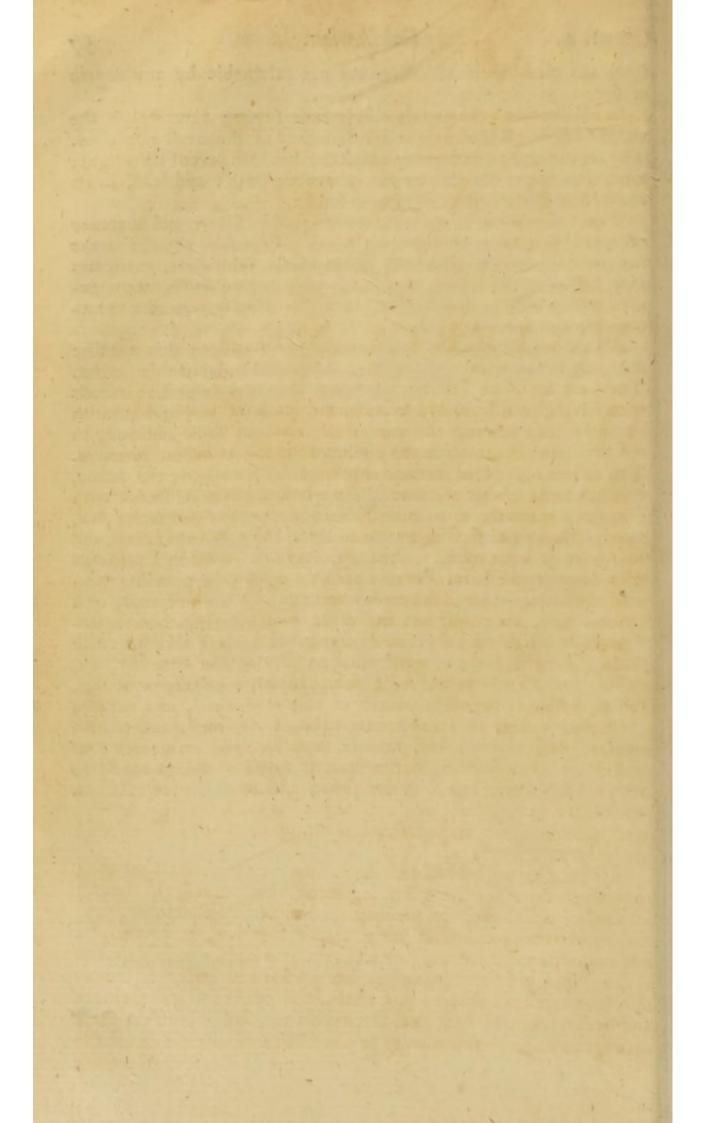
from the air. Gold and filver are not calcinable by any degree of fire.

In calcination, the metals visibly emit sumes; nevertheless, the weight of the calx proves greater than that of the metal employed. The antimonial regulus gains about one eleventh part of its weight; zinc, sometimes one tenth; tin, above one sixth; and lead, in its

conversion into minium, often one fourth.

The calcination of metallic bodies (gold, filver, and mercury excepted) is greatly promoted by nitre. This falt, exposed to the fire in conjunction with any inflammable substances, extricates their inflammable matter, and bursts with it into slame, accompanied with a hissing noise: this process is usually termed DEFLAGRATION OF DETONATION.

All the metallic calces and scoriæ are revived into this metallic state, by fusion with any vegetable or animal inflammable matter. They are all more difficult of fusion than the respective metals themselves; and scarcely any of them, those of lead and bismuth excepted, can be made to melt at all, without fome addition, in the strongest fire that can be produced in the common furnaces. The additions, called fluxes, employed for promoting the fusion, confift chiefly of fixt alkaline falts: a mixture of alkaline falt with inflammable matter, as powdered charcoal, is called a reducing flux, as contributing at the same time to bring the calx into fusion, and to revive it into metal. Such a mixture is commonly prepared from one part of nitre, and two parts of tartar; by grinding them well together, fetting the powders on fire with a bit of coal, or a red-hot iron, then covering the veffel, and fuffering them to deflagrate or burn, till they are changed into a black alkaline coaly mass. This is the common reducing flux of the chemists, and called from its colour the black flux. Metallic calces, or fcoriæ, mingled with twice their weight of this compound, and exposed to a proper fire, in a close covered crucible, melt, and resume their metallic form; but, though they received an increase of weight in the calcination, the revived metal is always found to weigh confiderably less than the quantity from which the calx was made.



# PART II.

THE

## MATERIA MEDICA.

RITERS on the materia medica have taken great pains in arranging the various articles, of which it is composed, into different divisions and subdivisions, according

to their real or reputed medicinal powers.

It has been imagined, that "the whole materia medica is re"ducible under the three distinctions of alteratives, evacuants, and
"restoratives: the first comprehending all that has any power to
alter the constitution, without sensibly increasing or diminishing any of the natural evacuations; the second, whatever visibly promotes those discharges; and the third, all that contributes to lessen them, and make the increase greater than the
waste." These divisions being too general, they are broke into
subdivisions; and these again are further divided into different
classes, under more restrained denominations, as cardiac, carminative, hysteric, stomachic, &c.

Specious as this plan may appear to be, I am afraid that the execution of it, to any useful purpose, would require a far more extensive knowledge of the nature and operation of medicines than has yet been attained to. A just and useful method of simples is scarcely to be expected, while those properties, on which the method is founded, are impersectly known, and in many articles only

conjectural.

In all the arrangements that have been hitherto contrived upon this plan, there appears a striking incongruity among the several articles of which even the ultimate subdivisions are composed; substances extremely dissimilar being classed together, as cantharides and tea, tobacco and bran, hemlock and cowssips, scurvygrass and raisins, arum root and liquorice, wormwood and parsneps, cinnamon and nettles, rasperries and chalk, artichokes and alum, cloves and coffee, mustard seed and black cherries, &c. Nor are these incongruities to be laid always to the charge of the authors; the nature

mature of the fystem itself renders them often unavoidable: for the particular effect, which entitles a medicine to a particular class, may be produced by substances very dissimilar, and even opposite in their general powers: thus the alvine excretions are restrained by starch, wax, tormentil root, opium: among the capital diuretics are cantharides, nitre, fixt alkaline salts, squills. It should seem, that the method of arrangement cannot be a just one, which requires substances so discordant to be ranked together; and which farther requires each of these substances to be ranked over again, in other classes, along with other substances to which they are equally discordant.

There is also a material imperfection in this scheme, even in the primary divisions. Steel and its preparations act, in different circumstances, both as evacuants and restoratives. Mercury and antimony afford, in their different preparations, both evacuants and alteratives; and there are many other drugs which are sometimes used as alteratives, and sometimes as evacuants: indeed, all evacuants, in diminished doses, seem to act merely as alteratives. It should seem therefore that "the division of the whole materia medica into alteratives, evacuants, and restoratives," is a division not sounded in nature, even if there were no objection to the vague

meaning of the appellations themselves.

Cartheuser has divided the materia medica on a plan which appears more rational. Instead of the operations of medicines in the human body, which are precarious, complicated, and greatly diversified, according to the dose, the preparation, and the circumstances of the patient, he takes for the basis of his arrangement, their more simple, obvious, and constant properties, as bitterness, sweetness, astringency, acidity, &c. Having considered the nature of bitterness, for instance, in general, he examines what effects medicines possessed of this property are capable of producing in the body, and in what circumstances they may be expected to be ferviceable, and then proceeds to an account of the particular bitters.

This method is of real use, but its use is limited to a small part of the materia medica. There are many of the medicinal simples, in which we can distinguish no prevailing qualities of this kind; there are many, in which different qualities are blended together; and many, which though similar in these kinds of qualities, are very dissimilar in their operations in the human body. Thus though gentian and aloes agree in having a bitter taste, and sugar and manna in being sweet, their medicinal virtues are respectively very different. Accordingly the author is obliged in some cases to depart from his general plan, and sound the division on the medicinal effects: he makes one class of purgatives and emetics, and another of vapourose inebriants and narcotics: this last class consists of tobacco, elder-slowers, saffron, opium, and poppy seeds; substances certainly very discordant in all their qualities that relate to medical intentions.

In this work, instead of attempting a medicinal distribution of the fimples, which I apprehend not to be practicable, to any good purpose, and which, as hitherto executed, seems more likely to missead the reader than to promote true knowledge, I shall take them in the order of the alphabet; and even in this order we shall, feldom perhaps find substances more distimilar come together, than those which have been joined in one class by some of the systematic writers. It may be proper, however, to premise some general obfervations on certain classes of medicines, in Cartheuser's manner, and thus to preferve the less exceptionable parts of his plan, with fome amendments.

### ACIDS.

Class 1. Vegetable {

native; as forrel, wood-forrel, juice of lemons, oranges, barberries, and other fruits.

produced by fermentation; as vinegar and

Class 2. Mineral: the acids of vitriol, nitre, and common

HE medical effects of acids, duly diluted and given in proper dofes, are to cool, quench thirst, correct a tendency to putrefaction, and allay inordinate motions of the blood. By these qualities, in hot bilious temperaments and inflammatory diforders, they frequently restrain immoderate hæmorrhages, and promote the natural fecretions; in some kinds of fevers, they excite a copious diaphorefis, where the warm medicines, called alexipharmic, tend rather to prevent this falutary difcharge.

Vegetable acids, particularly the native juices of certain plants and fruits, have fome degree of a faponaceous quality; by means of which they attenuate or diffolve viscid phlegm, and deterge the veffels; and thus prove ferviceable in fundry chronical diforders. Inveterate scurvies have fometimes yielded to their continued use, especially when given in conjunction

with medicines of the acrid or pungent kind. Experience has shewn, that the acrid antiscorbutics have much better effects when thus managed, than when exhibited by themselves; hence in the fucci scorbutici of our dispensatory, Seville orange juice is usefully joined to that of the cochlearia and nasturtium.

The mineral acids inflantly coagulate blood: the vegetable dilute it, even when inspissated or thickened by heat; in which state, watery liquors will not mingle with it. Hence, in fome fevers, where water runs off by the kidneys almost as pale and insipid as it was drunk, vegetable acids render the urine of the due colour and quality. The mineral acids (the fpirit of nitre in particular) combined with vinous spirits, have a like effect.

Acids are prejudicial in cold, pale, phlegmatic habits, where the vessels are lax, the circulation languid.

guid, bile deficient, and the power of digestion weak. In these cases, an acid is often generated in the stomach, from milk and moist vegetable food, which, while it continues in the first passages, occasions uneasiness about the stomach, slatulencies, sometimes griping pains of the bowels, and vomitings.

## Insipid Earths capable of absorbing acids.

Oyster shells, Crabs claws, and eyes so called, Coral, red and white, Pearls, Bezoar, Chalk, Some marles, Limestones, Marbles, Spars.

HE virtues of these substances are, to absorb or destroy acidities in the first passages, and confequently remove fuch diforders as proceed from that cause. The cordial, alexipharmic, antifebrile, and other like virtues, attributed to these medicines, appear to have little foundation; or, at best, are only secondary ones. When united with the acid, they form a neutral faline compound, possessing some degree of an aperient and detergent quality, though too inconsiderable to be in general regarded.

The absorbent earths were all strangers to medicine in the earlier times; and their use does not seem to have been established before the last century; when some practitioners, from an opinion that most kinds of diseases proceeded from a preternatural acid, introduced a great variety of antiacid bodies, both of the earthy and saline kind; and very liberally exhibited them

on almost every occasion.

It is certain that in children, and adults of a weak constitution, and whose food is chiefly of the vegetable acescent kind, sundry disorders are occasioned by acidities; these readily discover themselves by sour eructations, the pale colour of the face, and in children by the sour smell and green colour of the

alvine fæces, which are fometimes fo manifestly acid as to raise a strong effervescence with alkaline salts. In these cases, and these only, the use of absorbent earths is indicated.

If there be really no acid juices in the ventricle, these earths are apt to concrete with the mucous matter usually lodged there, into hard indissoluble masses; which have fometimes been thrown up by vomit, or found in the stomach upon diffection. Hence indigestion, loss of appetite, nausea, vomiting, obstructions of the bowels, and other disorders. Sometimes the stomach and intestines have been found lined with a crust, as it were, of these earthy bodies, which must not only have prevented the separation of the gastric liquor, but likewise closed the orifices of the lacteal veffels, fo as to obstruct the passage of the chyle into the mass of blood.

Some suppose the earthy powders capable (without the concurrence of any acid) of passing the lacteals along with the chyle; and alledge, in support of this opinion, that when triturated with water, they are in part taken up, and carried with it through a filter of paper; the filtrated liquor leaving, upon evaporation, a portion of whitish earthy matter. This experiment (allowing the consequence

to be justly drawn from it) is itself erroneous: the residuum proceeds from the earth naturally contained in the water, not from that employed in the experiment; for if pure distilled water be made use of, it will leave no residuum, though long triturated, or digested with the earth.

All these bodies, particularly those of the animal kind, contain, besides their purely alkaline earth, a portion of glutinous matter. An instance of this we have in crabs eyes. If these be macerated in the weaker acids, or the stronger sufficiently diluted with water; the earthy part will be dissolved, and the animal glue remain in form of a foft transparent mucilage. The glutinous substance increases their tendency to concrete in the stomach; and, hence, those which contain least thereof should be preferred to The mineral earths the others. contain the least of this kind of matter, and some of them are very easy of solution; chalk for instance; which may therefore be

given with greater safety than the animal absorbents. These sub-stances, divested of their conglutinating matter by means of fire, are reduced into acrimonious calces or limes, and thus become medicines of a different class.

The teeth, bones, hoofs, and horns of animals, confift of the same principles with the animal absorbents above-mentioned, but combined in different proportions: the quantity of gelatinous matter is so large, as to defend the earthy part from the action of weak acids; while the earth, in its turn, protects the gluten from being easily dissolved by watery liquors. Hence these bodies in their crude state, though recommended as possessing singular virtues, are not found to have any virtue at all.

Experiments have been made for determining the degree of folubility, or comparative strength, of these earths; the principal of which are arranged in the two following tables, one taken from Langius, and

the other from Homberg.

## Table of the quantity of acid destroyed by different absorbents.

Some kinds of Limestones 160 Oyster shells 120 Chalk 100 deftroyed the acidity of Shells of Garden Snails 100 Calcined Cray Fish 100 Pearl 80 Tooth of the Sea Horse 80 Ten grains drops of Volatile Salts 80 of Spirit of Salt. Fixt Salts 60 Coral, red and white 60 Crabs eyes 50 Eggshells 50 Mother of Pearl 50 Crabs claws 40 Jawbone of the Pike-fish 30)

Table of the quantity of absorbent earths soluble in acids.

576 grains of Spirit of Salt dissolved of	Crabs eyes Mother of Pearl Pearls Oyster shells Hartshorn Coral Oriental Bezoar Occidental Bezoar Quick Lime Slacked Lime	grains. 216 144 128 156 165 180 118 123 199 193
576 grains of Spirit of Nitre dissolved of	Crabs eyes Mother of Pearl Pearls Oyster shells Hartshorn Coral Oriental Bezoar Occidental Bezoar Quick Lime Slacked Lime	297 202 219 236 234 233 108 144 180 216

These experiments do not sufficiently afcertain the point intended by them. In the first set, the quantity of acid is too vague and indetermined: in the second, we are not told whether the acid was perfectly faturated: and, in both, the acids made use of were so very different from any that can be supposed ever to exist in the human body, that little can be concluded from them, with regard to the medical effects of

these absorbents. Trial should have been made with the mild vegetable acids, as the juices of certain fruits. four fermented liquors; or rather with four milk. Nevertheless, these tables, though not fo perfect as could be wished, have their use in the hands of fuch as can make proper allowances (See the Experimental History of the materia medica, page 557.)

EARTHS NOT DISSOLUBLE in acids, or other liquors.

The earths of this kind may be ranged in two classes:

Class I. Hard crystalline earths: as the ruby, garnet, emerald, fapphire, hyacinth, and other precious stones; crystal, flint, &c.

HESE kinds of substances attributed to them, by the superstiwere introduced into medi- tion of the earlier ages. Some of cine, and many fabulous virtues them are still preserved in foreign phar-

pharmacopæias, but they are, at length, very juftly expunged from ours, notwithstanding what some writers of repute speak of their medical virtue. These indisfoluble hard bodies are not capable of producing any other effect than, by their rigid angular particles (which, tho' levigated with the utmost care, the microscope still discovers in them), to offend or wound the inteftines. In levigation they wear off to much from the hardest marble instruments, as will equal or exceed their own weight: from this circumstance we may account for their having fometimes appeared to act as absorbents. Some of these ftones, exposed to a vehement fire, become in some measure friable; but, nevertheless, remain indissoluble. Most of the coloured

ones by this treatment lofe their colour; and, in this state, prove nearly of the same quality with common crystal; such are, the fapphire, emerald, amethyst, and cornelian. Others melt into a blackish vitreous matter, from which a portion of iron is obtainable by proper fluxes; as the hyaeinth and garnet. Geoffroy concludes hence, that these stones really possess some medical virtues, depending upon their metallic part; but the quantity of metallic matter, fufficient to give them a confiderable tinct, is for exceedingly fmall, and fo inclofed in a stony matter not at all foluble by any of the known menstrua, and scarce to admit of any possibility of its acting in the human body.

## Class 2. Softer earths; the talky, gypseous, and argillaceous.

The tales and gypsa have rarely been used as medicines. Some of the former, from their unctuous softness and silver hue, stand recommended externally as cosmetics; and some of the latter, on little better foundation, internally, as aftringents. But they have long been deservedly rejected by the judicious practitioners. They seem to possess the ill qualities of the alkaline earths (concreting with the mucus of the stomach, &c.) without any of their good ones.

Several of the clays, boles, and terræ sigillatæ, were highly celebrated by the ancients as aftringents and alexipharmacs, and some of them still continue in esteem; though it is certain they have no great claim to the virtues that have been attributed to them. Their real effects are, to give a greater degree of consistency to the sluids

in the first passages, and in some measure defend the solids from their acrimony.

Most of these bodies contain, besides the tenacious indissoluble earth, which is their principal characleristic, (1) a portion of an earth foluble in acids, fimilar to those of the first section; (2) of acid, separable by distillation in a strong fire: this acid is always of the same nature with that obtained from vitriol, fulphur and alum; (3) The coloured ones contain likewife small quantities of iron, reducible by inflammable fluxes, into its metallic form. In confequence of the first of these ingredients, these earths may be looked upon in some measure as absorbent: the acid appears to be united with a part of the absorbent earth, into a faline compound, approaching to an alluminous hature; whence they have some degree of astringency. Whether they receive any peculiar virtue from the iron, is greatly to be doubted; fince it is in a very crude state, and in quantity extremely small.

These earths unite with water into a turbid liquor, slippery and smooth to the touch, and remain for some time suspended; the sand, grit, or other grosser matters which are often found naturally mingled with them, subsiding. They may be freed by means of acids from their alkaline earth;

by coction in water, from their faline matter; and the coloured ones, from their iron, by digestion, in aqua regis; the only menstruum we are acquainted with that will extract the ferrugineous matter of argillaceous and bolar earths. Thus purished, they have all nearly the same appearance and qualities. Exposed to a strong sire, they lose their soft glutinous quality, and are reduced into hard masses indiffoluble as at first.

## GLUTINOUS, vegetable, and animal substances.

## Class. 1. Vegetable.

Pure gums.
Tragacanth,
Senica,
The gums of cherry, plum,
and other European Trees.

tinous vegetable productions, of no particular taste or smell, soluble in water, but not in vinous spirits, or in oils: see p. 13. They differ from one another, only in degree of tenacity: the more tenacious are called gums; those which are less so, mucilages. The former naturally exude from certain trees and shrubs; the latter are extracted by art. Almost all vegetable substances contain some por-

Vegetables abounding with mucilage: Orchis roots, Althwa root, Quince seeds, &c.

tion of these, which, after the refinous part has been extracted by spirit, may be separated from the remaining matter by means of water.

The general virtues of these kinds of substances, are to thicken the sluids, and defend the solids from them, when grown sharp or corrosive. Hence their use in a thin acrimonious state of the juices, and where the natural mucus of the intestines is abraded.

#### Class. 2. Animal.

Most animal substances (the fat excepted) contain a viscous matter, in many respects similar to the foregoing, and capable of being extracted by strong coction in water.

Animal glues and jellies have the general qualities of the vegetable gums and mucilages; with this difference, that the former are more nutrimental, and apt to run into a putrid state. Considered as the subjects of chemistry, the difference betwixt them is very great: those of the animal kind are changed by sire into a volatile alkaline salt and a feeld oil; the vegetable into an acid liquor, and a very small portion of oily matter, considerably less fetid than the former.

## Soft uncruous substances.

Class r. Insipid vegetable oils; and Substances abounding with them, as almonds, and the kernels of most fruits; linseed, and the medullary part of fundry other seeds.

## Class 2. Animal fats; as spermaceti.

Water, by trituration, into a milky liquor: and give out their oil upon expression.—These kinds of oils, and animal fats, dissolve not in any menstruum except alkaline ones; which change their quality, and reduce them into a soap, dissoluble in water, but more perfectly in vinous spirits: from this compound, the oil may, by a skilful addition of acids, be recovered in a purer state than before, and rendered soluble, like essential oils, in spirit of wine: see p. 10.

The medical virtues of these substances are, to obtund acrimonious humours, and to soften and relax

the folids: hence their use internally, in tickling coughs, heat of urine, pains and inflammations; and, externally, in tenfion and rigidity of particular parts. The milky folutions, commonly called emulfions, though much less emollient than the oils themselves or animal fats, have this advantage, that they may be given in acute or inflammatory diftempers, without danger of the ill consequences which the others might fometimes produce. Fats and oils, kept in a degree of heat no greater than that of the human body, foon become rancid and acrimonious; while emulfions tend rather to grow four.

### ASTRINGENTS.

Galls, Tormentil root, Bistort root,

A Stringent substances are diflinguished by a rough austere taste: and by changing solutions of iron, especially those made in the vitriolic acid, of a dark purple or black colour.

Astringents yield their virtues by infusion, both to water and vinous spirits, generally in greatest perfection to the former. Oils extract nothing from them: nor do they give over any of their virtue in distillation: nevertheless, their astringency is considerably abated Balaustines, Terra Japonica, Acacia, &c.

by evaporating decoctions of them to the confisence of an extract; and totally destroyed by long keep-

The medical effects of these kinds of substances are, to constringe the fibres, and incrassate, or lightly thicken the juices. Their more experienced use is in disorders proceeding from a debility, or flaccid state, of the solids; in hæmorrhages, from a thinness of the blood, laxity or rupture of the vessels; in preternatural F 2

discharges of other kinds, after the offending matter has been duly corrected, or evacuated; and in ex-

ternal relaxations.

In some cases, they produce the effects of aperients; the vessels, constringed and strengthened by them, being enabled to protrude the circulating juices with greater force.

A good deal of caution is requifite in the use of these medicines, especially those of the more powerful kind. In plethoric habits, inveterate obstructions, critical evacuations, and in all kinds of fluxes in general, before the morbisic matter has been expelled, or where there is any stricture or spasmodic contraction of the vessels; astringents prove eminently hurtful. Where critical dysenteries or diarrhoeas are restrained by styptics, the acrimonious matter, now confined in the intestines, corrodes or inflames them; and sometimes occasions a gangrene of the parts.

SWEETS.

Sugar, Honey, Raisins, Liquorice, &c.

HE vegetable sweets are a very numerous tribe; almost every plant that has been examined, discovering in some of its parts, a saccharine juice. The bottoms of slowers, and most kinds of seeds and grain, when they begin to vegetate, are remarkably sweet.

Vegetable sweets are extracted both by water and vinous spirits; most readily by the former, but in greatest perfection by the latter. Nothing of their taste arises in distillation with either of these liquors: nevertheless, by long boiling with water they become somewhat less agreeable; but are not much injured by being treated in the same manner with rectified spirit.

The purer sweets, as sugar, promote the union of distilled oils with watery liquors, and prevent the separation of the butyraceous part from milk: from this quality, they are supposed to unite the unchaous part of the food with the animal juices. Hence some have concluded, that they increase fat: others, that they have a contrary

effect, by preventing the separation of the unctuous matter, which forms the fat, from the blood: and others, that they render the juices thicker and more fluggish, retard the circulation and cuticular excretion, and thus bring on a variety of disorders. But sweets have not been found to produce any of these effects, in any remarkable degree: common experience shews, that their moderate, and even liberal use, is at least innocent; that they reconcile, not only to the palate, but the stomach also, substances of themselves difguftful to both; and thus render falutary what would otherwise be injurious to the body.

The unctuous and mucilaginous fweets, as the impure fugars, liquorice, &c. have a confiderable degree of emollient and lubricating virtue.—Those, accompanied with a manifest acid, as in the juices of most sweet fruits, are remarkably relaxing; and, if taken immoderately, occasion diarrhææ and dysenteries, which sometimes

have proved fatal.

ACRIDS.

#### ACRIDS.

to the skin, they inflame or exulce- up the nose, provoke sneezing.

Crids are substances of a pene- rate it; chewed, they occasion a cotrating pungency. Applied pious discharge of saliva; and snuffed

These substances, considered as the subjects of pharmacy, may be divided into three classes,

[1. In distillation with water: as horse-radish,

mustard, scurvy-grass, &c.

yielding their acrimony

2. By infusion only: as the greater celandine,

pyrethrum, &c.
3. Neither to infusion nor distillation: as arum and dracunculus.

The general effects of acrid medicines are, to stimulate the vessels, and dissolve tenacious juices. In cold leucophlegmatic habits, stagnations of the fluids, and where the contractive power of the folids is weak, they prove powerful expectorants, deobstruents, diuretics, and emmenagogues; and if the patient be kept warm, sudorifics. In hot bilious constitutions, plethoric habits, inflammatory diffempers, where there is already a degree of irritation, where the juices are too thin and acrimonious, or the viscera unfound; these stimulating medicines prove highly prejudicial, and never fail to aggravate the difeafe.

Certain acrid substances have been recommended in dry convulfive afthmas: of the efficacy of the fquill in particular, for the cure of

this disorder, several instances are related in the Commercium literarium of Norimberg for the years 1737 and 1739. Cartheuser thinks, that not the aithma itself, but a particular effect of it, was removed by this medicine. He observes, that, in all afthmas, the free circulation of the blood through the pulmonary vessels is impeded: and, hence, during every paroxyfm, the lungs are in a kind of ædematous state: that if this cedema, becoming habitual, remain after the fit is over, it is either perpetually occasioning fresh ones, or gives rife to a dropfy of the breast: that acrid medicines, by removing the ædema, remove what was originally an effect of the afthma, and will be, in time, a cause of its aggravation.

#### AROMATICS.

Romatics are substances of a warm pungent tafte, and a more or less fragrant smell. Some of the spices are purely aromatic, as cubebs, pepper, cloves; some fubstances have a sweetness mixed with the aromatic matter, as angelica root, aniseed, fennel seed;

fome an aftringency, as cinnamon; fome a strong mucilage, as casialignea; some a bitterness, as orange peel. The aromatic matter itself, contained in different subjects, differs also not a little in its pharmaceutic properties. It is extracted from all by rectified spirit of wine;

from some in great part, from others scarcely at all, by water. The aromatic matter of some subjects, as of lemon peel, rises wholly in distillation, both with spirit and water; that of others, as cinnamon, rises wholly with water, but scarcely at all with spirit; while that of others, as pepper, is in part left behind, after the distillation of water itself from the spice.

With regard to the general vir-

tues of aromatics, they warm the stomach, and by degrees the whole habit, raise the pulse, and quicken the circulation. In cold languid cases, phlegmatic habits, and a weak staccid state of the solids, they support the vis vitæ, and promote the salutary secretions. In hot bilious temperaments, plethoric habits, instammatory indispositions, dryness and strictures of the sibres, they are generally hurtful.

BITTERS.

Gentian root, Hops,

BItters for the most part yield their virtue both to watery and spirituous menstrua; some more persectly to one, and others to the other. None of the substances of this class give over any thing considerable of their taste in distillation, either to water or to spirit; their bitterness remaining entire, and frequently improved, in the extracts. Such as are accompanied with standard wour, as wormwood, may, by this process, be reduced into simple standard.

These substances participate of the virtues of astringents and aromatics. Their general effects are, to constringe the fibres of the stomach and intestines, to warm the habit, attenuate the bile and juices in the first passages, and promote the natural evacuations, particularly of sweat and urine. In weakness of the stomach, loss of appetite, in-

Lesser centaury, Carduus, &c.

digestion, and the like disorders, proceeding from a laxity of the folids, or cold fluggish indisposition of the juices, these kinds of medicines do good fervice. Where the fibres are already too tense and rigid, where there is any immoderate heat or inflammation, bitters very fenfibly increase the distemper; and if their use be continued, communicate it to the kidneys: hence the urine becomes high coloured, fmall in quantity, and, at length, suppressed; a dropfy soon succeeding. If the kidneys were before fo lax, as to remain now uninjured, yet the other vifcera become gradually more and more rigid, and a tabes is at length brought on.

Bitter substances destroy insects, and prevent putrefaction. Hence they are recommended as anthelmintic; and externally as antisep-

tics.

#### EMETICS and CATHARTICS.

Hellebore, Jalap, Ipecacoanha,

HESE substances consist of a resinous part, in which the purgative or emetic quality resides;

Colocynth, Scammony, Gamboge, &c.

and a gummy faline one, which acts chiefly as a diuretic. The former is extracted or diffolved by vinous

vinous spirits; the latter by water. Nothing arises in distillation from either.

The acrid refins, exhibited by themselves, tenaciously adhere to the coats of the intestines, by their stimulating power irritate and instance them, and thus produce sundry violent disorders. Hossman relates, that he has sometimes observed convulsions, and a paralysis of both

fides, from their use.

These inconveniences may be avoided, by previously triturating them with substances capable of dividing their tenacious texture, and preventing their adhesion; by these means, they become mild and safe, operate without disturbance, and, at the same time, more effectually answer the purposes intended by them.

Some have endeavoured to correct the ill quality of the refinous purgatives, by the addition of acids and aromatic oils. Acids weaken their power, but have no other effect than what a diminution of the dose would equally answer. The pungent effential oils may ferve to warm the stomach, make the medicine fit easier, and thus prevent the nausea, which sometimes happens; but as foon as the refin begins to exert itself in the intestines, these oils, instead of correcting, increase its virulence; being themselves apt to occasion the inconveniences which they are here intended to prevent, an irritation and inflammation of the bowels. Alkaline salts or soaps have a better effect; as they dispose the resin to solution, and promote

its operation.

The medicines of this class feem to act by liquefying the juices, and stimulating the coats of the stomach and intestines. If the irritation be strong and sudden, their action is quick and upwards: if flower, downwards. Cathartics, given in a liquid form, or in very fensible habits, often prove emetic; and emetics, where mucus abounds, cathartic. They operate more violently in robust constitutions than in those of a contrary temperament; the vessels being in the former more tense and rigid, and consequently less capable of bearing an equal de-

gree of irritation.

The action of these medicines is extended beyond the primæ viæ. This appears evident from the increase of the pulse, which always accompanies their operation; and from the common observation of children's being purged by the milk, if the nurses have taken a carthartic. Some of them, particularly helebore, are faid to purge, if only applied externally in iffues. Purgatives, even of the more powerful kind, exhibited in fuitable small doses, in conjunction with the milder aperients, may be introduced into the habit, so as to prove notable deobstruents, diuretics, and diaphoretics, without acting fenfibly by stool.

The foregoing observations are inserted, not with any view to a method of simples, but to give a general idea of the virtues of such medicinal substances as are possessed of the qualities which make the objects of the respective articles. I shall dwell no longer on general reslections, but proceed to an account of each of the simples separately.

ABIETIS lignum, summitates, coni: Abietis conis sursum spectantibus siwe

maris C. B. Pini piceæ Lin. vel Abietis tenuiore folio fructu deorsum spec-F 4. filver and the red fir; their wood,

tops, and cones.

These are large ever-green trees, frequent in the northern climates. The first is said to be found wild in fome parts of England, and the fecond on the hills of Scotland. From these trees, in different parts of Germany, the Strasburgh turpentine is extracted, of which hereafter. The wood, and the fruit or cones, gathered about the end of autumn, abound with refinous matter, and yield, in distillation with water, an essential oil, not greatly different from that obtained by the same means from turpentine .- The wood and tops of the fir trees, on account of their refinous juice, are sometimes employed in decoctions and diet drinks, for promoting urine and fweat, purifying the blood and juices, and cleanfing and healing internal ulcerations, particularly those of the urinary passages. the article TEREBINTHINA.

ABROTANI MARIS folia: Abrotani maris angustifolii majoris C. B. Artemisiæ abrotani Lin. Southernwood; the leaves [E.]

This is a shrubby plant, clothed with very finely divided leaves, of a greyish green colour: the slowers, which are very small and yellowish, hang downwards, several together, from the middle of the branches to the top. It is a native of the warmer countries; in this it is cultivated in gardens: the leaves fall off every winter: the roots and stalks abide many years.

Southernwood has a strong, not very disagreeable smell; and a nauseous, pungent, bitter taste; which is totally extracted by rectified spirit, less perfectly by watery liquors. It is recommended as an anthelmintic; and in cold leucophleg-

matic habits, as a stimulant, detergent, aperient, and sudorisc. The present practice has almost entirely confined its use to external applications. The leaves are frequently employed in discutient and antiseptic fomentations; and have been recommended also in lotions and unguents for cutaneous eruptions, and the falling off of the hair.

ABROTANI FEMINÆ folia: Abrotani fæminæ foliis teritibus C. B. Santolinæ chamæcyparissi Lin. Lavendar-cotton; the leaves [E.]

This plant is all over white and hoary: the leaves are composed of small knobs set in rows along a middle rib; the flowers stand upright on the tops of the stalks. It is raised in gardens, slowers in June and July, and holds its leaves all the winter.

The abrotanum famina is supposed to possess the same virtues with the mas; but in a less degree. For external purposes, the medical difference betwixt them is not very great : hence, in fomentations (which is the principal intention they are usually applied to) the London College allows either to be taken inflead of the other. --The abrotanum fæmina is recommended by fome in hyfteric and other female complaints: it has been customary among the common people to use a decoction of it in milk against worms.

ABSINTHII VULGARIS folia; Absinthii vulgaris majoris J. B. Artemisiae absinthii Lin. Common wormwood; the leaves [L. E.]

The leaves of this fort of wormwood are divided into roundish fegments, of a dull green colour above, and whitish underneath. It grows wild in several parts of England; about London large quan-

tities

tities are cultivated for medicinal use: it flowers in June and July; and, after having ripened its seeds, dies down to the ground, except a tust of the lower leaves, which ge-

nerally abides the winter.

Wormwood is a strong bitter: and was formerly much used as fuch, against weakness of the stomach, and the like, in medicated wines and ales. At prefent it is rarely employed in these intentions, on account of the ill relish and offensive smell with which it is accompanied. From these it may be in part freed by keeping, and totally by long coction, the bitter remaining entire. An extract, made by boiling the leaves in a large quantity of water, and evaporating the liquor with a strong fire, proves a bitter sufficiently grateful, without any difgustful flavour .- An oil distilled from this plant [L. E.] and an extract [E.] are kept in the shops.

ABSINTHII MARITIMI summitates: Absinthii marini albi Gerrard. Artemisiæ maritimæ Lin. Sea wormwood, commonly, but falsely, called Roman wormwood;

the tops [L.]

The leaves of fea wormwood are much smaller than those of the common, and hoary on the upper side, as well as the lower; the stalks also are hoary all over. It grows wild about our falt marshes, and in several parts near the sea coasts.—In taste and smell, it is weaker and less unpleasant than the common wormwood. The virtues of both are supposed to be of the same kind, and to differ only in degree.

The tops enter three of our diftilled waters, and give name to a conserve [L.] They are an ingredient also in the common fomenta-

tion and green oil [L.]

ABSINTHII ROMANI folia: Absinthii pontici tenuisolii incani C. B. Artemisiæ ponticæ Lin. Roman wormwood; the leaves and tops

[E.]

This species is very different in appearance from the two foregoing: it is in all its parts smaller than either; the leaves are divided into fine filaments, and hoary on the lower side; the stalks, either entirely or in part, of a purplish hue. It is a native of the warmer countries, and, at present, difficultly procurable in this, though as hardy and as easily raised as any of the other forts. Sea wormwood has long supplied its place in the markets, and been in general mistaken for it.

Roman wormwood is less ungrateful than either of the others: its smell is tolerably pleasant: the taste, though manifestly bitter, scarce disagreeable. It appears to be the most eligible of the three as a stomachic; and is likewise recommended by some in dropsies.

ACACIA [L. E.]: the inspiffated juice of the unripe fruit of a large prickly tree, called by Casper Bauhine, Acacia foliis scorpioidis leguminosæ. Mimosa nilotica Lin.

This juice is brought to us from Egypt, in roundish masses, wrapt up in thin bladders. It is outwardly of a deep brown colour, inclining to black; inwardly of a reddish or yellowish brown; of a firm consistence, but not very dry. It soon softens in the mouth, and discovers a rough, not disagreeable taste, which is followed by a sweet-ish relish. This inspissated juice entirely

entirely dissolves in watery liquors; but is scarce sensibly acted on by

rectified spirit.

Acacia is a mild affringent medicine. The Egyptians give it in spitting of blood, in the quantity of a dram, dissolved in any convenient liquor; and repeat this dose occasionally: they likewise employ it in collyria for strengthening the eyes, and in gargarifms for quinfeys. Among us, it is little otherwife used than as an ingredient in mithridate and theriaca [L.], and is rarely met with in the shops. What is usually fold for the Egyptian acacia, is the inspissated juice of unripe floes: this is harder, heavier, of a darker colour, and fomewhat sharper taste, than the true fort.

ACANTHI folia: Acanthi sativi wel mollis Virgilii C. B. Brank-

urfine; the leaves.

This is a beautiful plant, growing naturally in Italy, and other warm climates: from its leaves, the ancients are faid to have taken the idea of their most beautiful order of architecture. All the parts of it have a fost sweetish taste, and abound with a mucilaginous juice: its virtues do not seem to differ from those of althæa and other mucilaginous plants.

ACETOS A vulgaris, sive oxalidis, folia & radix: Acetos arvenses C. B. Oxalidis vulgaris folio longo J, B. Rumicis acetos Lin. Common forrel; the roots and

leaves [E.]

Sorrel grows wild in fields and meadows throughout England. The leaves have a reftringent acid taste, without any smell or particular slavour. Their medical effects are, to cool, quench thirst, and promote the urinary discharge:

a decoction of them in whey affords an useful and agreeable drink in febrile or inflammatory disorders: and is recommended by Boerhaave to be used in the spring as one of the most esticacious aperients and detergents. Some kinds of scurvies have yielded to the continued use of this medicine: the Greenlanders, who are very subject to this distemper, are said to employ, with good success, a mixture of the juices of sorrel and scurvygrass. The only officinal preparation of this plant, is an effential salt from the juice of the leaves [E.]

The roots of forrel have a bitterish austere taste, without any acidity: they are said to be deobstruent and diuretic; and have sometimes had a place in aperient apozems, to which they impart a red-

dish colour.

The feeds of this plant were formerly used in diarrhoas and dysenteries, but have long been strangers to the shops, and are now justly expunged both from the London and Edinburgh pharmacopæias: they have no remarkable smell, and scarcely any taste.

ACETOSELLA [E.] vide Lu-

ACETUM [L. E.] Vinegar s an acid produced from fermented vinous liquors by a fecond fermen-

tation. See page 6.

Wine vinegar is considerably purer than that prepared from malt liquors; the latter, however acid and fine, contains a large portion of a viscous mucilaginous substance; as is evident from the ropyness and slimyness to which this kind of vinegar is very much subject; the stronger and more spirituous the wine, the better and

fironger

stronger vinegar it yields. The French vinegars are said by Geoffroy to saturate above one-thirty-sifth of their weight of fixt alkaline salt, and some of them no less than one-twelfth; the best of the German vinegars little more than

one-fortieth. Vinegar is a medicine of excellent use in all kinds of inflammatory and putrid diforders, either internal or external: in ardent, bilious fevers, pestilential, and other malignant distempers, it is recommended by Boerhaave as one of the most certain sudorifics. (See the fection of acids, page 61.) Weakness, fainting, vomiting, hysterical, and hypochondriacal, complaints, have been frequently relieved by vinegar applied to the mouth and nofe, or received into the flomach.

ACONITUM [E.] Aconitum (Napellus) Lin. Blue Wolfsbane.

This is a perennial plant, having many stalks arising from one root, alternate petiolated leaves divided into five parts, each portion cut into linear segments; and terminal bunches of irregular blue slowers with five petals, many stamina, and three pistils, succeeded by three capsules containing seeds. It is a native of various parts of Europe

and Virginia.

Blue wolfsbane when first gathered has a strong smell, but no peculiar taste; and has long been known to be one of the most virulent of the vegetable poisons. It occasions giddiness, convulsions, violent purgings both upwards and downwards, faintings, cold sweats, and even death itself. Dr. Stærck was the first who ventured to introduce it into medicine. He found that the extract, given in doses of ten, twenty, and even thirty grains,

excited a fweat without inconvenience; and by perfifting in the use of it, great relief was obtained in fixed rheumatic and arthritic pains, scirrous tumours, venereal nodes, anchyloses, amaurosis, and other similar complaints. Other practitioners have experienced the same good effects in some degree, and the Edinburgh college has received the extract as an officinal.

ACORUS, vide CALAMUS AROMATICUS.

ADIANTHI VERI seu capilli Veneris folia: Adianthi folio coriandri C. B. True maidenhair; the leaves.

This is a low evergreen herb, and one of those which, from the slenderness of their stalk, are called capillary. It is a native of Italy, and the southern parts of France; whence the leaves are sometimes brought to us. These have an agreeable, but very weak, smell; and a mucilaginous somewhat roughish taste, which they readily impart to boiling water.

Maidenhair has been greatly celebrated in diforders of the breaft, proceeding from a thinness and acrimony of the juices; and likewise for opening obstructions of the viscera, and promoting the expectoration of tough phlegm. But modern practice pays little regard to it; nor is it often to be met with in the shops; the TRICHOMANES, or English maidenhair, which is of the same quality, generally supplying its place.

AERUGO [L. E.] Verdegris,
This is a preparation of copper,
made chiefly at Montpellier in
France, by stratifying copper plates
with grape stalks that have been
impregnated with a fermerted vegetable

getable acid. In a few days, the places are found covered with a pale green downy matter, which is scraped off from the copper, and the process again repeated.

Verdegris, as it comes to us, is generally mingled with stalks of the grape; these may be separated, in pulverization, by discontinuing the operation, as foon as what remains feems to be almost entirely

composed of them.

Verdegris is rarely or never used internally. Some writers greatly extol it as an emetic, and fay, that a grain or two being taken, it acts as foon as received into the stomach: but its use has been too often followed by dangerous confequences. (See the article Cu-PRUM.) - Verdegris applied externally, proves a gentle detergent and escharotic, and serves to take down fungous flesh arising in wounds. In these intentions, it is an ingredient in the mel ægyptiacum, unquentum basilicum virids [L.] and balfamum viride [E.]

AGALLOCHUM seu lignum aloes. Aloes wood.

There have been different conjectures concerning this wood, but no fatisfactory account of it has hitherto appeared. Authors diftinguish several forts of agallochum, most of which are strangers to Europe. That which comes to us is in little hard ponderous pieces, of a yellowish-brown colour, with feveral black or purplish veins. It has a bitterish aromatic tafte: and a fragrant fmell, especially if reduced to powder, or fet on fire. Distilled with water, it affords a very fragrant effential oil, but in small quantity: digested in rectified fpirit, it yields an elegant tinc-

in being avaporated to the confiftence of an extract.

Agallochum is at present of very little use in medicine, and rarely to be met with in the shops. If it could be easily procured, at least the better fort of it bids fair to be a very useful cordial. Hoffman greatly recommends, in this intention, the distilled oil and spirituous tincture; and esteems a mixture of this latter with tincture of steel an excellent corroborant.

AGARICUS: Agaricus five fungus laricis C. B. Agaric; a fungus growing on old larch trees

[L. E.]

This fungus is an irregular spongy substance, extremely light, and of an uniform fnowy whiteness (except the cortical part, which is ufually taken off before the agaric is brought into the shops). It cuts freely with a knife, without difcovering any hardness or gritiness, and readily crumbles betwixt the fingers into a powder. It has no remarkable imell; its tafte is at first sweetish, but on chewing for a little while, proves acrid, bitter, and naufeous.

Agaric was formerly in great esteem as a cathartic, but the prefent practice has almost entirely rejected its use. It operates exceeding flowly, infomuch that fome have denied it to have any purgative virtue at all. Given in fubstance, it almost always occasions a nausea, not unfrequently vomiting, and fometimes excessive tormina of the bowels; these effects are attributed to its light farinaceous matter adhering to the coats of the intestines, and producing a constant irritation. The best preparation of agaric feems to be an extract made with water, in which ture, which loses nothing valuable fixt alkaline falt has been diffolyed; or with vinegar or wine; the first is said by Boulduc, and the other two by Neumann, to prove effectual and safe purgatives. Nevertheless, this is at best a precarious medicine, of which we stand in no manner of need; hence the college have justly rejected it from all the compositions in which it formerly had a place, except the mithridate and theriaca [L.]

AGARICUS pedis equini facie Tourn. Boletus igniarius Lin. Female agaric, or agaric of the oak, called, from its being very easily inflammable, touchwood, or spunk.

This fungus is frequently met with, on different kinds of trees, in England; and is faid to have been fometimes brought into the thops mixt with the true agaric of the larch. From this it is easily distinguishable by its greater weight, dusky colour, and mucilaginous taste, void of bitterness. The medullary part of this fungus, beaten loft, and applied externally, has been greatly celebrated as a styptic, and faid to restrain not only venal but arterial hæmorrhages, without the use of ligatures. It does not appear, however, to have any real styptic power, or to act any otherwise than dry lint, sponge, or other foft fungous applications.

AGERATI folia et flores: Agerati foliis serratis C. B. Patermicæ luteæ suaveolentis Tourn. Achillææ agerati Lin. Maudlin; the leaves and flowers.

This is a flender plant, clothed all over with narrow ferrated leaves. It is a native of Italy and other warm countries; with us, it is raised in gardens, and flowers in July and August.

Maudlin has a light agreeable fmell; and a roughish, somewhat

warm and bitterish taste. These qualities point out its use as a mild corroborant; but it has long been a stranger to practice, and is now omitted both by the London and Edinburgh colleges.

AGNI CASTI semen: Agnis folio non serrato J. B. Viticis Agni Casti Lin. The chaste tree; its seeds.

This is a small tree, or rather shrub, growing spontaneously in Italy, &c. and raised with us in gardens. Its fruit, which is about the size of a pepper corn, contains four longish seeds, which are faid to be of an aromatic smell, and an acrid bitterish taste, but which are found on examination to be almost inodorous and insipid. These seeds have been celebrated as antiphrodisiacs; but experience does not warrant their having any such virtues

AGRIMONIÆ folia: Eupatorii veterum seu agrimoniæ C. B. Agrimony; the leaves [E.]

This is a common plant in hedges, and the borders of fields. The leaves have an herbaceous, fomewhat acrid, roughish taste, accompanied with an aromatic slavour. Agrimony is faid to be aperient, detergent, and to strengthen the tone of the viscera: hence it is recommended in scorbutic disorders, in debility and laxity of the intestines, &c. Digested in whey, it affords an useful dietdrink for the spring season, not ungrateful to the palate or stomach.

ALCANNA, vide Anchusa.

ALCEÆ folia: Alceæ vulgaris majoris C. B. Malvæ verbenacæ Ger. Vervain mallow; the leaves.

This is easily distinguishable from the common and marshmal-

low,

low, by its leaves being jagged or cut in about the edges. It grows in hedges, and flowers greatest part of the summer. Alcea agrees in quality with the ALTHEA and MALVA VULGARIS; but appears to be less mucilaginous than either.

ALCHIMILLÆ fo'ia: Alchimillæ vulgaris C. B. Ladies mantle;

the leaves [E.]

This grows wild in many parts of England, but is rarely met with about London. The leaves feem as if plaited or folded together, so as to have given occasion to the English name of the plant. The leaves of alchimilla discover to the taste a moderate astringency, and were formerly much esteemed in some female weaknesses, and in sluxes of the belly. They are now rarely made use of; though both the leaves and roots might, doubtless, be of service in cases where mild astringents are required.

ALCIS UNGULA: Elks hoof. The elk is a large animal of the flag kind, met with in Muscovy, and other cold countries. The hoof of one of the hinder feet has been celebrated against epilepsies, from a ridiculous opinion, that the elk is himself subject to disorders of this kind, and prevents or removes them by scratching his ear with his hoof.

ALKEKENGI seu balicacabi fructus: Solani vesicarii C. B. Alkekengi Physalis Lin. Winter cher-

ry: the fruit [E.]

This is a low, branched shrub, bearing leaves like those of night-shade; with white slowers, which stand single at the joints. The slower cup changes into a membranous cover, which at length bursts and discovers a fruit of a fine

red colour, about the fize of a common cherry. The fruit ripens in October, and continues frequently to the middle of December. This plant grows wild in some parts of France, Germany, &c. The beauty and lateness of its fruit have gained

it a place in our gardens.

Winter cherries are faid by most writers to be extremely bitter: but. as Haller justly observes, the cherry itself, if carefully freed from the cover (which is very bitter and pungent), has merely a subacid taste. They stand highly recommended as detergent, aperient, diuretic, and for expelling gravel: four, five, or more of the cherries are directed for a dose, or an ounce of the expressed juice. Mr. Ray tells us of a gouty person who was cured and kept free from returns of his diforder, by taking eight of these cherries at each change of the moon; these occasioned a copious discharge of extremely fœtid urine.

ALLIARIÆ folia: Hesperidis allium redolentis Tourn. Erysimi alliariæ Lin. Sauce alone, or jack by the hedge; the leaves [E.]

This is common in hedges and shady waste places, slowering in May and June. The leaves have a bitterish acrid taste, and, when rubbed betwixt the fingers, a strong imell, approaching to that of garlick. They are recommended internally as sudorifics and deobstruents, somewhat of the nature of garlick, but much milder; and externally as antiseptics in gangrenes and cancerous ulcers. Hildanus used to gather the herb for these last purposes in the spring, and expose it for a day to the action of a dry air in a shady place; being then committed to the press, it yielded a juice possessing the smell and taste of the alliaria: this, he informs us,

with

with a little oil on the furface, keeps in perfection for years; whereas the herb in substance soon loses its vitue in keeping.

ALLIUM: radix Allii Sativi C. B. Garlick; the roots [L. E.] These roots are of the bulbous kind, of an irregularly roundish shape, with several fibres at the bottom: each root is composed of a number of lesser bulbs, called cloves of garlick, inclosed in one common membranous coat, and eafily separable from one another. All the parts of this plant, but more especially the roots, have a strong offensive smell, and an acrimonious almost caustic taste. The root applied to the skin inflames, and often exulcerates the part. Its smell is extremely penetrating and diffusive; when the root is applied to the feet, its scent is foon discoverable in the breath; and when taken internally, its fmell is communicated to the urine, or the matter of an iffue, and perspires through the pores of the

This pungent root warms and stimulates the folids, and attenuates tenacious juices. Hence, in cold leucophlegmatic habits, it proves a powerful expectorant, diuretic, and emmenagogue; and if the patient be kept warm, a sudorific. In hymoural afthmas, and catarrhous disorders of the breast, in fome scurvies, flatulent colics, hyflerical and other diseases proceeding from laxity of the folids, and cold fluggish indisposition of the fluids, it has generally good effects: it has likewise been found ferviceable in fome hydropic cases. Sydenham relates, that he has known the dropfy cured by the use of garlick alone; he recommends it chiefly as a warm strengthening

medicine in the beginning of the disease.

The liberal use of garlick is apt to occasion headachs, slatulencies, thirst, febrile heats, inflammatory distempers, and sometimes discharges of blood from the hæmorrhoidal vessels. In hot bilious constitutions, where there is already a degree of irritation, where the juices are too thin and acrimonious, or the viscera unsound; this stimulating medicine is manifestly improper, and never fails to aggravate the distemper.

The most commodious form for the taking of garlick, a medicine to most people not a little unpleasant, is that of a bolus or pill. Infusions in spirit, wine, vinegar, and water, although containing the whole of its virtues, are so acrimonious, as to be unsit for general use. A syrup and oxymel of it are kept in the shops.

Garlick made into an unguent with oils, &c. and applied externally, is faid to refolve and discuss cold tumours, and has been by fome greatly esteemed in cutaneous diseases. It has likewise sometimes been employed as a revellent. Sydenham affures us, that among all the substances which occasion a derivation or revulfion from the head, none operate more powerfully than garlick applied to the foles of the feet: hence he was led to make use of it in the confluent small pox: about the eighth day after the face began to swell; the root cut in pieces, and tied in a linen cloth, was applied to the foles, and renewed once a day till all danger was over.

ALNI VULGARIS folia & cortex: Alni rotundifoliæ glutinosæ viridis C. B. Betulæ Alni Lin. The leaves and bark of the alder tree.

Thefe

These have a bitter styptic disagreeable taste. The bark is recommended by some in intermittent severs; and a decoction of it, in gargarisms, for inflammations of the tonsils.

ALNI NIGRÆ seu frangulæ cortex: Alni nigræ bacciferæ J. B. The black or berry-bearing alder;

its bark [E.)

This tree is common in most woods in divers parts of England. The internal bark of the trunk or root of the tree, given to the quantity of a dram, purges violently, occasioning gripes, nausea, and vomiting. These may be, in good measure, prevented by the addition of aromatics; but, as we have plenty of safer and less precarious purgatives, practitioners have deservedly rejected this.

ALOE. Aloe is the inspissated juice of certain plants of the fame name. The ancients distinguished two forts of aloes; the one was pure and of a yellowish colour, inclining to a red, refembling the colour of a liver, and, thence, named hepatic; the other was full of impurities, and, hence, supposed to be only the drofs of the better kind. At prefent, various forts are met with in the shops; which are distinguished either from the places, from the fpecies of the plants, or from some differences in the juices themselves. These may be all ranged in three classes;

(1) ALOB SOCOTORINA [L. E.] Socotorine aloes, brought from the island Socotora in the Indian ocean, wrapt in skins; it is obtained from the aloe Succotorina angustifolia spinosa, store purpureo Breyn. & Commelin. Varietas aloes perfoliata Lin.

This fort is the purest of the

three; it is of a glossy surface, clear, and in some degree pellucid; in the lump, of a yellowish red colour, with a purple cast; when reduced to powder, of a bright golden colour. It is hard and friable in the winter, somewhat pliable in summer, and grows soft betwixt the singers. Its taste is bitter, accompanied with an aromatic slavour, but insufficient to prevent its being disagreeable; the smell is not very unpleasant, and somewhat resembles that of myrrh.

- (2) ALOE HEPATICA [E.] Hepatic, Barbadoes, or common aloes; the juice of the Aloe C. B. aloe vera vulgaris Munting. - Hepatic aloes is not fo clear and bright as the foregoing fort: it is also of a darker colour, more compact texture, and for the most part drier. Its smell is much stronger and more disagreeable: the taste intensely bitter and nauseous, with little or nothing of the fine aromatic flavour of the Socotorine. - The best hepatic aloes comes from Barbadoes, in large gourd shells; an inferior fort of it (which is generally foft and clammy) is brought over in casks.
- (3) ALOE CABALLINA. Fetid, caballine, or horse aloes; the produce of the aloe Guineensis caballina vulgari similis sed tota maculata Commelin .- This fort is eafily distinguished from both the foregoing, by its ftrong rank fmell; although, in other respects, it agrees pretty much with the hepatic, and is not unfrequently fold in its flead. Sometimes the caballine aloes is prepared fo pure and bright, as not to be distinguishable by the eye even from the Socotorine; but its offenfive fmell, of which it cannot be divested, readily betrays it.

All the forts of aloes dissolve in pure spirit, proof spirit, and proof spirit diluted with half its weight of water; the impurities only being left. They dissolve also by the affiftance of heat in water alone; but, as the liquor grows cold, the refinous part fubfides, the gummy remaining united with the water. The hepatic aloes is found to contain more refin, and less gum than the Socotorine, and this than the caballine. The refins of all the forts, purified by spirit of wine, have little fmell; that obtained from the Socotorine has scarce any perceptible tafte; that from the hepatic, a flight bitterish relish, and the refin of the caballine, a little more of the aloetic flavour. The gummy extracts of all the forts are less disagreeable than the crude aloes: the extract of Socotorine aloes has very little fmell, and is in taste not unpleasant; that of the hepatic has a fomewhat stronger fmell, but is rather more agreeable in taste than the extract of the Socotorine: the gum of the caballine retains a confiderable share of the peculiar rank smell of this fort of aloes, but its tafte is not much more unpleasant than that of the extracts made from the two other forts.

Aloes is a stimulating cathartic bitter: if given in fo large a dose as to purge effectually, it often occasions an irritation about the anus, and sometimes a discharge of blood. Small doles of it frequently repeated, not only cleanse the primæ viæ, but likewise attenuate and dissolve viscid juices in the remoter parts, warm the habit, quicken the circulation, and promote the uterine and hæmorrhoidal fluxes. This medicine is particularly ferviceable to perfons of a phlegmatic temperament and sedentary life, and where the stomach is oppressed

and weakened: in dry bilious habits, aloes prove injurious, immoderately heating the blood, and in-

flaming the bowels.

The juice is likewise, on account of its bitterness, supposed to kill worms, either taken internally, or applied in plaster to the umbilical region. It is also celebrated for restraining external hæmorrhages, and cleansing and healing wounds and ulcers.

The ancients gave aloes in much larger doses than is customary at present. Dioscorides orders half a dram or a dram for gently loofening the belly; and three drams when intended to have the full effect of a cathartic. But modern practice rarely exceeds a scruple, and limits the greatest dose to two scruples. For the common purpoles of this medicine, ten or twelve grains fuffice: taken in these or less quantities, it acts as a gentle stimulating eccoprotic, capable of removing, if duly continued, very obstinate obftructions.

Some are of opinion, that the purgative virtue of aloes refides entirely in its refin; but experience has shewn, that the pure refin has little or no purgative quality; and that the gummy part separated from the refinous, acts more powerfully than crude aloes. If the aloes, indeed, be made to undergo long coction in the preparation of the gummy extract, its cathartic power will be confiderably lessened, not from the separation of the refin, but from an alteration made in the juice itself by the heat. The strongest vegetable cathartics become mild by a like treatment, without any remarkable feparation of their parts.

Socotorine aloes, as already obferved, contains more gummy matter than the hepatic; and hence it is likewise found to purge more, and with greater irritation. The

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former fort, therefore, is most proper where a stimulus is required, as for promoting or exciting the menstrual flux; while the latter is better calculated to act as a common purge. It is supposed that the vulnerary and balfamic virtues of this juice reside chiefly in the resin; and hence that the hepatic aloes, which is most resinous, is most serviceable in external application.

The Edinburgh college directs the hepatic aloes in the balfamum traumaticum and tinctura myrrhæ et aloes, designed for external use; and the Socotorine in those preparations or compositions which are to be taken internally, as the tinctura sacra, elixir sacrum, pulvis hieræ picræ, pilulæ aloeticæ, pilulæ Rusi, pilulæ slomachicæ, pilulæ cocciæ, &c.

The London college uses the Socotorine only. In the vinum aloeticum, tinctura sacra, elixir aloes,
balfamum traumaticum, pilulæ aromaticæ, and the other pills wherein
aloes is an ingredient, the Socotorine kind in substance is directed.
In the powder of biera picra, only
the pure gummy part of the Socotorine aloes is employed, the separation of which from the resinous
matter is given in a distinct process.

ALSINES folia: Alsines vulgaris sive morsus gallinæ J. B. Alsines mediæ Lin. Chickweed; the leaves

This plant was employed by the ancients externally against erysipelatous and other inflammatory disorders. Later times have given it internally in hæmoptoes, as a restorative in atrophies and consumptions, and likewise as an antepileptic. Some recommend for these purposes the expressed juice, to be taken to the quantity of an ounce; others the dried leaves, in the dose of a dram; and others, a water distilled

from them. But if any real benefit be expected from alfine, it ought to be used liberally as food; though even then, its effects would not perhaps be superior to those of more approved culinary herbs.

ALTHÆÆ folia, radix: Althææ Dioscoridis & Plinii C. B. Althææ officinalis Lin. Marsh-mallows; the

leaves and root [L. E.]

This plant grows wild in marshes, and other moist places, in several parts of England; though frequently cultivated for medicinal use in gardens. All the parts of it have a slimy taste, and abound with a soft mucilaginous substance, which is readily extracted by water: the mucilage of the roots appears to be the strongest, and, hence, this part is generally made use of in preference to the others.

This plant has the general virtues of an emollient medicine; and proves serviceable in a thin acrimonious state of the juices, and where the natural mucus of the intestines is abraded. It is chiefly recommended in sharp defluxions upon the lungs, hoarsenesses, dysenteries, and likewise in nephritic and calculous complaints; not, as fome have supposed, that this medicine has any peculiar power of diffolving or expelling the calculus; but as, by lubricating and relaxing the vessels, it procures a more free and eafy passage. Althæa root is sometimes employed externally for foftening and maturating hard tumors: chewed, it is faid to give eafe in difficult dentition of children.

This root gives name to an officinal fyrup [L. E.] and ointment [L.] and is likewise an ingredient in the compound powder of gum tragacanth [L. E.] and the oil and plaster of mucilages [L.] though it does not appear to communicate any particular virtue to these two, its muci-

laginous

laginous matter not being dissoluble in oils.

ALUMEN [L. E.] Alum.

Alum is a falt artificially produced from certain minerals, by calcining and exposing them to the air; after which the alum is elixated by means of water. The largest quantities are prepared in England,

Germany, and Italy.

This falt is of a white or pale red colour, of an austere styptic taste, accompanied with a nauseous fweetishness. It dissolves in about twelve times its weight of water; and concretes again, upon duly evaporating the folution, into femitransparent crystals of an octagonal figure. Exposed to the fire, it easily melts, bubbles up in blifters, emits a copious phlegm, and then turns into a light spongy white mais, confiderably more acrid than the alum was at first: this urged with a stronger fire, yields a small quantity of acid spirit, similar to that obtained by the fame means from vitriol; the part which remains, if the heat have been fufficiently intense and long continued, is an infipid white earth, readily foluble in every kind of acid.

Solutions of alum coagulate milk, change the blue colour of vegetable juices into a red or purple, and turn an infusion of galls turbid and whitish. Upon adding fixt alkaline falts to these solutions, the earth of the alum is precipitated, its acid uniting with the alkali into a neutral saline concrete similar to vitri-

olated tartar.

Alum is a powerful aftringent: it is reckoned particularly ferviceable for reftraining hæmorrhages, and immoderate fecretions from the blood; but less proper in intestinal fluxes. In violent hæmorrhages, it may be given in doses of fifteen or twenty grains, and repeated

every hour or half hour till the bleeding abates: in other cases, smaller doses are more adviseable; large ones being apt to nauseate the stomach, and occasion violent constipations of the bowels. It is used also externally, in astringent and repellent botions and collyria.

Its officinal prepartions are, for internal use, the serum aluminosum [L.] and pulvis stypticus [E.] for external applications, the aqua aluminosa, coagulum aluminosum, and alumen ustum [L.] which last is no other than the alum dried by sire, or freed from the watery moisture, which, like other salts, it always retains in its crystalline form. By this loss of its water it becomes sharper, so as to act as a slight escharotic. It is employed also as an ingredient in the lapis medicamentosus, and the aqua vitriolica [L.]

AMARACUS, vide MAJORANA.

AMBRAGRISEA [E.]

Ambergris is a bituminous substance, of a greyish or ash colour, intermingled with yellowish and blackish specks or veins: it is usually met with in little opake rugged masses, very light, of a loose texture, friable in a certain degree like wax; they break rough and uneven, and not unfrequently contain pieces of shells, bones of fishes, and other like matters. This concrete is found floating on the furface of the fea, or thrown out upon the shores; the greatest quantities are met with in the Indian ocean; pieces have likewife been now and then discovered in our own and other northern feas.

Pure ambergris fostens betwixt the singers; melts in a small degree of heat into the appearance of oil, and in a stronger heat proves almost totally volatile. Warmed a little, it emits a peculiar fragrant

2 fmell;

fmell; fet on fire, it fmells like burning amber. It dissolves, though dissicultly, in spirit of wine, and esfential oils; but not in expressed oils or in water.

Ambergris is in general the most agreeable of the perfumes, and rarely accompanied with the inconveniencies which other fubstances of this class frequently occasion. It is looked upon as an high cordial, and effeemed of great fervice in all diforders of the head, and in nervous complaints. A folution of it in a spirit distilled from roses, stands recommended by Hoffman as one of the most efficacious corroborants of the nervous system. The Orientals entertain an high opinion of the aphrodifiac virtues of this concrete; and likewife suppose that the frequent use of it conduces to long life.

AMMEOS VERI femen: Ammeos odore origani J. B. Sisonis Ammeos Lin. The seeds of the true ammi or bishopsweed, brought from

Egypt [E.]

These are small striated seeds, of a reddish brown colour, a warm pungent taste, and a pleasant smell approaching to that of origanum. They are recommended as stomachic, carminative, and diuretic; but have long been strangers to the shops. Their place has been generally supplied by the seeds of a plant common in our own country, though not a native of it, viz.

AMMEOS VULGARIS semen:
Ammeos vulgaris majoris, latioribus
foliis, semine minus odorato J. B.
Common bishopsweed seeds | L.]

The feeds of common bishopsweed are somewhat larger and paler coloured than the foregoing: their smell and taste is weaker, and without any thing of the origanum slavour of the true ammi. They are ranked among the four lesser hot seeds, but are scarce otherwise made use of than as an ingredient in the theriaca. The Edinburgh college has dropped them, and retained only the foregoing fort.

AMMONIACUM GUMMI [L. E.] Ammoniacum is a concrete gummy refinous juice, brought from the East-Indies, usually in large masses, composed of little lumps or tears, of a milky colour, but foon changing, upon being exposed to the air, of a yellowish hue. We have no certain account of the plant which affords this juice. The feeds usually found among the tears refemble those of the umbelliferous class. Such tears as are large, dry, free from little stones, seeds, or other impurities, should be picked out and preferred for internal use the coarfer kind is purified by folution and colature, and then carefully inspissating it; unless this be artfully managed, the gum will loie a confiderable deal of its more volatile parts. There is often vended in the shops, under the name of strained gum ammoniacum, a compolition of ingredients much inferior in virtue.

Ammoniacum has a nauseous sweet taste, followed by a bitter one; and a peculiar smell somewhat like that of galbanum, but more grateful; it softens in the mouth, and grows of a whiter colour upon being chewed. Thrown upon live coals, it burns away in slame: it is in some measure soluble in water and in vinegar, with which it assumes the appearance of milk; but the resinous part, amounting to about one half, subsides, on standing.

Ammoniacum is an useful deobstruent; and frequently prescribed for opening obstructions of the abdominal viscera, and in hysterical diforders occasioned by a deficiency of the menstrual evacuations. It is likewife supposed to deterge the pulmonary veffels, and proves of confiderable fervice in some kinds of afthmas, where the lungs are oppreffed by vifcid phlegm; in this intention, a folution of gum ammomiacum in vinegar of fquills proves a medicine of great efficacy, though not a little unpleafant. In long and ob-Itinate colics proceeding from viscid matter lodged in the intellines, this gummy refin has produced happy effects, after purges and the common carminatives had been used in vain. Ammoniacum is most commodiously taken in the form of pills: about a scruple may be given every night, or oftener. Externally it foftens and ripens hard tumors: a folution of it in vinegar stands recommended by fome for refolving even scirrhous fwellings.

In the shops is prepared a solution of it in pennyroyal water, called, from its milky colour, lac ammoniaci [L.] It is an ingredient also in the pectoral oxymel and pills, in the deobstruent and gum pills [E.] and in

feveral plasters [L. E.]

AMOMI VERI femen: Amomi racemosi C. B. The feeds of the true amomum brought from the

East-Indies [L.]

The true amomum is a round fruit, about the fize of a middling grape; containing, under a membranous cover, a number of small rough, angular seeds, of a blackish brown colour on the outside, and whitish within: the seeds are lodged in three distinct cells; those in each cell are joined closely together, so that the fruit, upon being opened, appears to contain only three seeds. Ten or twelve of these fruits grow together in a cluster, and adhere, without any pedicle, to a woody stalk about an inch long;

each fingle fruit is furrounded by fix leaves, in form of a cup; and the part of the stalk void of fruit is

clothed with leafy scales.

The husks, leaves, and stems, have a light grateful smell, and a moderately warm aromatic taste: the seeds freed from the husks, are in both respects much stronger; their smell is quick and penetrating, their taste pungent, approaching to that of camphor. Notwithstanding amomum is an elegant aromatic, it has long been a stranger to the shops.

It is directed as an ingredient in the theriaca. The college of Edinburgh has expunged that composition, and as the true amomum is not at present to be procured in this country, they have dropt its name. That of London allows the seeds of the following plant of our own growth to be substituted to those of

the oriental amomum.

AMOMI VULGARIS semen: Sissonis quod amomum officinis nostris C. B. Sii aromatici Tourn. The seeds of the common amomum, or bastard stone parsley [L. E.]

These are very different in their appearance and manner of growth from the foregoing: they stand in form of umbels, and are joined two together without any common covering: they are small, striated, of an oval figure and brown colour. Their tafte is warm and aromatic, but confiderably different from that of the amomum verum, and very far weaker. Water extracts little of their flavour by infusion, but elevates the whole in distillation; rectified spirit extracts the whole, but elevates very little: hence the watery extract has no tafte or fmell of the feeds; whilst the spirituous possesses their flavour in great perfection. It is observable that the tincture drawn from them with pure

G 3 fpirit

spirit is of a green colour. These seeds have been recommended as carminative, aperient, diuretic and emmenagogue; but they are at present little regarded in practice.

AMYGDALÆ AMARÆ et DULCES. Sweet and bitter al-

monds [L. E.]

The almond is a flattish kernel, of a white colour, covered with a thin brownish skin; of a soft sweet taste; or a disagreeable bitter one. The skins of both sorts are unpleasant, and covered with an acrid powdery substance: they are very apt to become rancid on keeping, and to be preyed on by a kind of insect, which eats out the internal part, leaving the almond to appearance entire. To these circumstances regard ought to be had in the choice of them.

The fruit which affords these kernels, is the produce of a tree greatly resembling the peach, called by C. B. amygdalus sativa. The eye distinguishes no difference betwixt the trees which produce the sweet and bitter, or betwixt the kernels themselves. It is said that the same tree has, by a difference in culture, afforded both.

Both forts of almonds yield, on expression, a large quantity of oil, which has no smell or any particular taste. This oil separates likewise upon boiling the almonds in water, and is gradually collected on the surface: but, on triturating the almonds with water, the oil and water unite together, by the mediation of the other matter of the kernel, and form an unctuous milky liquor.

Sweet almonds are of greater use in food than as medicines; but they are reckoned to afford little nourishment, and, when eaten in substance, are not easy of digestion, unless thoroughly comminuted. They are supposed, on account of their soft unctuous quality, to abtund acrimonious juices in the primæ viæ: peeled sweet almonds, eaten six or eight at a time, sometimes give present relief in the heartburn.

Bitter almonds have been found poisonous to dogs, and sundry other animals; and a water distilled from them, when made of a certain degree of strength, has had like effects. Nevertheless, when eaten they appear innocent to men, and have been not unfrequently used as medicines. Boerhaave recommends them, in substance, as diuretics which heat but moderately, and which may therefore be ventured upon in acute diseases.

The oils obtained by expression from both forts of almonds are in their sensible qualities the same. The general virtues of these oils are, to blunt acrimonious humours, and to soften and relax the solids; hence their use, internally, in tickling coughs, heat of urine, pains and inslammations: and, externally, in tension and rigidity of par-

ticular parts.

The milky folutions of almonds in watery liquors, commonly called emulfions, contain the oil of the fubject, and participate in some degree of the emollient virtue thereof; but have this advantage above the pure oil, that they may be given in acute or inflammatory disorders, without danger of the ill effects which the oil might fometimes produce; fince emulfions do not turn rancid or acrimonious by heat, as all the oils of this kind, in a little time, do. Several unctuous and refinous fubstances, of themfelves not miscible with water, may by trituration with almonds be eafily mixed with them into the form of an emulsion; and are thus excellently fitted for medicinal use. In this form, camphor and the resinous purgatives may be commodioully taken. The only officinal preparations of almonds are the expressed oil and emulsion,

ANACARDIA. Anacardium, or Malacca bean.

This is the fruit of a tree growing in Malabar and other parts of the East-Indies. It is of a shining black colour, of the shape of a heart flattened, about an inch long, terminating at one end in an obtuse point, and adhering by the other to a wrinkled stalk; it contains within two shells a kernel of a sweetish tafte: betwixt the shells is lodged

a thick and acrid juice.

The medicinal virtues of anacardia have been greatly disputed; many have attributed to them the faculty of comforting the brain and nerves, fortifying the memory, quickening the intellect: and, hence, a confection made from them has been dignified with the title of confectio sapientum: others think it better deserves the name of confectio stultorum, and mention instances of its continued use having rendered people maniacal. But the kernel of anacardium is not different in quality from that of almonds, The ill effects attributed to this fruit belong only to the juice contained betwixt the kernels, whose acrimony is so great, that it is said to be employed by the Indians as a caustic. This juice is recommended externally for tetters, freckles, and other cutaneous deformities; which it removes only by exulcerating or excoriating the part, fo that a new fkin comes underneath.

ANAGALLIDIS folia: Anagallidis phæniceo flore C. B. et Anagallidis flore cæruleo C. B. Anagallidis

arvensis Lin. Common, male and female pimpernel; the leaves.

Pimpernel is a low plant, in appearance refembling chickweed; but easily distinguishable by its leaves being spotted underneath, and joined immediately to the stalk. The male and female pimpernels differ no otherwise than in the colour of their flowers; they are both found wild in the fields, but the male or red-flowered fort is more common.

Both the pimpernels have an herbaceous, roughish taste, with little or no fmell. Many extraordinary virtues have been attributed to them. Geoffroy esteems them cephalic, fudorific, vulnerary, antimaniacal, antiepileptic, and alexeterial. Tragus, Caspar Hoffman, Michaeli, and others, are also very liberal in their praises; one of these gentlemen declares, that he has known numerous instances of the fingular efficacy of a decoction and tincture of pimpernel, in maniacal and melancholic deliria. But later practitioners have not been fo happy as to meet with the like fuccess. Pimpernel is not unfrequently taken as food; it makes no unpleasant falad; and in some parts of this kingdom, is a common pot-herb. A spirituous tincture of it contains nothing valuable: the only preparation that promises any utility, is an extract made with water; or the expressed juice depurated and inspissated.

ANAGALLIS AQUATICA, vide BECABUNGA.

ANCHUSÆ radix: Bugloffi radici rubra Tourn. Anchusæ tinctoriæ Lin. Alkanet root [E.]

Alkanet is a rough hairy plant, much resembling the vipers bugloss: its chief difference from the common bugloffes confifts in the colour of G 4

of its roots; the cortical part of which is of a dulky red, and imparts an elegant deep red to oils, wax, and all unctuous fubstances, but not to watery liquors. This plant is a native of the warmer parts of Europe: it is sometimes cultivated in our gardens; but the greatest quantities are raised in Germany and France, particularly about Montpelier, whence the dried roots are usually imported to us. The alkanet root produced in England is much inferior in colour to that brought from abroad; the English being only lightly reddish, the others of a deep purplish red: this has induced fome to fufpect that the foreign roots owe part of their colour to art, but we think without sufficient foundation.

Alkanet root has little or no fmell: when recent, it has a bitterish astringent taste, but, when dried, scarce any. As to its virtues, the present practice expects not any from it. Its chief use is for colouring oils, unguents, and plasters. As the colour is confined to the cortical part, the small roots are best, these having proportionably more bark than the large.

ANETHI semen: Anethi hortenfis C. B. Anethi graveolentis Lin. Dill seed [L. E.]

Dill is an umbelliferous plant, cultivated in gardens, as well for culinary as medical use. The seeds are of a pale yellowish colour, in shape nearly oval, convex on one side, stat on the other. Their taste is moderately warm and pungent; their smell aromatic, but not of the most agreeable kind. These seeds are recommended as a carminative, in statulent colics proceeding from a cold cause or a viscidity of the juices. The most efficacious preparations of them are the distilled oil, and a tincture or

extract made with rectified spirit. The oil and simple water distilled from them are kept in the shops [L.]

ANGELIC Æ radix, folia, semen:
Angelicæ sativæ C. B. imperatoriæ
sativæ Tourn. Angelicæ Archangelicæ Lin. Garden angelica; the
roots, leaves, and seeds [L E.]

This is a large umbelliferous plant, growing spontaneously in the northern climates: for the use of the shops, it is cultivated in gardens, in the different parts of Europe. Bohemia and Spain are faid to produce the best. The London college direct the roots brought from Spain to be alone made use of. Angelica roots are apt to grow mouldy, and be preyed upon by infects, unless thoroughly dried, kept in a dry place, and frequently aired. We apprehend that the roots which are subject to this inconvenience might be preserved, by dipping them in boiling spirit, or exposing them to its steam, after they are dried.

All the parts of angelica, especially the roots, have a fragrant aromatic smell; and a pleasant bitterish warm taste, glowing upon the lips and palate for a long time after they had been chewed. flavour of the feeds and leaves is very perishable, particularly of the latter, which, on being barely dried, lose greatest part of their taste and fmell. The roots are more tenacious of their flavour, though even those lose part of it by keeping. The fresh root, wounded early in the spring, yields an odorous, yellow juice, which, flowly exficcated, proves an elegant gummy-refin, very rich in the virtues of the angelica. On drying the root, this juice concretes into distinct moleculæ, which, on cutting it longitudinally, appear distributed in little veins; in this state, they are extracted

tracted by pure spirit, but not by

watery liquors.

Angelica is one of the most elegant aromatics of European growth,
though little regarded in the present
practice. The root, which is the
most efficacious part, is rarely met
with in prescription, and does not
enter any officinal composition.
The leaves are ingredients in the
three alexeterial waters [L.]: the
seeds, in the compound aniseed
water [L.], plague water, aqua mirabilis, and aromatic tincture [E.]
The stalks make an agreeable sweetmeat.

ANGUILLÆ HEPAR. The liver of the eel.

The liver and gall of the eel are extremely acrid. They have been held a specific in difficult births; and enter the principal compositions for that intention in foreign pharmacopœias; although it appears, that in most cases of this kind, acrid irritating medicines are really injurious. Boerhaave observes, that no fish has a more acrid gall than the eel; and fays, that with pills made of the gall of the eel and pike, he has cured pale rickety children with fwelled bellies : the gall powerfully promoting urine, and occasioning the belly to subfide.

ANIME; [E.] a refin exuding from the trunk of a large American tree, called by Pifo jetaiba, by the Indians courbaril.

This refin is of a transparent amber colour, a light agreeable smell, and little or no taste. It dissolves entirely, but not very readily, in rectified spirit of wine; the impurities, which are often in large quantity, remaining behind. The Brazilians are said to employ anime in sumigations for pains and aches proceeding from a cold cause: with us, it is rarely, if ever, made use of for any medicinal purposes.

ANISI semen: Apii anisi dicti semine suaveolente Tourn. Pimpinellæ Anisi Lin. Anise, the seed [L.

E.

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

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

These seeds are in the number of the four greater hot seeds: their principal use is in cold flatulent disorders, where tenacious phlegm abounds, and in the gripes to which young children are subject. Frederick Hossman strongly recommends them in weakness of the stomach, diarrhææ, and for strengthening the tone of the viscera in general; and thinks they well deserve the appellation given them by Helmont, intestinorum solamen.

The officinal preparations of these seeds are an effential oil [L. E.] and a spirituous compound water [L. E.] They are ingredients in mithridate and theriaca; and the essential oil in the paregoric elixir

[L.]

ANONIS, vide Ononis.

ANSERINA, vide ARGENTINA.

ANTIMONIUM [L. E] fibi-

um. Antimony.

Antimony is a ponderous brittle mineral, composed of long shining streaks like needles, intermingled with with a dark lead-coloured fubflance; of no manifest taste or There are feveral mines of it in Germany, Hungary, and France: and some likewise in England. The English fort seems to be, of all the others, the least proper for medicinal use, as frequently containing a portion of lead. The substances found mixed with the foreign forts are generally of the unfusible stony kind, from which the antimony is melted out in veffels, whose bottom is perforated with small holes, and received in conical moulds. In these, the lighter and more droffy matter arises to the furface; while the more pure and ponderous subsides to the bottom. Hence the upper broad part of the loaves is confiderably lefs pure than the lower.

The goodness of Antimony is judged of from its weight; from the loaves not being spongy or blebby; from the largeness of the striæ; and from the antimony totally evaporating in a strong fire.

Antimony was employed by the ancients in collyria against inflammations of the eyes; and for staining the eyebrows black. Its internal use does not feem to have been established till towards the end of the fifteenth century; and, even at that time, it was by many looked upon as poisonous. But experience has now fully evinced, that pure antimony, in its crude state, has no noxious quality; that fome of the preparations of it are medicines of great efficacy; and that though many of them are most violently emetic and cathartic, yet even these, by a flight alteration or addition, lose their virulence, and become mild in their operation.

This mineral appears, from chemical experiments, to confift of a metal, united with common sulphur, and separable in its metallic

form by the fame means whereby other metallic bodies are extracted from their ores.

The pure metal operates, in a very minute dose, with extreme vehemence, as a purgative and emetic; when combined with sulphur, as in the crude mineral, its power is restrained: divested of the instammable principle which it has in common with all persectly metallic bodies, it becomes an indolent calx. See the preparations of antimony in the third part of this work.

ANTHORÆ sive antithoræ radix: Aconiti salutiseri C. B. Aconiti foliorum laciniis linearibus, ubique ejusdem latitudinis Linnæi. Wholesome wolf's bane; the roots.

This plant may be distinguished from the poisonous aconites by its leaves being more finely divided, and not at all bright or shining: it grows wild on the Alps. The root has been supposed useful against poisons, particularly that of the thora (whence its name). Some nevertheless look upon this pretended antidote itself as unsafe. Fred. Hoffman fays it is cathartic, and has produced dangerous diforders of the stomach, accompanied with heat, thirst, and anxiety. On the other hand, Geoffroy relates, that he never has observed any purgative quality in this root, or any ill consequence from its use; that he has frequently exhibited it, and always with good fuccess, against worms and in malignant fevers, especially such as were occasioned by viscidities in the stomach and intestines; the dose from a scruple to a dram. A competency of experiments to fully determine this point, is as yet wanting, the root never having come into general practice. Its taste is acrid and bitter.

APES. Bees; their bodies, ho-

ney, and wax [E.]

Bees, dried and pulverized, are faid to cure the alopecia, and, given internally, to promote urine; but they have been for a long time strangers to the shops. The honey and wax shall be treated of under the respective heads.

APII seu eleoselini radix : Apii foliis caulinis cuneisormibus Linnæi.

Smallage, the roots [E.]

This plant is larger than the garden apium (parfley), of a darker green colour, and of a stronger and more unpleasant flavour. The roots are in the number of the five called opening roots, and have been sometimes prescribed as an ingredient in aperient apozems and dietdrinks; but are at present difregarded. The feeds of the plant are moderately aromatic, and were formerly used as carminatives; in which intention they are, doubtlefs, capable of doing fervice, though the other warm feeds, which the shops are furnished with, render these unnecessary; and accordingly the Edinburgh college, which retains the roots, has expunged the feeds.

APIUM HORTENSE, vide

PETROSELINUM.

ARANEARUM TELÆ [E.]

These are never met with in prefcription; but are sometimes applied by the common people to stop the bleeding of slight wounds: this they seem to effect by adhering to the part, so as to close the orisces of the vessels, and prevent the effusion of their contents.

ARESTA BOVIS, vide Ono-

ARGENTINÆ, potentillæ, an-

serinæ, folia: Pentaphylloidis minoris supini, seu procumbentis, foliis alatis argenteis et serratis, flore luteo Mor. Hist. Ox. Silverweed, or wild

taniey; the leaves [E.]

This plant grows wild about the fides of rivulets and other moist places: it has no falk, the leaves lying flat on the ground. The writers on the materia medica in general look upon argentina as a very strong astringent; missed probably by its agreement in botanic characters with tormentil, which is known to be a powerful ftyptic. The fensible qualities of argentina promise no great virtue of this kind; for to the taste it discovers only a flight roughishness, whence it may be presumed to be entitled to a place only among the milder corroborants. As the aftringency of tormentil is confined chiefly to its root, it might be thought that the argentina also has an astringent root: the root of this plant, however, is found to have no other than a pleasant sweetish taste, like that of parinips, but not fo ftrong.

ARGENTUM. Silver [L. E.] Abundance of virtues have been attributed to crude filver by the Arabians, and by some also of later times, but on very little foundation. This metal, taken in its crude state, has no effect in the body; combined with a fmall quantity of the nitrous acid, it proves a powerful, though not always a fafe, hydragogue; with a larger, a strong caustic. The nitrous acid is the only one that perfectly diffolves this metal: on adding to this folution a minute portion of marine acid, or substances containing it, the liquor turns milky, and the filver falls to the bottom in form of a white calx : hence we are furnished with a method of discovering marine falt in waters, &c. See

the

the preparations of filver in the third part.

ARGENTUM VIVUM: Hydrargyrus; Mercurius. Mercury or

qu ckfilver [L. E.]

Mercury is an opake filver-coloured mineral fluid; appearing to the eye like tin or lead when melted: it is heavier than any other fluid, and than most of the metallic bodies: it does not congeal in the greatest degree of natural cold hitherto known; in the fire it proves totally volatile. This mineral is either met with in its fluid form, in the earth; or extracted by art from certain ores. There are confiderable mines of it in Hungary and Spain; but the greatest quantities come from the East-Indies.

The use of mercury in medicine feems to have been little known before the fifteenth century. The ancients looked upon it as a corrofive poison, though, of itself, perfectly void of acrimony, tafte, and fmell. There are examples of its having been lodged for years in cavities both of bones and fleshy parts, without its having injured or affected them. Taken into the body in its crude state, and undivided, it passes through the inteftines unchanged, and has not been found to produce any confiderable effect. It has indeed been recommended in althmas and diforders of the lungs; but the virtues attributed to it in these cases have not been warranted by experience.

Notwithstanding the mildness and inactivity of crude quicksilver undivided; when resolved by fire into the form of sume, or otherwise divided into very minute particles, and prevented from re-uniting by the interposition of proper substances, or combined with mineral acids, it has very powerful effects, affording the most violent poisons,

and the most excellent remedies with which we are acquainted.

The mercurial preparations, either given internally or introduced into the habit by external application, feem to liquefy all the juices of the body, even those in the minutest and most remote vessels; and may be fo managed as to promote excretion through all the emunctories. Hence their common use in inveterate chronic diforders proceeding from a thickness and fluggiffness of the humours, and obstinate obstructions of the excretory glands; in scrophulous and cutaneous diseases; and in the venereal lues. If their power be not restrained by proper additions to certain emunctories, they tend chiefly to affect the mouth; and after having fused the juices in the remoter parts, occasion a plentiful evacuation of them from the falival

glands

The falutary effects of mercurials do not depend on the quantity of fensible evacuation. This medicine may be gradually introduced into the habit, to as, without occasioning any remarkable discharge, to be productive of very happy effects. To answer this purpose, it fhould be given in very small doses, in conjunction with fuch fubstances as determine its action to the kidneys or the pores of the fkin. By this method inveterate cutaneous and venereal distempers have been cured, without any other fenfible excretion than a gentle increase of perspiration or urine. Where there are ulcers in any part, they difcharge for some time a very fetid matter, the quantity of which becomes gradually lefs, and at length the ulcer kindly heals. If the mer-. cury should at any time, from cold or the like, affect the mouth (which I have rarely found to happen) it may be restrained by omitting a dole, and by warmth or

fuitable

perspiration.

ARISTOLOCHIA. Birthwort. Three roots of this name are directed for medicinal use:

- (1) ARISTOLOCHIA LONGA [L. E.] Long birthwort. This is a tuberous root, fometimes about the fize of the finger, fometimes as thick as a man's arm, and a foot in length: it is nearly of an equal thickness all over, or a little thicker in the middle than at the ends: the outfide is of a brownish colour; the infide yellowith.
- (2) ARISTOLOCHIA ROTUNDA [E.] Round birthwort. This has fcarce any other visible difference from the foregoing than its roundish shape.
- (3) ARISTOLOCHIA TENUIS [L.] Slender birthwort. This is a long and flender root, rarely exceeding the thickness of a goose quill.

These roots are the produce of Spain, Italy, and the fonthern parts of France. Their fmell is fomewhat aromatic; their tafte warm and bitterish. Authors in general represent them as extremely hot and pungent: fome fay they are the hottest of all the aromatic plants; but, as they are usually met with in the shops, they have no great pungency. The long and round forts, on being first chewed, scarce discover any taste, but in a little time prove naufeoully bitterish; the long somewhat the least so. The other fort instantly fills the mouth with an aromatic bitterness, which is not ungrateful. Their medical virtues are, to heat, stimulate, attenuate viscid phlegm, and promote the fluid fecretions in general; they are principally celebrated in

fuitable medicines promoting the suppressions of female evacuations. The dose in substance is from a scruple to two drams. The long fort is recommended externally for cleaning and drying wounds and ulcers, and in cutaneous difeafes. -The aristolochia tenuis, is an ingredient in theriaca; and in want of this species, the longa is allowed to be substituted for it by the London college.

> ARMORACIA, vide RAPHA-NUS RUSTICANUS.

ARNICA, vide Doronicum.

ARSENICUM. Arfenic.

Arfenic is contained, in greater or less quantity, in most kinds of ores, particularly in those of tin and bismuth, in the white pyrites, and the mineral called cobalt; from which last, greatest part of the arfenic brought to us is extracted by a kind of sublimation. The arfenic arifes at first in the form of greyish meal, which, more carefully refublimed, concretes into transparent masses, the white arfenic of the fhops.

Arfenic, sublimed with one tenth its weight of fulphur, unites therewith into a bright yellow mass, in iome degree transparent; the common yellow arfenic. On doubling the quantity of fulphur, the compound proves more opake and compact; of a deep red colour, refembling that of cinnabar, but with this difference, that it loses some of its beauty upon being reduced into powder, while that of cinnabar is improved by these means: this is the common red arfenic. By varying the proportions of arfenic and fulphur, fublimates may be obtained of a great variety of shades of yellow and red.

Natural mixtures of arfenic and fulphur resembling the foregoing preparations,

preparations, are not unfrequently met with in the earth. The fosfil red arienic is the sandaracha of the Greeks, the realgar and rifigal of the Arabians. Both the red and yellow, when of a fmooth uniform texture, are named zarnichs; and when composed of small scales or leaves, auripigmenta, or orpiments: the last are the only substances to which the Greeks gave the name aposition. That the zarnichs and orpiments really contain arienic (contrary to the opinion of some writers) is evident from fundry experiments, whereby a perfect arfenic, and in notable quantity, is obtainable from them. The compilers of the preceding edition of the Edinburgh Dispensatory, therefore, very justly gave sandaracha Gracorum as a synonymon to red arfenic; and auripegmentum to the vellow.

The pure or white arfenic has a penetrating corrolive tafte; and taken into the body proves a most violent poison. Besides the effects which it has in common with other corrofives, it remarkably attenuates the coats of the stomach, occasions a fwelling and sphacelation of the whole body, and a fudden putrefaction after death particularly, as is faid, of the genitals in men. Where the quantity is so very small as not to prove fatal, tremors, palfies, and lingering hectics fucceed. The remedies recommended against this poison are, milk and oily liquors immediately and liberally

drunk.

The red and yellow arfenics, both native and factitious, have little taste, and are much less virulent in their effects than the foregoing. Sulphur, which restrains the power of mercury and the antimonial metal, remarkably abates the virulence of this poisonous mineral also. Such of these substances

as participate more largely of sulphur, seem to be almost innocent: the factitious red arsenic, and the native orpiments, have been given to dogs in considerable quantity, without being productive of any apparent ill consequences.

ARTEMISIÆ folia: Artemisiæ vulgaris majoris C. B. Mugwort;

the leaves [L. E.]

This plant grows plentifully in fields, hedges, and waste places, throughout England; and flowers in June. In appearance, it somewhat resembles the common wormwood: the difference most obvious to the eye is in the flowers, those of wormwood hanging downwards, while the flowers of mugwort stand erect.

The leaves of this plant have a light aromatic smell, and an herbaceous bitterish taste. They are principally celebrated as uterine and antihysteric: an infusion of them is sometimes drank, either alone, or in conjunction with other substances, in suppression of the menstrual evacuations. This medicine is certainly a very mild one, and considerably less hot than most others to which these virtues are attributed: in some parts of this kingdom, mugwort is of common use as a pot-herb.

ARI radix: Ari maculati maculis nigris C. B. Wake-robin the root

[L. E.]

This plant grows wild under hedges, and by the sides of banks, in most parts of England. It sends forth in March, three or four triangular leaves, which are followed by a naked stalk, bearing a purplish pistil inclosed in a long sheath: this is succeeded in July, by a bunch of reddish berries. In some plants, the leaves are spotted with black, in others with white, and in

others not spotted at all: the black spotted fort is supposed to be the most efficacious, and hence is expressly directed by the London col-

lege.

All the parts of arum, particularly the root, have an extremely pungent, acrimonious taffe. If the root be but lightly chewed, it continues to burn and vellicate the tongue for some hours, occasioning at the same time a considerable thirst: these symptoms are alleviated by butter, milk, or oily liquors. Dried and kept for some time, it loses much of its acrimony, and becomes at length an almost insipid farinaceous substance.

The root is a powerful stimulant and attenuant. It is reckoned a medicine of great efficacy in some chachectic and chlorotic cases, in weakness of the stomach occasioned by a load of viscid phlegm, and in fuch diforders in general as proceed from a cold fluggish indisposition of the folids and lentor of the fluids. I have experienced great benefit from it in rheumatic pains, particularly those of the fixt kind, and which were feated deep. In thefe cases I have given from ten grains to a scruple of the fresh root twice or thrice a day, made into a bolus or emulsion with unctuous and mucilaginous fubstances, which cover its pungency, and prevent its making any painful impression on the tongue. It generally excited a flight tingling fenfation through the whole habit, and, when the patient was kept warm in bed, produced a copious fweat.

The only officinal preparation, in which this root is an ingredient, is a compound powder; in which form, its virtues are very precarious. Some recommend a tincture of it drawn with wine; but neither

wine, water, nor spirit, extract its virtues.

ASAFOETIDA. Asafetida [L. E.] the concrete juice of a large umbelliserous plant growing in Persia.

This juice exudes (from wounds made in the root of the plant), liquid, and white like milk: on being exposed to the air, it turns of a brownish colour, and gradually acquires different degrees of consistency. It is brought to us in large irregular masses, composed of various little shining lumps or grains, which are partly of a whitish colour, partly reddish, and partly of a violet hue. Those masses are accounted the best which are clear, of a pale reddish colour, and variegated with a great number of elegant white tears.

This drug has a strong fetid smell, somewhat like that of garlick; and a bitter, acrid, biting taste. It loses by age some of its smell and strength, a circumstance to be particularly regarded in its exhibition. It consists of about one-third part of pure resin, and two-thirds of gummy matter; the former soluble in rectified spirit, the latter in water. Proof spirit dissolves almost the whole into a turbid liquor; the tincture in rectified spirit is transparent.

Afafetida is the strongest of the fetid gums, and of frequent use in hysteric and different kinds of nervous complaints. It is likewise of considerable essicacy in statulent colics; and for promoting all the stuid secretions in either sex. The ancients attributed to this medicine many other virtues, which are at present not expected from it.

This gummy-refin is an ingredient in the officinal gum pills, compound powder of myrrh, fetid

tincture,

tincture, tincture of soot, setid volatile spirit [L.] and antihysteric plaster [E.]

ASARI folia, radix: Afari C. B. Afari Europæi Lin. Afarabacca: the roots and leaves. — The London college directs only the leaves; the Edinburgh both leaves and root.

Afarum is a very low evergreen plant, growing naturally in France, Italy, and other warm countries: the dried roots have been generally brought from the Levant: those of our own growth being supposed weaker.

Both the roots and leaves have a nauseous, bitter, acrimonious, hot tafte; their fmell is ftrong and not very difagreeable. Given in fubstance from half a dram to a dram, they evacuate powerfully both upwards and downwards. It is faid, that tinctures made in spirituous menstrua, possess both the emetic and cathartic virtues of the plant: that the extract obtained by infpiffating these tinctures, acts only by vomit, and with great mildness: that an infusion in water proves cathartic, rarely emetic: and that aqueous decoctions made by long boiling, and the watery extract, have no purgative or emetic quality, but prove notable diaphoretics, diuretics, and emmenagogues.

The principal use of this plant, among us, is as a sternutatory. The root of asarum is perhaps the strongest of all the vegetable errhines, white hellebore itself not excepted. Snussed up the nose, in the quantity of a grain or two, it occasions a large evacuation of mucus, and raises a plentiful spitting. The leaves are considerably milder, and may be used, to the quantity of three, four, or sive

grains. Geosfroy relates, that, after snussing up a dose of this errhine at night, he has frequently observed the discharge from the nose to continue for three days together; and that he has known a paralysis of the mouth and tongue cured by one dose. He recommends this medicine in stubborn disorders of the head, proceeding from viscid tenacious matter, in palsies, and in soporise distempers. The leaves are an ingredient in the pulvis sternutatorius of the shops [L. E.]

ASCLEPIAS, vide VINCE-

ASELLI, vide MILLEPEDÆ.

ASPALATHUS, vide RHO-

ASPARAGI radix: Asparagi sativi C. B. Asparagi officinalis Lin.

Asparagus; the root [E.]

This plant is cultivated in gardens for culinary use. The roots have a bitterish mucilaginous taste, inclining to sweetness, the fruit has much the fame kind of tafte; the young shoots are more agreeable than either. Asparagus promotes appetite, but affords little nourishment. It gives a strong ill smell to the urine in a little time after eating it, and, for this reason, chiefly, is supposed to be diuretic; it is likewise esteemed aperient and deobstruent. The root is one of the five called opening roots. Some suppose the shoots to be most efficacious; others the root; and others the bark of the root. Stahl is of opinion, that none of them have any great share of the virtues usually ascribed to them. Asparagus appears from experience to contribute very little either to the ex-

citing

citing of urine when suppressed, or the increasing of its discharge; and, in cases where aperient medicines generally do service, this has little or no effect.

ASPERULÆ flores: Asperulæ aut aspergulæ adoratæ nostratis Lob. Woodroof; the flowers.

This is a low umbelliferous plant, growing wild in woods and copfes, and flowering in May. It has an exceeding pleafant fmell, which is improved by moderate exficcation: the taste is subsaline, and somewhat austere. It imparts its flavour to vinous liquors. Asperula is supposed to attenuate viscid humours, and strengthen the tone of the bowels. It is recommended in obstructions of the liver and biliary ducts, and by some in epilepsies and passies. Modern practice has, nevertheless, rejected it.

ASPHALTUS, vide BITUMEN JUDAICUM.

ASPLENIUM, vide CETERACH.

ATRIPLICIS OLIDÆ folia:
Atriplices fætidæ C.B. Chenopodii
fætidi Tourn. Chenopodii Vulvariæ
Lin. Stinking orach, or arach; the

leaves [L.]

This is a low plant, sprinkled all over with a kind of whitish clammy meal: it grows about dunghills, and other waste places. The leaves have a strong fetid smell, with which the hand, by a light touch, becomes fo impregnated with, as not to be easily freed from it. Its fmell has gained it the character of an excellent antihysteric; and this is the only use to which it is applied. Tournefort recommends a spirituous tincture, others a decoction in water, and others a conferve of the leaves, as of wonderful efficacy in uterine disorders.

ATRIPLEX SATIVA. Gar-

den orach, or arach.

The garden oraches (which are either of a pale greenish, or purplish red colour, and hence named atriplex alba and rubra) are chiesly employed for culinary purposes. They are cooling, and gently laxative; a decoction of the leaves is recommended in costiveness, where the patient is of a hot bilious disposition.

AVENA [E] Oats.

This grain is an article rather of food than of medicine. It is sufficiently nutritive and easy of digestion. The gruels made from it have likewise a kind of soft mucilaginous quality; by which they obtund acrimonious humours, and prove useful in inflammatory disorders, coughs, hoarseness, roughness, and exulcerations of the fauces.

AURANTIORUM HISPA-LENSIUM fuccus et cortex: Fructûs Mali aurantiæ majoris C. B. Seville oranges; the juice and yellow rind [L. E.] The Edinburgh college uses also the flowers of the tree.

The orange is a beautiful evergreen tree, or rather shrub, bearing flowers and fruits all the year: it is a native of the warmer climates, and does not well bear the winters of this

The flowers are highly odoriferous, and have been, for some time past, of great esteem as a perfume: their taste is somewhat warm, accompanied with a degree of bitterness. They yield their slavour by insussion to rectified spirit, and in distillation both to spirit and water: the bitter matter is dissolved by water, and, on evaporating the decostion, remains entire in the extract. The distilled water was for-

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merly kept in the shops, but, on account of the scarcity of the slowers, is now laid aside: it is called by foreign writers aqua naphæ. An oil distilled from these slowers is brought from Italy under the name

of oleum, or essentia neroli.

The outer yellow rind of the fruit is a grateful aromatic bitter, and, in cold phlegmatic constitutions, proves an excellent stomachic and carminative, promoting appetite, warming the habit, and strengthening the tone of the vifcera. Orange peel appears to be very confiderably warmer than that of lemons, and to abound more with effential oil: to this circumstance therefore due regard ought to be had in the use of these medicines. The flavour of the former is likewise supposed to be less perishable than that of the latter, hence the college employ orange peel in the spirituous bitter tincture, which is designed for keeping, whilst, in the bitter watery infusion, lemon peel is preferred. A fyrup and two distilled waters are for the same reafon prepared from the rind of oranges in preference to that of lemons.

The juice of oranges is a grate-ful acid liquor, of confiderable use in febrile or inflammatory distempers, for allaying heat, abating exorbitant commotions of the blood, quenching thirst, and promoting the salutary excretions: it is likewise of great use in scurvies, especially when given in conjunction with the cochlearia, nassurtium, or other acrid antiscorbutics, as in the succi scorbutici of the shops.

AURANTIA CURASLAVEN-

SIA. Curaffao oranges [E.]

These are the small young fruit of the Seville orange dried. Their first appearance in a public pharmacopæia was in that of Edin-

burgh, as an ingredient in the stomachic tincture and elixir. They appear very well adapted to that intention, being moderately warm bitterish aromatics, of a slavour sufficiently agreeable.

AURIPIGMENTUM. Orpiment; a mineral composed of fulphur and arsenic. See Arsenicum.

AURUM. Gold.

This metal was introduced into medicine by the Arabians, who esteemed it one of the greatest cordials and comforters of the nerves. From them Europe received it, without any diminution of its character. In foreign pharmacopæias it is still retained, and even mixed with the ingredients from which fimple waters are to be distilled. But no one, it is presumed, at this time, expects any fingular virtues from it, fince it certainly is not alterable in the human body. Mr. Geoffroy, though unwilling to reject it from the cordial preparations, honeftly acknowledges, that he has no other reason for retaining it, than complaifance to the Arabian schools. The chemists have endeavoured, by many elaborate processes, to extract what they call a fulphur or anima of gold: but no method is as yet known of separating the component parts of this metal: all the tinctures of it and aurum potabiles, which have hitherto appeared, are real folutions of it in aqua regia, diluted with spirit of wine or other liquors, and prove injurious to the body rather than beneficial.

AXUNGIA. Fat.

A great variety of fats were introduced into medicine by the Arabians, and recommended as possessing distinct virtues. The college

of Wirtemberg, in the edition of their dispensatory, published in 1741, directs no less than twentyeight different fats to be kept in the shops: some of these, they inform us, are attenuating and refolvent; fuch as those of the heron, wild cat, stork, partridge, coney, hare, fox, Alpine mouse, the badger, boar, wolf, ferpents, and vipers: others are heating, detergent and feptic; those of the eel, the pike, and the umber: a third class is emollient; the fat of the ox, the deer, and the goat: and a fourth, emollient, digerent, and lenient; this last comprehends the fats of the duck, goofe, dog, capon, beaver, horse, hen, and human fat. Experience, however, does not countenance thefe different virtues ascribed to different fats. They have all one common emollient quality, relax the part to which they are applied, and prevent perspiration; these effects, with the confequences of them, may be expected in a greater or less degree from fats of every kind. The London college has therefore retained only three fats, of different confistences, for different mixtures viz. viper's fat, hog's lard, and mutton fuet; to which the Edinburgh college adds goat's fuet. These are certainly sufficient for answering all the intentions for which substances of this kind are employed.

BALAUSTIA: Flores balaustiæ flore pleno majore C. B. Punicæ Granati Lin. Balaustines: the flowers of the balaustine or double-flowered

pomegranate tree [L. E.]

The balaustine is a low tree, or rather shrub, growing wild in Italy, &c. The slowers are all of an elegant red colour, in appearance resembling a dried red rose. Their taste is bitterish and astringent.

Balaustines are recommended in diarrhœas, dysenteries, and other cases, where astringent medicines are proper. They are rarely directed in extemporaneous prescription, and enter only one officinal composition, the pulvis e succino compositus [L.]

BALSAMITÆ MARIS sive costi hortorum folia: Menthæ bortensis corymbiseræ C. B. Tanaceti Balsamitæ Lin. Costmary; the leaves

[E.]

This was formerly a very common garden plant, and frequently used both for culinary and medicinal purposes; but is at present very little regarded for either; though it should seem, from its sensible qualities, to be equal or superior, as a medicine, to some aromatic herbs, which practice has retained. The leaves have a bitterish, warm, aromatic taste; and a very pleafant fmell, approaching to that of mint, or a mixture of mint and maudlin. Water elevates their flavour in distillation; and rectified spirit extracts it by infusion.

BALSAMUM COPAIBA
[L. E.] Balfam of Copaiba: a liquid refinous juice, flowing from incifions made in the trunk of a large tree which grows in the Spanish West-Indies. Called by Lin.

Copaifera officinalis.

This juice is clear and transparent, of a whitish or pale yellowish colour, an agreeable smell, and bitterish pungent taste. It is usually about the consistence of oil, or a little thicker: long kept, it becomes nearly as thick as honey, retaining its clearness; but has not been observed to grow dry or solid, as most of the other resinous juices do. We sometimes meet with a thick fort of balsam of Copaiba, which is not at all transparent, or H 2

much less so than the foregoing, and generally has a portion of turbid watery liquor at the bottom. This fort is probably either adulterated by the mixture of other substances, or has been extracted by section from the bark and branches of the tree; its smell and take are much less pleasant than those of the genuine balsam.

Pure balfam of Copaiba dissolves entirely in rectified spirit, especially if the menstruum be previously alkalized: the solution has a very fragrantsmell. Distilled with water, it yields a large quantity of a limpid essential oil; and, in a strong heat,

without addition, a blue oil.

The balfam of Copaiba is an useful corroborating detergent medicine, accompanied with a degree of irritation. It strengthens the nervous system, tends to loosen the belly, in large doses proves purgative, promotes urine, and cleanses and heals exulcerations in the urinary passage, which it is supposed to perform more effectually than any of the other balfams. Fuller observes, that it gives the urine an intensely bitter taste, but not a violet smell as the turpentines do.

This balfam has been principally celebrated in gleets and the fluor albus, and, externally, as a vulnerary. The author above mentioned recommends it likewise in dyfenteries, in fcorbutic cachexies, in diseases of the breast and lungs, and in an acrimonious or putrefcent state of the juices: he fays, he has known very dangerous coughs, which manifeltly threatened a confumption, cured by the use of this balfam alone; and that, notwithstanding its being hot and bitter, it has good effects even in hectic cafes.

The dose of this medicine rarely exceeds twenty or thirty drops, though some direct fixty or more.

It may be conveniently taken in the form of an elæosaccharum; or in that of an emulsion, into which it may be reduced by triturating it with almonds, or rather with a thick mucilage of gum arabic, till they are well incorporated, and then gradually adding a proper quantity of water

The only officinal preparation of this balfam is an empyreumatic oil, distilled with the addition of gum guaiacum [L.] The balfam itself is an ingredient in the balfamic tincture, and tincture of cantharides [E.]

BALSAMUM GILEADENSE, vide Opobalsamum.

BALSAMUM PERUVIANUM

[L. E] Balfam of Peru.

The common Peruvian balfam is faid to be extracted by coction in water, from an odoriferous shrub growing in Peru, and the warmer parts of America. This balfam, as brought to us, is nearly of the confistence of thin honey, of a reddish brown colour, inclining to black, an agreeable aromatic smell, and a very hot biting taste. Distilled with water, it yields a small quantity of a fragrant essential oil of a reddish colour; and, in a strong fire, without addition, a yellowish red oil

Balfam of Peru is a very warm aromatic medicine, confiderably hotter, and more acrid than Copaiba. Its principal effects are, to warm the habit, to strengthen the nervous system, and attenuate viscid humours. Hence its use in some kinds of asthmas, gonorrhoas, dyfenteries, suppressions of the uterine discharges, and other disorders proceeding from a debility of the solids, or a sluggishness and inactivity of the juices. It is also employed externally, for cleansing

and healing wounds and ulcers; and fometimes against palsies and

rheumatic pains.

This balfam does not unite with water, milk, expressed oils, animal fats, or wax: it may be mingled in the cold with this last, as also with the sebaceous substance called expressed oil of mace; but if the mixture be afterwards liquested by heat, the balfam separates and salls to the bottom. It may be mixed with water into the form of an emulsion after the same manner as the balsam of Copaiba. Alkaline lixivia dissolve great part of it; and rectified spirit the whole.

This balsam is an ingredient in the balsamum quaiacinum, pilulæ aromaticæ [L.] tinclura balsamica, elixir pectorale, balsamum cepbalicum, and

balsamum Locatelli [E.]

There is another fort of balfam of Peru, of a subite colour, and confiderably more fragrant than the former. This is very rarely brought to us. It is faid to be the produce of the same plant which yields the common or black balfam; and to exude from incitions made in the trunk.

BALSAMUM TOLUTANUM

[L. E.] Balfam of Tolu.

This flows from a tree of the pine kind, growing in Tolu, in the Spanish West-Indies, called by Linnæus Toluifera Balfamum; whence the balfam is brought to us in little gourd shells. It is of a yellowish brown colour, inclining to red; in confiftence thick and tenacious: by age it grows hard and brittle, without fuffering any great lois of its more valuable parts. The fmell of this balfam is extremely fragrant, fomewhat refembling that of lemons; its tafte warm and fweetish, with little of the pungency, and nothing of the naufeous relish, which accompany the other balfams. It has the same general virtues with the foregoing; but is much milder, and for some purposes, particularly as a corroborant in gleets and seminal weaknesses, is supposed to be more efficacious. It is an ingredient in the vulnerary balfam [L] the balfamic tincture, and the pectoral pills and elixir [E.] A syrup also is impregnated with it in the shops.

BARDANÆ MAJORIS seu lappæ majoris, radix et semen: Lappæ majoris, arcii Dioscoridis C. B. Arctii Lappæ Lin. Burdock; the roots

and feeds [E.]

This is a common plant about way fides, fufficiently known from its fealy heads, or burs, which flick to the clothes. - The feeds have a bitterish subacrid taste: they are recommended as very efficacious diuretics, given either in the form of emulfion, or in powder, to the quantity of a dram .- The roots taste sweetish, with a slight aufterity and bitterishness: they are esteemed aperient, diuretic, and fudorific; and faid to act without irritation, fo as to be fafely ventured upon in acute disorders. Decoctions of them have of late been used in rheumatic, gouty, and other diforders; and preferred by some to those of farfaparilla.

BDELLIUM [L. E.] Bdellium.
Bdellium is a gummy-resinous concrete juice brought from Arabia and the East-Indies, in glebes of different figures and magnitudes. It is of a dark reddish brown colour, and in appearance somewhat resembles myrrh: upon cutting a piece, it looks somewhat transparent, and as Geosfroy justly observes, like glue. It grows soft and tenacious in the mouth, sticks to the teeth, has a bitterish taste, and not a disagreeable smell. Bdellium is recommended as a sudorific, diure-

H 3 tic,

applications for maturating tumors, &c. In the prefent practice, it is scarce otherwise made use of than as an ingredient in the theriaca.

BECABUNGÆ, seu Anagallidis aquaticæ folia: Veronicæ aquaticæ folio subrotundo Morif. bis. Veronicæ Becabungæ Lin. Brooklime; the

leaves [L. E.]

This is a low plant, common in little rivulets and ditches of standing water: the leaves remain all the winter, but are in greatest perfection in the fpring. Their prevailing tafte is an herbaceous one, accompanied with a very light bit-

terishness.

Becabunga has been supposed to have a faponaceous detergent virtue, and to attenuate viscid humours without pungency or irritation: hence it has been directed in the species of scurvy called hot, where the cochlearia, and other acrid antifcorbutics, were supposed to be less proper. It is now used only in composition, with those plants, as in the Jucci Scorbutici [L. E.] but does not perhaps add much to their efficacy. If any virtue be expected from becabunga, it should be used as food.

BELLIDIS MAJORIS folia: Bellidis majoris sylvestris caule folioso C. B. Chryfanthemi Lucanthemi Lin. Greater or ox-eye daily; the root

[E.]

This plant is frequent in fields, and among corn, flowering in May and June. The leaves have a mucilaginous, subsaline, roughish taite. They are faid to be detergent, refolvent, aperient, and also moderately aftringent. Geoffroy relates, that the herb, gathered before the flowers have come forth, and boiled in water, imparts an acrid tafte, penetrating and fubrile like pep-

tic, and uterine; and in external per; and that this decoction is an excellent vulnerary and diuretic: but this account feems to belong more properly to the following plant.

> BELLIDIS MINORIS five consolidæ minimæ folia: Bellidis minoris Sylvestris C. B. Bellidis perennis Lin. Common daify; the leaves

[E.]

This is common almost every where, and flowers early in the fpring.—The leaves have a fubtile subacrid taste, and are recommended as vulneraries, and in afthmas and hectic fevers, and fuch diforders as are occasioned by drinking cold liquors when the body has been much heated. Ludovici prefers the bellis minor to the plants commonly used as antiscorbutics, and resolvents of coagulated blood in hypochondriacal diforders.

BENZOINUM [L. E.] Ben-

Benzoine is a concrete refinous juice, obtained from a large tree growing naturally in both the Indies, and hard enough to bear the winters of our own climate. The refin is brought from the East-Indies only; in large masses composed of white and light brown pieces, or yellowish specks, breaking very eafily betwixt the hands; fuch as is whitest, and free from impurities, is most esteemed.

This refin has very little tafte, impressing only a light sweetness on the tongue: its fmell is extremely fragrant and agreeable, especially when heated. Committed to the fire in proper veffels, it yields a confiderable quantity of a white faline concrete, called flowers, of an acidulous tafte and grateful odour, soluble in rectified spirit, and by the affiftance of heat in

water.

The principal use of benzoine is in perfumes, and as a cosmetic: it is rarely met with in extemporaneous prescription, and enters in substance only one officinal composition, the balfamum traumaticum, deligned chiefly for external use. It should nevertheless feem applicable to other purpofes, and to have no bad title to the virtues of florax and balfam of Tolu, at least in a subordinate degree. The flowers are recommended in disorders of the breast; and in this intention they are made an ingredient in the paregoric elixir [L], in the pectoral elixir, electary, and pills, and in the troches of fulphur [E.]

BERBERIS, seu oxyacanthæ Galeni, cortex et fructus: Berberis dumetorum C. B. Berberis vulg. Lin. Barberry; the bark and fruit.

The barberry is a fmall tree, or rather a large bush, covered with an ash-coloured bark, under which is contained another of a deep yellow: the berries are of an elegant red colour, and contain each two hard brown seeds. It grows wild on chalky hills in several parts of England; and is frequently planted in hedges and in gardens.

The outward bark of the branches, and the leaves, has an aftringent acid taffe; the inner yellow bark, a bitter one: this latter is faid to be ferviceable in the jaundice; and by fome, to be an

ufeful purgative.

The berries, which to the taste are gratefully acid, and moderately restringent, have been given with good success in bilious sluxes, and diseases proceeding from heat, acrimony, or thinness of the juices. Among the Egyptians, barberries are employed in sluxes, and in malignant severs, for abating heat, quenching thirst,

raifing the strength, and preventing putrefaction: the fruit is macerated for a day and night, in about twelve times its quantity of water, with the addition of a little fennel feed, or the like, to prevent offence to the stomach; the liquor strained off, and sweetened with fugar, or fyrup of citrons, is given the patient liberally to drink. Prosper Alpinus (from whose treatise De medicina Egyptiorum this account is extracted) informs us, that he took this medicine himself, with happy fuccels, in a peffilential fever, accompanied with an immoderate bilions diarrhœa. A jelly of the fruit is directed by the Edinburgh college as an officinal.

BETÆ folia, Betæ albæ vel pallescentis quæ sicula et cicla ossicinarum Mor. et Betæ rubræ vulgaris C. B. et Betæ rubræ radice rapæ C. B. White and red beets; and the turnep-rooted red beet, or beet-

rave E.

These plants are cultivated in gardens, chiefly for culinary use. The eye diftinguishes little other difference betwixt them, than that expressed in their titles. Decoctions of beets gently loofen the belly; hence they have been ranked among the emollient herbs: the plants remaining after the boiling are supposed to have rather a contrary effect. They afford little nourishment, and are faid by some to be prejudicial to the stomach. The juice expressed from the roots, is a powerful errhine.

BETONICÆ folia: Betonicæ purpureæ C. B. Betonicæ officinalis Lin. Common or wood-betony; the leaves [E.]

Betony is a low plant, growing in woods and shady places, in feveral

feveral parts of England; the flowers come forth in June and July; they are of a purplish colour, and stand in spikes on the tops of the stalks. The leaves and flowers have an herbaceous, roughish, somewhat bitterish taste, accompanied with a very weak aromatic flavour. This herb has long been a favourite among writers on the materia medica, who have not been wanting to attribute to it abundance of good qualities. Experience does not discover any other virtue in betony, than that of a mild corroborant; as fuch, an infusion or light decoction of it, may be drunk as tea, or a faturated tincture in rectified spirit given in suitable doses, in laxity and debility of the vifcera, and diforders proceeding from them. The powder of the leaves, fnuffed up the nose, provokes fneezing; and hence betony is sometimes made an ingredient in sternutatory powders: this effect does not feem to be owing, as is generally supposed, to any peculiar stimulating quality in the herb, but to the rough hairs with which the leaves are covered. The roots of this plant differ greatly in quality from the other parts: their tafte is bitter and very naufeous: taken in a fmall dose, they vomit and purge violently, and are supposed to have fomewhat in common with the roots of hellebore. It is pretty fingular, if true, that betony affects those who gather any considerable quantity of it, with a diforder refembling drunkenness; as affirmed by Simon Paulli and Bartholinus.

BETONICA AQUATICA, vide Scrophularia AQUATICA MAJOR.

BETONICA PAULI, vide VE-

BETULÆ cortex et lachryma: Betulæ C. B. Betulæ albæ Lin. The birch tree; the bark and sap [E.]

This tree grows wild in moist woods: its bark consists of a thick brittle substance of a brownish red colour; and of several very thin, smooth, white, transparent membranes. These membranes are highly inflammable, and appear to abound with resinous matter, though scarcely of any particular smell or taste: the thick brittle part is less resinous, and in taste roughish: of the medical virtues of either, little or nothing is known with certainty.

Upon deeply wounding or boring the trunk of the tree in the beginning of spring, a sweetish juice issues forth, sometimes, as is said, in so large quantity, as to

faid, in so large quantity, as to equal in weight the whole tree and root: one branch will bleed a gallon or more in a day. This juice is chiefly recommended in scorbu-

is chiefly recommended in scorbutic disorders, and other foulnesses of the blood; its most sensible ef-

fect is to promote the urinary dif-

charge.

BEZOAR lapis. Bezoar stone. The Bezoar stone is a calculous concretion found in the stomach of of certain animals which are said to be of the goat kind. It is composed of concentrical coats surrounding one another, with a little cavity in the middle, containing a bit of wood, straw, hair, or the like substances.

The shops distinguish two sorts of bezoar, one brought from Persia and the East-Indies, the other from the Spanish West-Indies. The former or better fort called oriental bezoar, is of a shining dark green or olive colour, and an even smooth surface; on removing the outward coat, that which lies underneath it

Spring Sometimes

appears

appears likewife fmooth and fhining. The occidental has a rough furface, and less of a green colour than the foregoing: It is likewise much heavier, more brittle, and of a loofer texture; the coats are thicker, and on breaking exhibit a number of ftriæ curioufly interwoven. The oriental is generally less than a walnut; the occidental for the most part larger, and sometimes as big as a goofe egg. The former is univerfally more esteemed, and is the only fort now retained by the London College: the Edinburgh, in a former edition of their pharmacopæia directed both; but they now feem to allow them to be used promiscuously, retaining in their catalogue only the name be-

zoar lapis.

Contra Co

Kæmpfer (in whose Amenitates exoticæ, a full account of the bezoar animal may be feen) informs us, that this stone is in high esteem among the Persians, and even of a greater value than in Europe. This, with fundry other circumstances needless to relate here, has given occasion to many to suspect, that the true bezoar is never brought to us. Some authors relate with great confidence, that all the stones commonly fold under this name are artificial compositions. That some of them are fo, is evident; hence the great differences in the accounts which different persons have given of their qualities; the stones examined by Slare as oriental bezoar did not dissolve in acids; those of which Grew and Boyle made trial, did: those employed by Geoffroy (in some experiments related in the French memoirs 1710) did not seem to be acted on by rectified spirit; whilst some of those examined by Neumann at Berlin almost totally disfolved. The common mark of goodness of this stone, is its striking

M sanith dura Amelia

a deep green colour on white paper that has been rubbed with chalk.

Bezoar was not known to the ancient Greeks, and is first taken Notice of by the Arabians, who extol it in a great variety of diforders, particularly against poisons. Later writers also bestow extraordinary commendations on it as a fudorific and alexipharmac; virtues to which it certainly has no pretence. It is a morbid concretion. much of the same nature with the human calculus, of no fmell or tafte, not digestible in the stomach of the animal in which it is found. and scarce capable of being acted on by any of the juices of the human body. It cannot be confidered in any other light than as an abforbent; and is much the weakest of all the common substances of that class. It has been given to half a dram, and fometimes a whole dram, without any fenfible effect; though the general dose (on account of its great price) is only a few grains.

BISMALVA, vide ALTHEA.

BISMUTHUM. Bifmuth.

Bismuth is a ponderous brittle metal, resembling in appearance the antimonial regulus and zinc, but greatly differing from them in quality. It dissolves with vehemence in the nitrous acid, which only corrodes the regulus of antimony; and is scarce at all soluble in the marine acid which acts strongly on zinc. A calx and flowers of this semimetal have been recommended as fimilar in virtue to certain antimonial preparations; but are at present of no other use than as a pigment or cosmetic. See Part III. chap. ix.

BISTORTÆ radix: Bistortæ majoris radice minus interta C. B. Polygoni

fnakeweed; the root [L. E.]

This plant grows wild in moift meadows, in feveral parts of England: but is not very common about London. The root is about the thickness of the little finger, of a blackish brown colour on the outfide, and reddish within: it is writhed or bent vermicularly (whence the name of the plant) with a joint at each bending, and full of bushy fibres; the root of the species here meant has, for the most part, only one or two bendings; others have three or more.

All the parts of bistort have a rough auftere tafte, particularly the root, which is one of the strongest of the vegetable aftringents. It is employed in all kinds of immoderate hæmorrhages and other fluxes, both internally and externally, where aftringency is the only indication. It is certainly a very powerful flyptic, and is to be looked on fimply as fuch; to the fudorific, antipestilential, and other like virtues atributed to it, it has no other claim, than in confequence of its astringency, and of the antiseptic power which it has in common with other vegetable flyptics. The largest dose of the root in powder is one dram. It enters only one officinal composition, the species e scor-

BITUMEN JUDAICUM [L.]

Asphaltus. Jews pitch.

dio [L.]

This is a light, folid bitumen, of a dufky colour on the outfide, and a deep shining black within; of very little tafte, and scarcely any fmell, unless heated, when it emits a strong pitchy one. It is found plentifully in the earth, in feveral parts of Egypt, and on the furface of the Dead Sea; but is very rarely brought to us. In its room, the shops employ other bituminous

Polygoni Bistortæ Lin. Bistort, or substances found in France, Germany, and Switzerland. have a much stronger pitchy smell; but in other respects agree pretty much with the true afphaltus. Sometimes pitch itself, or the caput mortuum remaining after the distillation of amber, are substitu-Abundance of virtues is attributed to this bitumen, as refolvent, discutient, glutinant, sudorific, emollient, emmenagogue, &c. but it has not for a long time been any otherwise used than as an ingredient in theriaca. The Edinburgh college having now expunged the theriaca, have expunged also the bitumen Judaicum.

> BOLI. Boles are viscid earths, less coherent, and more friable than clay, more readily uniting with water, and more freely fubliding from it. They are foft and unctuous to the touch, adhere to the tongue, and by degrees melt in the mouth, impressing a light sense of astringency. A great variety of these kinds of earths has been introduced into medicine; the principal of which are the following.

- (1) BOLUS ARMENA. Armenian bole, or bole armenic [L. E.] Pure Armenian bole is of a bright red colour, with a tinge of yellow: it is one of the hardest and most compact of the bodies of this class, and not fmooth or gloffy like the others, but generally of a rough dufty furface. It raises no effervescence with acids.
- (2) BOLUS GALLICA. French bole [L. E.] The common French bole is of a pale red colour, variegated with irregular speeks or veins of white and yellow. It is much fofter than the foregoing; and flightly effervesces with acids.

(3) Bolus

- (3) Bolus Blesensis. Bole of Blois. This is a yellow bole, remarkably lighter than the former, and than most of the other yellow earths. It effervesces strongly with acids.
- (4) Bolus Bohemica. Bohemian bole. This is of a yellow colour, with a cast of red, generally of a flaxy texture. It is not acted on by acids.
- (5) TERRA LEMNIA. Lemnian earth. This is a pale red earth; flightly effervescing with acids.
- (6) TERRA SILESIACA. Silefian earth, is of a brownish yellow colour: acids have no sensible effect upon it. These and other earths, made into little masses, and stamped with certain impressions, are called terræ sigillatæ:

The boles of Armenia and Blois, and the Lemnian earth, are rarely met with genuine in the shops; the coarser boles, or white clay coloured with ochre, caput mortuum of vitriol, &c. frequently supply their place. The genuine may be distinguished by their subsiding uniformly from water, without any separation of their parts; the genuine yellow boles retain their colour, or have it deepended, in the fire; whilst the counterfeit sorts burn red,

These earths have been recommended as aftringent, sudorisic, and alexipharmac; in diarrhoas, dysenteries, hamorrhages, and in malignant and pestilential distempers. In intestinal fluxes, and complaints in the first passages from thin acrimonious humours, they may, doubtless, be of some use; but the virtues ascribed to them in the other cases appear to have no foundation:

In the London pharmacopæia bole is an ingredient in the pulvis

e bolo, e scordio, tabellæ cardialgicæ, theriaca, and in one composition for external use, viz. the lapis medicamentosus. No earth of this kind is employed in any of the compositions of the Edinburgh pharmacopæia.

BOMBYX, vide SERICUM.

BONI HENRICI sive lapathi unctuosi folia: Lapathi unctuosi folia: Lapathi unctuosi olidi perennis spinachiæ facie Moris. Chenopodii Boni Henrici Lin. English herb mercury; the leaves [E.]

This herb is met with by road fides, and in uncultivated places. It is ranked among the emollient herbs, but rarely made use of in practice. The leaves are applied by the common people for healing slight wounds, cleansing old ulcers, and other purposes of that kind.

BORRAGINIS flores: Boraginis flore cæruleo J. B. Boraginis officinalis Lin. Borage; the flowers [E.]

This is a rough plant, clothed with small prickly hairs: it grows wild in waste places, and upon old walls. An exhilirating virtue has been attributed to the flowers of borage, which are hence ranked among those casted cordial flowers; but they appear to have very little claim to any virtue of this kind, and seem to be altogether insignisticant.

BORAX [L. E.] Tincar, or Borax.

This is a faline fubstance, brought from the East-Indies in great masses, composed partly of large crystals, but chiefly of smaller ones, partly white and partly green, joined together as it were by a greasy yellow substance, intermingled with sand, small stones, and other impurities. The purer crystals,

crystals, exposed to the fire, melt into a kind of glass, which is nevertheless dissoluble in water.

This falt dissolved and chrystallized, forms small transparent masses: the refiners have a method of shooting it into larger crystals; but these differ in several respects from the genuine falt, infomuch that Cramer calls them not a purified, but adulterated borax. The origin of this falt is as yet unknown, and its composition is known only in part. Thus much experiments have clearly shewn, that it consists of a fixt alkaline falt, the same with the basis of sea salt, in some degree neutralized by a fmaller proportion of another faline fubflance, which has no where, that I know of, been yet discovered but in borax itself.

Nor have the medical virtues of borax been fufficiently afcertained by experience. It is supposed to be, in doses of half a dram or two scruples, diuretic, emmenagogue, and a promoter of delivery; the only officinal composition it is employed in is the pulvis ad partum of the Edinburgh pharmacopæia. Mr. Biffet, in an effay on the medical constitution of Great Britain, recommends a folution of this falt in water as the most powerful diffolvent yet known of aphthous crusts in the mouth and fauces of children. There are strong reasons to believe, that the virtues of borax are much greater than they are in general supposed to be.

BOTRYOS folia: Chenopodii ambrosioidis folio sinuato Tourn. Aviis licis odoræ seu suaveolentis Moris. Chenopodii Botryos Lin. Jerusalem oak; the leaves [E.]

This plant is cultivated in gardens. It has a strong, not disagreeable finell; and a warm somewhat pungent taste. It is recommended as a carminative pectoral. Infufions of it may be drunk as tea.

BRASSICA SATIVA: Brassica capitata alba C. B. et Brassica capitata rubra C. B. et Brassica rubra C. B. et Brassica rubra C. B. et Brassica subra capite oblongo non penitus clauso C. B. Brassica subauda Ger. et Park. et Brassica caulistora C. B. White and red cabbages, coleworts, Savoy cabbages,

and cauliflower [E.]

These are cultivated in gardens rather for culinary than medicinal use. They are all supposed to be hard of digestion, to afford little nourishment, and to produce flatulencies; though probably on no very good foundation. They tend strongly to putrefaction, and run into this state sooner than almost any other vegetable; when putrefied, their smell is likewise the most offensive, greatly resembling that of putrefied animal substances. A decoction of them is faid to loofen the belly. Of all these plants, cauliflower is reckoned the easiest of digestion. The white is the most fetid; and the red most emollient or laxative: a decoction of the latter is recommended for foftening acrimonious humours in some diforders of the breast, and in hoarseneis.

BRASSICÆ MARINÆ seu foldanellæ folia: Convolvuli maritimi soldanellæ diæi Raii. Sea coleworts, Scotch scurvygrass, or soldanella; the leaves [E.]

This is a trailing plant, growing on the sea beach in many parts of the north of England. The root, leaves, and stalks, yield a milky

juice.

Soldanella is a strong cathartic, operating very churlishly, and hence deservedly rejected from practice. Those who recommend its use differ considerably with re-

gard

a dram, others three drams, and others a whole handful.

BRITANNICA, vide LAPA-THUM.

BRUNELLA, vide PRUNELLA.

BRUSCUS, vide Ruscus.

BRYONIÆ ALBÆ radix: Bryonia aspera sive alba baccis rubris C. B. White bryony, or wild

vine; the roots [E.]

This is a rough plant, growing on dry banks under hedges, and climbing upon the bushes. The roots are large, fometimes as thick as a man's thigh; their smell, when fresh, is strong and disagreeable; the tafte naufeoully bitter, acrid, and biting : the juice is fo sharp, as in a little time to excoriate the ikin: in drying, they lofe great part of their acrimony, and almost the whole of their scent.

Bryony root is a strong irritating cathartic; and as fuch has fometimes been fuccessfully exhibited in maniacal cases, in some kinds of dropfies, and in feveral chronical disorders, where a quick solution of viscid juices, and a sudden stimulus on the folids, were required. An extract prepared by water, acts more mildly, and with greater fafety than the root in substance; given from half a dram to a dram, it is said to prove a gentle purgative, and likewise to operate powerfully by urine.

Bryony root, applied externally, is faid to be a powerful discutient: it enters a cataplasm for that intention in the Edinburgh pharmaco-

pœia.

BUFO. The toad.

This animal has been generally looked upon as poisonous, parti-

gard to the dose; some direct half cularly its saliva, and a certain acrid liquor, supposed to be the urine, which it throws out, when irritated, to a confiderable distance. It was first introduced into medicine upon occasion of a cure performed on a hydropic person, to whom powdered toads were given in order to dispatch him, but who voided a large quantity of urine after taking them, and foon recovered from his disorder: fince this time, the toad dried by a gentle heat and pulverized, has been greatly esteemed as a diuretic. This preparation is faid likewife, applied externally to the navel, to restrain hæmorrhages, particularly those from the uterus. The Edinburgh college, in preceding editions of their pharmacopæia, retained the toad in their catalogue of fimples, and gave likewife the process of drying it, but have now wholly rejected this loathsome animal.

> BUGLOSSI radix, folia, flores: Buglossi angustifolii majoris C. B. Anchuse officinalis Lin. Garden Bugloss; the roots, leaves, and flow-

ers [E.]

This is a rough, hairy plant, refembling borage, but less prickly: a wild fort is commonly met with in hedges and among corn, which differs from the garden fort only in being smaller. Bugloss has a slimy fweetish taste, accompanied with a kind of coolness: the roots are the most glutinous, and the flowers the least so. These qualities point out its use in hot bilious or inflammatory diffempers, and a thin acrimonious flate of the fluids. The flowers are one of the four called cordial flowers: the only quality they have that can entitle them to this appellation, is, that they moderately cool and foften, without offending the palate or stomach; and thus, in warm climates, or in

hot diseases, may in some measure refresh the patient.

BUGULÆ sive consolidæ mediæ folia; Bugulæ sylvaticæ vulgaris cæruleæ Morrison. Adjugæ reptantis Lin. Bugle or middle consound;

the leaves [E.]

This grows wild in woods, hedges, and moist meadows. The leaves have, at first, a sweetish taste, which gradually becomes bitterish and roughish. They are recommended as vulnerary medicines, and in all cases where mild aftringents or corroborants are proper.

## BUNIAS, vide NAPUS.

BURSÆ PASTORIS folia: Thlaspis fatui, bursæ pastoris dieti Raii. Shepherdspurse; the leaves.

This plant is common in waste places; and is found in flower all the fummer. Shepherdipurfe has long been celebrated as an aftringent, and strongly recommended in diarrhœas, dysenteries, uterine fluors, and in general in all difeafes where aftringents of any kind can avail. Some have esteemed it so powerful a flyptic, as scarce to be safely administered internally. Others have thought it to be of a hot fiery nature, and supposed it to stop fluxes and hæmorrhages, by coagulating the juices like alcohol, and burning or fearing the orifices of the veffels. The fenfible qualities of shepherdspurse discover little foundation for either of these opinions; it has no perceptible heat, acrimony, pungency, and fcarcely any attringency: the tafte is almost merely herbaceous, fo as sufficiently to warrant the epithet given this plant by Mr. Ray, Fatuum.

BUXI lignum [L.] et folia [E.]:
Buxi arborescentes C. B. Buxi sem-

pervirentis Lin. The box tree; the leaves and wood.

The box is a fmall tree, growing wild in some parts of Kent and Surry. The wood is of a yellow colour, more folid, compact, and ponderous than any other of the European woods. The leaves have a ftrong nauseous taste, and when fresh, a fetid smell: they are said to purge violently, in the dose of a dram. A decoction of the wood is recommended by fome as powerfully sudorific, preferable even to guaiacum: but the tafte readily discovers that it wants the qualities of that wood. Neither the wood nor leaves of the box tree are at present employed for any other medicinal purpose than for the distillation of an empyreumatic oil [L.] and an oil of nearly the fame quality is obtainable by the same treatment from almost all woods.

CACAO [E.] Theobroma Cacao Lin. Chocolate nuts.

These are the fruit of an American tree resembling the almond. The principal use of these nuts is for the preparation of the dietetic liquor chocolate. This is a mild, unctuous, nutritious sluid, capable of softening acrimonious humours, and of great service in consumptive disorders: especially if made with milk, and with only a small proportion of aromatics.

[L. E.] Calamy or calamine stone.

This mineral is found plentifully in England, Germany, and other countries, either in distinct mines, or intermingled with the ores of different metals. It is usually of a greyish, brownish, yellowish, or pale reddish colour; considerably hard, though not sufficiently so to strike fire with steel. It has been looked

upon by fome as a fimple earth, by others as an iron ore: later experiments have discovered it to be an ore of zinc. Calamine is generally roafted or calcined before it comes into the shops, in order to separate fome fulphureous or arfenical matter which the crude mineral is fupposed to contain, and to render it more easily reducible into a fine powder. In this state, it is employed in collyria against defluxions of thin acrid humours upon the eyes; for drying up moift, running ulcers; and healing excoriations. It is the basis of an officinal epulotic cerate.

CALAMINTHÆ folia: Calaminthæ pulegii odore seu nepetæ C. B. Calaminthæ foliis ovatis, obtusis, caule procumbente Halleri. Melissæ nepetæ Lin. Field calamint; the

leaves [L.]

This is a low plant, growing wild about hedges and highways, and in dry fandy foils. The leaves have a quick warm tafte, and fmell strongly of pennyroyal: as medicines, they differ little otherwise from spearmint, than in being somewhat hotter, and of a less pleasant odour; which latter circumstance has procured calamint the preference in hysteric cases.

CALAMINTHE MONTANE
folia: Calaminthe flore magno vulgaris J. B. Melisse Calaminthe
Lin. Common calamint; the leaves

[E.]

This plant, notwithstanding its name, is, among us, much less common than the former, which has generally supplied its place in the markets: hence the London college have now dropt this montana, and received the other. The calamintha montana is also less essications than the foregoing fort: the

taste is weaker; the smell approaches to that of the wild mints, without any thing of the strong pennyroyal slavour of the other.

CALAMI AROMATICI radix: Acori veri sive calami aromatici officinarum C. B. Acori Calami Lin. Sweet scented flag; the roots

[L. E.]

This flag resembles, as to its leaves, the common iris, but, in other respects differs greatly from it: the stalk grows at a little distance from the leaves; the lower half, up to where the flowers come forth, is roundish; the part above this, broad like the other leaves; the flowers are very small, whitish, and stand in a kind of head about the fize of a finger. This plant grows plentifully in rivulets and marshy places, about Norwich and other parts of this island; in the canals of Holland; in Switzerland; and in other countries of Europe. The shops have been usually supplied from the Levant with dried roots, which do not appear to be superior to those of our own growth.

The root of acorus is full of joints, crooked, fomewhat flatted on the fides, internally of a white colour, and loofe ipongy texture: its smell is strong; the taste warm. acrid, bitterish, and aromatic; both the fmell and tafte are improved by exficcation. This root is generally looked upon as a carminative and stomachic medicine, and as such is fometimes made use of in practice. It is faid by some to be superior in aromatic flavour to any other vegetable that is produced in these northern climates: but such as I have had an opportunity of examining, fell short, in this respect, of several of our common plants. It is, nevertheless, a sufficiently elegant aromatic. It is an ingredient in the

mithridate

mithridate and theriaca of the London pharmacopœia, and in the aromatic and stomachic tinctures and compound arum powder, of the Edinburgh. The fresh root, candied after the manner directed in our dispensatory for candying eryngo root, is said to be employed at Constantinople as a preservative against epidemic diseases. The leaves of this plant have a sweet fragrant smell, more agreeable, though weaker, than that of the roots.

CALENDULÆ flores: Calendulæ sativæ Raii: Calendulæ flore simplici J. B. Calendulæ officinalis Lin. Garden marigold; the flowers

[E.]

This herb is common in gardens, where it is found in flower greatest part of the fummer. Marigold flowers are supposed to be aperient and attenuating; as also cardiae, alexipharmac, and fudorific. They are principally celebrated in uterine obstructions, the jaundice, and for throwing out the fmall-pox. Their fensible qualities give little foundation for these virtues: they have fcarcely any tafte, and no confiderable fmell. The leaves of the plant discover a viscid sweetishness, accompanied with a more durable faponaceous pungency and warmth. These feem capable of answering fome useful purposes, as a stimulating, aperient, antifcorbutic medicine.

CALX VIVA [L. E.] Quicklime. Quicklime is usually prepared among us, by calcining certain stones of the chalky kind. All chalks and marbles, and, in general, all the mineral earths that dissolve in acids, burn into quicklime; with this difference, that the more compact the stone, generally the stronger is the lime. In maritime countries, in defect of the proper stones, sea shells are made use of, which afford a calx agreeing in most respects with the stone limes.

All these limes are, when fresh burnt, highly acrimonious and corrosive. In this state they are employed in some external applications as a depilatory; for rendering sulphur soluble in water [L.]; and for increasing the power of fixt alkaline salts either for the purposes of a caustic [L. E.] or to enable them more readily to dissolve oils for making soap [L.] If the lime be exposed for a length of time to the air, it falls by degrees into a powder, and loses much of its acri-

mony.

Water, poured directly upon quicklime, takes up a considerable portion of it. The folution has a strong taste, somewhat styptic, drying the mouth, and accompanied with a kind of sweetishness. This liquor does not effervesce either with acids or alkalies, but is rendered by the latter turbid and milky: it prevents the coagulation of milk, and hence is fometimes made use of along with milk diets: agitated with expressed oils, it unites with them into a thick compound, recommended by Dr. Slare against burns and inflammations. Both the fimple folution of the lime, and the folution impregnated with other materials, are directed as officinal, under the titles of simple and compound lime waters [L. E.]

Lime water, drunk to the quantity of a quarter of a pint, three or four times a day, and continued for a length of time, has been found ferviceable in scrophulous cases, and other obstinate chronic disorders. It generally promotes urine, and not unfrequently the cuticular discharge: for the most part it binds

the belly, and fometimes produces troublesome costiveness, unless this effect be occasionally provided against, by the interposition of proper medicines. It does good fervice in debility and laxity of the vifcera in general; in those of the uterine and feminal vessels it is particularly recommended. Care must be had not to use this medicine too liberally in hot bilious constitutions, or where the patient is much emaciated, or the appetite weak, or at the time of any critical or periodical evacuations. Its principal use is in cold, moist, sluggish, and corpulent habits.

This liquor has lately been found an efficacious dissolvent of the human calculus. The lime water prepared from calcined oyster shells proves, for this purpose, a more powerful menstruum than that made from the stone limes, the dissolving powers of the former being more than double to that of the latter. See a paper on this subject in the Edinburgh Essays, vol. v. art. 69. Abridg. vol. i. 471.

CAMPECHENSE LIGNUM, vide LIGNUM CAMPECHENSE.

CAMPHORA [L. E.] Ex Lauro campbora Lin. Camphor is a folid concrete, extracted from the wood and roots of a tree growing in Japan, by a process similar to that by which effential oils are obtained. As it first sublimes from the wood, it appears brownish, composed of temipellucid grains mixed with dirt: in this state it is exported by the Dutch, and purified by a fecond fublimation; after which, it is reduced into loaves (in which it is brought to us) probably by fusion in close veffels; for it does not affume this form in fublimation.

Pure camphor is very white, pellacid, fomewhat unctuous to the

touch; of a bitterish, aromatic, acrid tafte, yet accompanied with a fense of coolness; of a very fragrant fmell, fomewhat like that of rosemary, but much stronger. It is totally volatile, and inflammable; foluble in vinous spirits, oils, and the mineral acids; not in water, alkaline liquors, or the acids of the vegetable kingdom. This concrete is esteemed one of the most esticacious diaphoretics; and has long been celebrated in fevers, malignant and epidemical distempers. In deliria, where opiates fail of procuring fleep, and often aggravate the lymptoms, this medicine frequently fucceeds.

Frederick Hoffman has written an express differtation De Campboræ usu interno securissimo et præstantissi-The substance of his observation is, that camphor feems to penetrate very quickly through the whole body, and notably increase perspiration: that though given to the quantity of half a dram, diffolved in spirit of wine, and duly diluted, it does not raise the pulse, or occasion any heat, but rather causes a sense of coolness about the præcordia: that on continuing its use for some time, the blood became fenfibly more fluid, and the quantity of watery ferum, with which the habit before abounded, was notably diminished: that in malignant fevers, and all diforders, whether acute or chronical, proceeding from an acrid or putrefcent ftate of the juices, camphor has excellent effects, correcting the acrimony, expelling the putrid morbific matter through the cutaneous pores, and preventing an inflammation or sphacelus, where there is previously any disposition thereto: that, by strengthening the vessels, it restrains hæmorrhages happening in acute fevers, and promotes critical and periodical evacuations:

that it expels even the venereal virus; and that he has known examples of the lues being cured by camphor alone, a purgative only being premifed : and that in recent infections he has found no medicine equal to it in efficacy. In inflammatory cases, where there is a tendency to mortification, intense heat, thirst, or where the skin is dry and parched, whether before or after a delirium has come on, fmall doses of camphor joined with nitre, produced happy effects, almost immediately relieving the fymptoms, occasioning a calm sleep and plentiful fweat, without fatiguing the patient. He further observes, that this fimple, by its antiphlogistic quality, prevents the ill effects of the more irritating medicines; that cantharides, and the acrid stimulating cathartics and diuretics, by the admixture of a small proportion of camphor, become much more mild and fafe in operation.

The common dose of camphor is from one grain to ten. Its officinal preparations are, a julep [L.] and emulsion [E.] for internal use; and a solution in rectified spirit [L. E.] and in expressed oil [E.] for external applications. It is an ingredient also in the paregoric elixir, camphorated vitriolic water [L.], camphorated white ointment, and sapo-

naceous liniment [L. E.]

CANCRORUM CHELÆ [L. E.] Crabs' claws: the black tips of the claws of the common fea crab, or cancer marinus.

CANCRORUM OCULI diei [L. E.] Crabs' eyes fo called : stony concretions found in the head, or rather stomach, of the astacus stuviatilis, or craw fish.

The only virtue of these simples is to absorb acidities in the primæ viæ. The claws enter an officinal lozenge, and give name to a pow-

der, for this intention. They are ingredients also in some other officinal compositions, in which they do not seem to be of much advantage: viz. the compound arum powder, contrayerva powder, and cordial confection.

Crabs' eyes are faid by most writers on the materia medica to be frequently counterfeited with tobaccopipe clay, or compositions of chalk with mucilaginous fubftances. This piece of fraud, if really practised, may be very easily discovered; the counterfeits wanting the leafy texture which is observed upon breaking the genuine; more readily imbibing water; adhering to the tongue; and dissolving in vinegar, or the stronger acids diluted with water, either entirely or not at all, or by piecemeal; whilst the true crabs' eyes, digefted in these liquors, become foft and transparent, their original form remaining the fame. This change happens, because the earthy part, on which depended their opacity and hardness, is diffolved by the gentle action of the acid, which leaves the conglutinating matter unhurt.

CANELLA: ALBA: Cinnamomum sive canella tubis minoribus alba C. B. Cortex Winteranus falso dicus Park. Canella alba.

This is a bark rolled up into long quills, thicker than cinnamon, and both outwardly and inwardly of a whitish colour, lightly inclining to yellow. It is the produce of a tall tree growing in great plenty in the low lands in Jamaica, and other American islands, called by fir Hans Sloane arbor baccifera laurifolia aromatica, fructu viridi calyculato racemoso. The canella is the interior bark, freed from an outward thin rough one, and dried in the shade. The shops distinguish two sorts of canella, differing from

one another in the length and thickness of the quills; they are both the bark of the fame tree, the thicker being taken from the trunk, and the thinner from the branches. This bark is a warm pungent aromatic, not of the most agreeable kind : nor are any of the preparations of it very grateful. It is lately fometimes met with in extemporaneous prefcription, and is an ingredient in officinal biera picra and tinctura sacra [L.] and in the aqua raphani and pulvis ari compositus [E.]

CANNABIS Semen: Cannabis fativæ C. B. Hemp; the feed [E.]

This plant, when fresh, has a rank narcotic smell: the water in which the stalks are foaked, in order to facilitate the separation of the tough rind for mechanic uses, is faid to be violently poisonous, and to produce its effects almost as foon as drank. The feeds also have some fmell of the herb; their tafte is unctuous and fweetish; on expresfion they yield a confiderable quantity of infipid oil: hence they are recommended (boiled in milk, or triturated with water into an emulfion) against coughs, heat of urine, and the like. They are also said to be useful in incontinence of urine, and for restraining venereal appetites; but experience does not warrant their having any virtues of this kind.

CANTHARIDES [L. E.] Spanish flies. These insects are of a shining green colour, intermingled with more or less of a blue and a gold yellow. They are found adhering to different kinds of trees and herbs, in Spain, Italy, and France; the largest and most esteemed come from Italy.

Cantharides are extremely acrimonious: applied to the skin, they first inflame, and afterwards exco-

riate the part, raifing a more perfect blifter than any of the vegetable acrids, and occasioning a more plentiful discharge of serum. All the bliftering compositions have cantharides for the basis. See Part IV. chap. x. The external application of cantharides is often followed by a strangury, accompanied with thirst and feverish heat: this inconvenience may be remedied by foft unctuous or mucilaginous liquors libe-

rally drank.

Cantharides taken internally, often occasion a discharge of blood by urine, with exquisite pain: if the dose is considerable, they seem to inflame and exulcerate the whole intestinal canal; the stools become mucous and purulent; the breath fetid and cadaverous; intense pains are felt in the lower belly; the patient faints, grows giddy, raving mad, and dies. All these terrible consequences have sometimes happened from a few grains. Herman relates, that he has known a quarter of a grain inflame the kidneys, and occasion bloody urine with violent pain. There are, nevertheless, cases in which this stimulating fly, given in larger doses, proves not only fafe, but of fingular efficacy for the cure of diseases that yield little to medicine of a milder class. In cold phlegmatic fluggish habits, where the vifcera are overloaded, and the kidneys and ureters obstructed with thick viscid mucous matter, cantharides have excellent effects; here the abounding mucus defends the folids from the acrimony of the fly, till it is itself expelled; when the medicine ought to be discontinued. Groenvelt employed cantharides with great fuccess in dropsies, obstinate suppresfions of urine, and ulcerations of the bladder; giving very confiderable doses made into boluses with

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camphor;

camphor; and interposing large draughts of emultions, milk, or other emollient liquors; by thefe means the excessive irritation, which they would otherwife have occafioned, was in great measure prevented. The camphor did not perhaps contribute fo much to this effect as is generally imagined; fince it has no fensible quality that promifes any confiderable abatement of the acrimony of cantharides: nitre would answer all that the camphor is supposed to perform: this, with milk, or emollient mucilaginous liquors, drunk in large quantity, are the best correctors. Cantharides, in very small dofes; may be given with fafety also in other cases. Dr. Mead obferves, that the obstinate gleetings which frequently remain after the cure of venereal maladies, and which rarely yield to balfamic medicines, are effectually remedied by cantharides; and that no one remedy is more efficacious in leprous diforders; in which last, proper purgatives are to be occasionally taken during the use of the cantharides. The best and safest preparation of cantharides for these purposes, is a spirituous tincture [L.E.] and indeed in all cases, the tincture is far preferable, for internal use, to the fly in substance.

The virtues of cantharides are extracted by rectified spirit of wine, proof spirit, and water; but do not arise in distillation. The watery and spirituous extracts blister as freely as the sly in substance; whilst the sly remaining after the several menstrua have performed their office, is to the taste insipid, and does not in the least blister or instance

the Ikin.

CAPILLIS VENERIS, vide ADI-

CAPPARIS radicis cortex, et florum gemmæ: Capparis spinosæ fructu minere, folio rotundo C. B. Caper bush; the bark of the root, and buds of the flowers.

This is a low prickly bush, found wild in Italy, and other countries; it is raised with us by sowing the seeds upon old walls, where they take root betwixt the bricks, and

endure for many years.

The bark of the root is pretty thick, of an ash colour, with several transverse wrinkles on the surface; cut in slices and laid to dry, it rolls up into quills. This bark has a bitterish acrid taste; it is reckoned aperient and diuretic; and recommended in several chronic disorders, for opening obstructions of the viscera.

The buds, pickled with vinegar, &c. are used at table. They are supposed to excite appetite, and promote digestion; and to be particularly useful, as detergents and aperients, in obstructions of the liver and spleen. Their taste and virtues depend more upon the saline matter introduced into them, than on the caper buds.

CAPSICUM, vide PIPER INDI-

CARABE, vide Succinum.

\* CARDAMINES FLORES: Nasturtii pratensis magno store C. B. Cardamines pratensis Lin. Ladies-smock, or cuckow slower. This is a plant in taste resembling cress. It has an erect stalk; and leaves set in pairs on a middle rib, with an odd one at the end. Its slower is white or purplish, and is succeeded by a bivalvular pod. It grows in plenty in moist low meadows, and slowers early in the spring.

The virtue of the flowers of ladies-

fmock,

fmock, in hysteric and epileptic cases, was first noticed by Ray; and their use has been revived by Sir George Baker, who has published some cases of their efficacy in the Med. Trans. vol. i. The slowers are to be finely powdered, after having been properly dried, and given in doses of from one scruple, to one dram and an half.

CARDAMOMI MAJORIS semen. Amomi cardamomi Lin. Greater cardamom seed.

The greater cardamom is a dried fruit or pod, about an inch long, containing under a thick skin two rows of small triangular seeds of a warm aromatic slavour.

CARDAMOMI MINORIS semen. Lesser cardamom. [L. E.]

This fruit is scarce half the length of the foregoing; the seeds are considerably stronger both in smell and taste. Hence this fort has long supplied the place of the other in the shops, and is the only one now directed.

Cardamom feeds are a very warm, grateful, pungent aromatic, and frequently employed as such in practice: they are faid to have this advantage, that notwithstanding their pungency, they do not, like those of the pepper kind, immoderately heat or inflame the bowels. Both water and rectified spirit extract their virtues by infusion, and elevate them in distillation; with this difference, that the tincture and distilled spirit are considerably more grateful than the infusion and diffilled water: the watery infusion appears turbid and mucilaginous; the tincture made in spirit, limpid and transparent. The husks of the feeds, which have very little smell or tafte, may be commodiously feparated, by committing the whole to the mortar, when the feed will readily pulverize, so as to be freed

from the shell by the sieve: this should not be done till just before using them; for if kept without the husks, they soon lose much of their slavour.—The officinal preparations of these seeds are a spirituous water and tincture: they are employed also as a spicy ingredient in several of the officinal compositions.

CARDIACÆ folia: Marubii cardiacæ diæti, forte primi Theophrafti C. B. Leonuri Cardiacæ Lin. Motherwort; the leaves.

This plant is common in waste places, and found in flower during the greatest part of the summer. The leaves have a bitter taste, and a pretty strong smell; they are supposed to be useful in hysteric disorders, to strengthen the stomach, to promote urine; and indeed it may be judged from their smell and taste, that their medicinal virtues are considerable, though they are now rejected both from the London and Edinburgh pharmacopæias.

CARDUI BENEDICTI folia semen: Cnici sylvestris birsutioris sive cardui benedicti C. B. Cardui lutei procumbentis, sudorifici et amari Morison. Centaure benedict Lin. Blessed thistle; the leaves [L. E.] and seed

This is an annual plant, cultivated in gardens: it flowers in June and July, and perfects its feeds in the autumn. The herb should be gathered when in flower, dried in the shade, and kept in a very dry airy place, to prevent its rotting or growing mouldy, which it is very apt to do. The leaves have a penetrating bitter taste, not very ftrong, or very durable; accompanied with an ungrateful flavour, from which they are in great meafure freed by keeping. Water extracts, in a little time, even without heat, the lighter and more grateful grateful parts of this plant; if the digestion be continued for some hours, the disagreeable parts are taken up; a strong decoction is very nauseous and offensive to the stomach. Rectified spirit gains a very pleasant bitter taste, which remains

uninjured in the extract.

The virtues of this plant feem to be little known in the present practice. The naufeous decoction is fometimes used to provoke vomiting; and a strong infusion to promore the operation of other emetics. But this elegant bitter, when freed from the offenfive parts of the herb, may be advantageously applied to other purposes. I have frequently experienced excellent effects from a light infusion of carduus in loss of appetite, where the stomach was injured by irregularities. A stronger infusion made in cold or warm water, if drunk freely, and the patient kept warm, occasions a plentiful iweat, and promotes all the fecretions in general.

The feeds of this plant are also considerably bitter, and have been sometimes used in the same intention as the leaves. The Edinburgh college makes them an ingredient

in the stomachic tincture.

CARICÆ[L.E.] Figs; the dried fruit of the ficus communis C. B.

The principal use of these is as a soft emollient sweet. In this intention they enter the pectoral decoction and lenitive electary of the shops. They are also esteemed by some as suppuratives, and hence have a place in the maturating cataplasm.

CARPOBALSAMUM: Fructus balsami Syriaci rutæ folio. C. B.

Carpobalfam [L.]

This is the fruit of the tree that yields the opobalsam or balm of Gilead. It is about the size of a

pea, of a whitish colour, inclosed in a dark brown wrinkled bark. This fruit, when in perfection, has a pleasant warm glowing taste, and a fragant smell, resembling that of the opobalsam itself. It is very rarely found in the shops; and such as we now and then do meet with, has almost entirely lost its smell and taste. It is of no other use in this country than as an ingredient in the mithridate and theriaca, in both which the college direct cubebs as a substitute to it.

CARTHAMI semen: Cartami officinarum siore croceo Tourn. Carthami tinctorii Lin. Bastard saffron,

or fafflower; the feeds.

The bastard saffron is a soft kind of thiftle, with only a few prickles about the edges of the leaves. It is cultivated in large quantity in fome places of Germany; whence the other parts of Europe are supplied with the flowers as a colouring drug, and the feeds as a medicinal one. The flowers, well cured, are not eafily diffinguishable by the eye from faffron; but their want of fmell readily discovers them. The feeds are white, smooth, of an oblong roundish shape, yet with four sensible corners, about a quarer of an inch in length, fo heavy as to fink in water; of a viscid sweetish tafte, which in a little time becomes acrid and nauseous. These feeds have been celebrated as a cathartic: they operate very flowly, and for the most part disorder the bowels, especially when given in fubstance; triturated with aromatic distilled waters, they form an emulfion less offensive, yet inferior in efficacy to more common purgatives.

CARUI, carvi, seu cari, semen:

Cumini pratensis carui officinarum C. B. Caraway; the seeds [L. E.]

Caraway is an umbelliferous plant, cultivated with us in gardens, both for culinary and medicinal use. The feeds have an aromatic fmell, and a warm pungent tafte. These are in the number of the four greater hot feeds; and frequently employed as a stomachic and carminative in flatulent colics, and the like. Their officinal preparations are an effential oil [L. E.] and a spirituous water [L.] they are ingredients also in the compound juniper water, tincture of sena, stomachic tincture, oxymel of garlic, electary of bayberries and of fcammony, philonium, and the cummin feed plaster [L.]

CARYOPHYLLA AROMA-

TICA [L. E.] Cloves.

Cloves are the flower-cups (not, as is generally supposed, the fruit) of a bay-like tree, growing in the East-Indies. In shape, they somewhat resemble a short thick nail: in the inside of each clove are sound a stylus and stamina with their apices, as in other flower-cups: at the larger end shoot out from the four angles four little points like a star, in the middle of which is a round ball, composed of four little leaves, which are the unexpanded petals of the flower.

Cloves have a very strong agreeable aromatic smell, and a bitterish pungent taste, almost burning the mouth and fauces. The Dutch, from whom we have this spice, frequently mix it with cloves which have been robbed of their oil: these, though in time they regain from the others a considerable share both of taste and smell, are easily distinguishable by their weaker slavour and lighter colour. Cloves, considered as medicines, are very hot stimulating aromatics, and posfess, in an eminent degree, the general virtues of substances of this class. An extract made from them with rectified spirit is excessively hot and pungent; the distilled oil has no great pungency; an extract made with water is nauseous and somewhat styptic. The only officinal preparation of them is the essential oil [L. E.] Both the cloves themselves and their oil are ingredients in many officinal compositions.

CARYOPHYLLA RUBRA: Flores Caryophylli altilis majoris C. B. Dianthi caryophylli Lin. Clove

July flowers [L. E.]

A great variety of these flowers are met with in our gardens. Those made use of in medicine ought to be of a deep crimfon colour, and a pleasant aromatic smell, somewhat like that of cloves: many forts have scarce any smell at all. The caryophylla rubra are faid to be cardiac and alexipharmac. Simon Paulli relates, that he has cured many malignant fevers by the ufe of a decoction of them; which he fays powerfully promotes fweat and urine, without greatly irritating nature, and also raises the spirits, and quenches thirst. At prefent the flowers are chiefly valued for their pleafant flavour, which is entirely lost even by light coction; hence the college direct the fyrup, which is the only officinal preparation of them, to be made by infusion.

CARYOPHYLLATÆ radix: Caryophyllatæ vulgari flore parvo luteo J. B. Gei urbani Lin. Avens, or herb benet; the root.

Avens is a rough plant found wild in woods and hedges. The root has a warm, bitterish, astringent taste, and a pleasant smell, somewhat of the clove kind, especially

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in the spring, and when produced lars, or moistened, in order to inin dry warm foils. Parkinfon ob- crease it's weight, it is very subject ferves, that in the growth of moist to be. Greatest part of the pulp foils it has nothing of this flavour. dissolves both in water and in rec-This root has been employed as a tified spirit; and may be extracted stomachic, and for strengthening from the cane by either. of among us. It yields, on diffil- confiftence. lation, an elegant odoriferous efflaky form.

CASCARILIA, vide ELEU-THERIA.

CASIA FISTULARIS Caffia fissula Alexandrina Lin. [L. E.] the fruit of an oriental tree, refembling the walnut.

This fruit is a cylindrical pod, scarce an inch in diameter, a foot or more in length: the outfide is a hard brown bark; the infide is divided by thin transverse woody plates, covered with a foft black pulp of a sweetish taste, with some degree of acrimony. There are two forts of this drug in the shops; one brought from the East-Indies, the other from the West: the canes or pods of the latter are generally large, rough, thick-rinded, and the pulp nauseous; those of the former are less, smoother, the pulp blacker, and of a sweeter taste; this fort is preferred to the other. Such pods thould be chosen as are weighty, new, and do not make a rattling noise (from the feeds being loofe within them) when shaken. The pulp should be of a bright shining black colour, and a sweet taste, not harsh (which happens from the fruit being gathered before it is grown fully ripe) or fourish (which it is apt to turn upon keeping). It

the tone of the viscera in general: shops employ water, boiling the it is still in some esteem in foreign bruised pod therein, and afterwards countries, though not taken notice evaporating the folution to a due

The pulp of cafia is a gentle fential oil, which concretes into a laxative medicine, and frequently given, in a dose of some drams, in costive habits. Some direct a dose of two ounces or more as a cathartic, in inflammatory cases, where the more acrid purgatives have no place: but in these large quantities it generally naufeates the stomach, produces flatulencies, and fometimes gripings of the bowels, especially if the casia is not of a very good kind; these effects may be prevented by the addition of aromatics, and exhibiting it in a liquid form. Geoffroy fays, it does excellent fervice in the painful tenfion of the belly, which fometimes follows the imprudent use of antimonials; and that it may be advantageously acuated with the more acrid purgatives, or antimonial emetics, or employed to abate their force. Vallisnieri relates, that the purgative virtue of this medicine is remarkably promoted by manna; that a mixture of four drams of cafia, and two of manna, purges as much as twelve drams of cafia, or thirty-two of manna alone. Sennertus observes, that the urine is apt to be turned of a green colour by the use of casia: and sometimes, where a large quantity has been taken, blackish. This drug gives name to an officinal electary, and is an ingredient also in another.

should neither be too dry, nor too - CASIA LIGNEA: the bark of moift, nor at all mouldy, which, an Indian tree, called by Breynius from its being kept in damp cel- arbor canellifera Indica, cortice acerrimo viscido seu mucilaginoso, qui cassia lignea officinarum. Laurus Cassia Lin.

This bark, in appearance and aromatic flavour, approaches to cinnamon; from which it is eafily diftinguishable by its remarkable vifcidity: chewed, it feems to dissolve in the mouth into a flimy substance; boiled in water, it gives a ftrong mucilage, the aromatic part exhaling; the water obtained by distillation, unless drawn with great care, has an unpleafant smell, somewhat of the empyreumatic kind : nevertheless the distilled oil proves nearly of the same quality with that of cinnamon. Cassia possesses the aromatic virtues of cinnamon; but in an inferior degree; and its effects are less durable. Its glutinous quality renders it useful in some cases where simple aromatics are less proper.

CASTOREUM [L. E.] Castor. Castor is the inguinal glands of the beaver; a four-footed amphibious animal, frequent in several parts of Europe and America. The best comes from Russia: this is in large round hard cods, which appear, when cut, full of a brittle red liver-coloured substance, interspersed with membranes and sibres exquisitely interwoven. An inserior sort is brought from Dantzick; this is generally sat and moist. The worst of all is that of New England, which is in longish thin cods.

Russia castor has a strong disagreeable smell, and an acrid, biting, bitterish nauseous taste. Water extracts the nauseous part, with little of the siner bitter; rectified spirit extracts this last, without much of the nauseous; proof spirit both; water elevates the whole of its slavour in distillation; rectified spirit brings over nothing.

Castor is looked upon as one of the capital nervine and antihysteric medicines: some celebrated practitioners have nevertheless doubted its virtues; and Neumann and Stahl declare it infignificant. Experience, however, has shown, that the virtues of castor are considerable, though they are certainly far less than they have been generally supposed to be. Its officinal preparations are a fimple water [L.] a spirituous tincture [L. E.] and a tincture in the volatile oily spirit [E.] It is an ingredient in many other compositions, as the compound elixir and powder of myrrh [L.] the fetid pills, gum-pills, and powder for promoting delivery [E.]

CASUMUNAR [L. E.]

This is a tuberous root, an inch or more in thickness, marked on the surface with circles or joints like galangal, of a brownish or ash colour on the outside, and dusky yellowish within; it is brought from the East-Indies, cut into transverse slices: what kind of plant it produces, is not known.

Casumunar has a warm bitterish taste, and an aromatic smell, somewhat resembling that of ginger. It has been celebrated in hysteric cases, epilepsies, passes, loss of memory, and other disorders. The present practice sometimes employs it as a stomachic and carminative, but it is not so much used or known

as it deferves to be.

CAUDA EQUINA, seu Equisetum: Equisetum palustre longioribus setis C. B. Hippuris vulg. Lin. Horsetail; the herb [E.]

This plant is common in watery places. It is faid to be a very strong aftringent: it has indeed a manifest astringency, but in a very low degree.

CENTAU-

CENTAURII MAJORIS, seu Rhapontici vulgaris radix: Centaurii majoris folio in lacinias plures diviso C. B. Centaureæ Centaurei Lin. Greater centaury; the root.

The greater centaury is a large plant, cultivated in gardens. The root has a rough somewhat acrid taste, and abounds with a red viscid juice; its rough taste has gained it some esteem as an astringent; its acrimony as an aperient; and its glutinous quality as a vulnerary: the present practice takes little notice of it.

CENTAURII MINORIS summitates: Centaurii minoris flore purpureo J. B. Gentianæ Centaurei Lin. Lesser centaury; the tops

[L. E.]

This grows wild in many parts of England, in dry pasture grounds, and amongst corn. The tops are an useful aperient bitter: the Edinburgh pharmacopæia directs an extract to be prepared from them, and employs them as an ingredient in the bitter infusion and stomachic tincture.

CEPA [L. E.]: Cepa vulgaris C. B. Onions.

Onions differ from other bulbous rooted plants, in having fingle roots, or fuch as cannot be parted fo as to increase the plant. These roots are confidered rather as articles of food than of medicine: they are supposed to afford little or no nourishment, and when eaten liberally produce flatulencies, occafion thirst, headachs and turbulent dreams: in cold phlegmatic habits, where viscid mucus abounds, they doubtless have their use; as by their stimulating quality they tend to excite appetite, attenuate thick juices, and promote their expulfion; by fome they are strongly recommended in suppressions of urine

and in dropsies. The chief medicinal use of onions in the present practice is in external applications, as a cataplasm for suppurating tumours, &c. They are an ingredient in the cataplasma suppurans [E.]

CERA FLAVA [L. E.] Yellow bees wax.

This is a folid concrete, obtained from the honeycombs after the honey is taken, by heating and prefsing them betwixt iron plates. The best fort is of a lively yellow colour, and an agreeable smell, somewhat like that of honey; when new it is toughish, yet easy to break; by age it becomes harder and more brittle, it loses its fine colour, and in great measure its smell.

CERA ALBA [L. E.]—White wax is prepared from the yellow, by reducing it into thin flakes, and exposing it for a length of time to the air; when sufficiently bleached, it is melted, and cast into cakes. The best fort is of a clear and almost transparent whiteness, and of a light agreeable smell like that of the yellow wax, but much weaker.

The chief medical use of wax is in cerates, plasters, unguents, &c. as an emollient for promoting suppuration, &c. It readily unites with oils and animal fats, but not with watery or spirituous liquors. It is given also internally in diarrheas, dysenteries, &c. either mixed with oily substances, as in the balfamum Locatelli [L. E.] or divided by earthy powders, as in the pulvis testaceus ceratus [E.]

CERASA: Fructus Cerafi majoris et sylvestris, fructu subdulci, nigro colore inficiente C. B. et Cerasi sativæ, fructu rotundo rubro et acido Tourn. et Cerasa acidissima sanguineo succo C. B. The sweet cherry with a black juice; the pleasantly sour-

ifh

ish cherry, with a colourless juice; and the very sour cherry, with a blood red juice; commonly called black, red, and morello cherries.

These fruits, especially the acid forts, are very useful and agreeable coolers and quenchers of thirst; and are sometimes directed in this intention, in hot bilious, or febrile distempers. Boerhaave was extremely fond of these and the other fruits called borai, as aperients in some chronic cases; and declares himself persuaded, that there is no kind of obstruction of the viscera capable of being removed by medicine, which will not yield to the continued use of these.

CERUSSA [L. E.] Cerusse, or white lead.

This is prepared by exposing lead to the steam of vegetable acids till it is corroded into a white powdery substance. It is sometimes adulterated with a mixture of common whiting; this, if in any considerable quantity, may be easily discovered by the specific lightness of the compound: the fort called stake lead is not subject to abuse. See the article Plumbum; and Cerussa in the third part.

CETERACH: Ceterach officinarum C. B. Asplenium Ceterach Lin.

Spleenwort, or miltwafte.

This is a small bushy plant, growing upon rocks and old walls. It has an herbaceous, somewhat mucilaginous, roughish taste: it is recommended as a pectoral and for promoting urine in nephritic cases. The virtue for which it has been most celebrated, is that to which it has the least title, diminishing the spleen.

CHÆREFOLII folia: Chærophylli sativi C. B. Scandicis Chærefolii Lin. Chervil; the leaves [E.] This is a low annual plant somewhat like parsley, commonly cultivated in gardens for culinary purposes. This plant is grateful both to the palate and flomach, gently aperient, and diuretic. Geoffroy affures us, that he has found it from experience to be of excellent fervice in dropfies: that, in this diforder, it promotes the discharge of urine when suppressed; renders it clear, when feculent and turbid; and when high and fiery, of a paler colour; that it acts mildly without irritation, and tends rather to allay than excite inflammation. He goes fo far as to fay, that dropfies which do not yield to this medicine, are scarce capable of being cured by any other. He directs the juice to be given in a dose of three or four ounces every fourth hour, and continued for some time, either alone, or in conjunction with nitre and fyrup of the five opening roots.

CHALYBS, vide FERRUM.

CHAMÆCYPARISSUS, vide ABROTANUM FOEMINA.

CHAMÆDRYOS, seu Trissaginis folia et summitates cum semine: Chamædryos minoris repentis C. B. Tucrii Chamædryos Lin. Germander; the leaves [E.] and tops with

the feed [L.]

This is a low shrubby plant, cultivated in gardens. The leaves, tops, and seeds have a bitter taste, with some degree of astringency and aromatic slavour. They are recommended as sudorisic, diuretic, and emmenagogue, and for strengthening the stomach and viscera in general. With some they have been in great esteem in intermittent fevers; as also in scrophulous and other chronic disorders.

CHA-

CHAMÆLEON ALBUS, vide CARLINA.

CHAMÆMELI folia, flores: Chamæmeli nobilis seu leucanthemi odoratioris C. B. Anthemis nobilis Lin. Single-flowered chamomile (the trailing fort with larger leaves and flowers, and the disk of the flower not very convex) the leaves and

flowers [L. E.]

These have a strong not ungrateful aromatic smell, and a very bitter naufeous tafte. They are accounted carminative, aperient, emollient, and in fome measure anodyne: and fland recommended in flatulent colics, for promoting the uterine purgations, in spasmodic pains, and the pains of child-bed women: fometimes they have been employed in intermittent fevers, and the nephritis. These flowers are frequently also used externally in discutient and antiseptic fomentations, and in emollient glyfters: they enter the fotus communis, decoctum commune pro clystere and oleum viride of our dispensatory; an essential oil [L.] fimple water, and extract [ E. ] are likewise prepared from them in the shops.

CHAMÆMELUM flore multiplici C. B. Double-flowered cha-

momile; the flowers.

These differ from the foregoing in having several rows of the white petala set thick together about the middle disk, which is much smaller. In this disk the medicinal qualities of the slower chiefly reside; and hence the double or small disked fort is inferior in esseate to the single.

CHAMÆPITYOS sive Ivæ arthriticæ folia: Chamæpityos luteæ vulgaris sive folio trisido C. B. Tucrii Chamæpityos Lin. Ground pine; the leaves. This is a low hairy plant, clammy to the touch, and of a strong aromatic resinous smell, and a bitter roughish taste. It is recommended as an aperient and vulnerary, as also in gouty and rheumatic pains.

CHELIDONII MAJORIS folia, radix: Chelidonii majoris vulgaris C. B. Celandine; the leaves

and root [E.]

This plant grows upon old walls, among rubbish, and in waste shady places. The herb is of a blueish green colour; the root of a deep red; both contain a gold-coloured juice; their smell is disagreeable; the taste somewhat bitterish, very acrid, biting and burning the mouth; the root is the most acrid. Juice of celandine has long been celebrated in disorders of the eyes; but it is greatly too sharp, unless plentifully diluted, to be applied with fafety to that tender organ. It has been fometimes used, and it is faid with good fuccess, for extirpating warts, cleanfing old ulcers, and in cataplasms for the herpes miliaris. This acrimonious plant is rarely given internally; the virtues attributed to it are those of a stimulating aperient, diuretic, and fudorific: it is particularly recommended in the flow kind of jaundice, where there are no symptoms of inflammation, and in dropfies; some suppose the root to have been Helmont's specific in the hydrops ascites. Half a dram or a dram of the dry root is directed for a dole; or an infusion in wine of an ounce of the fresh root. The root and leaves are an ingredient in the icterial decoction of the Edinburgh pharmacopœia.

CHELIDONII MINORIS folia, radix: Chelidonæ rotundifoliæ minoris C. B. Ranunculi Fiçariæ Lin. Pilewort; the leaves and root [E.]

This is a very small plant, found in moist meadows and by hedge-fides: the roots consist of slender sibres, with some little tubercles among them, which are supposed to resemble the hæmorrhoids; whence it has been concluded, that this root must needs be of wonderful efficacy for the cure of that distemper: to the taste, it is little other than mucilaginous.

CHERMES, vide KERMES.

CHINÆ radix. China root [E.] There are two forts of this root in the shops, one brought from the East Indies, (Smilax China Lin.) the other from the West, (Smilax Pseudo-China Lin.) They are both longish, full of joints, of a pale reddish colour, of no smell, and very little taste: the oriental, which is the more effeemed, is confiderably harder and paler coloured than the other. Such should be chosen as is fresh, close, heavy, and upon being chewed appears full of a fat unctuous juice. China root was either unknown or difregarded by the ancient physicians. It was first introduced into Europe about the year 1535, with the character of a specific against venereal and cutaneous diforders, and as fuch was made use of for fome time, but at length gave place to medicines of a more powerful kind. It is generally supposed to promote infenfible perspiration and the urinary discharge; and by its uncluous quality to obtund acrimonious juices.

CHINA CHINÆ, vide PERU-VIANUS CORTEX,

CHICHOREI folia, radix: Cichorei sylvestris siwe officinarum C. B. Cichorii Intybi Lin. Wild succory; the roots and leaves [E.]

The root has a moderately bitter taste, with some degree of rough-

ness; the leaves are somewhat less bitter: the roots, stalks, and leaves yield, on being wounded, a milky faponaceous juice. By culture this plant loses its green colour and its bitterness, and in this state is employed in falads: the darker coloured, and more deeply jagged the leaves, the bitterer is their tafte. Wild fuccory is an useful detergent, aperient, and attenuating medicine, acting without much irritation, tending rather to cool than to heat the body, and, at the fame time, corroborating the tone of the intestines. The juice taken in large quantities, fo as to keep up a gentle diarrhoa, and continued for fome weeks, has been found to produce excellent effects in scorbutic and other chronical diforders.

CICUT Æ folia: Cicutæ majoris C. B. Conii maculati Lin. Hem-

lock; the leaves [E.]

This is a large umbelliferous plant, common about the fides of fields, under hedges, and in moift shady places: the leaves are winged, divided into a great number of small fern-like sections, of a dark or blackish green colour, and appearing as it were rough: the stalk is hollow (as is likewise great part of the root after the stalk has arisen) and spotted with several blackish, red, or purple fpots. Hemlock is fometimes applied externally as a discutient, and in this intention is an ingredient in one of the plasters of the Edinburgh pharmacopæia. With regard to its virtue when taken internally, it has been generally accounted poisonous, which it doubtless is, in a high degree, when used in any considerable quantity. But Dr. Storck has found, that in certain fmall doses it may be taken with great fafety, and that, without at all disordering the constitution, or even producing any fenfible operation.

operation, it sometimes proves a powerful resolvent in many obstinate disorders. See Extractum cicutæ in the third part of this work.

\* CINCHONÆ CORTEX: Cinchonæ Carribææ L. Cinchonæ Jamaicenfis D<sup>tis</sup> Wright, Phil. Tranf. Vol. LXXVII. Part 2.

This is a species of the jesuit's bark, the product of Jamaica and This tree, the Carribee islands. called by the natives the fea-fide beech, grows to the height of from twenty to forty feet. The outer bark of these trees is white, furrowed, and very thick. This is inert, and may be knocked off from the inner, which is of a dark brown colour. Its flavour is at first sweet, with a mixture of the taste of horseradish and of the eastern aromatics; but when swallowed, it has that very bitterness and aftringency which characterize the Peruvian bark. It yields its virtues both to cold and warm water; and a decoction of half an ounce of it, boiled in a quart of water to the confumption of a pint, proved as firong as a decoction of an ounce and an half of the true bark. With the addition of orange peel it makes an elegant and grateful bitter tincture. It has been given in London in an intermittent, and effected a cure as completely as the Peruvian bark.

CINERES RUSSICI. Ruffian

potash [L.]

Potash is an impure alkaline salt, produced from vegetable matters by burning. The strongest is brought from Russia, in dark coloured very hard masses, which do not soon deliquiate in the air, like the purer alkaline salts. This fort is said to be prepared by burning wood with a close smothering heat, and making the ashes, with a ley drawn from the coarser part of them, into a passe,

which is afterwards stratified with fome of the more inflammable kinds of wood, and burnt a second time: by these means the falt melts, and concretes with the earthy matter of the ashes into hard cakes: but it appears from experiment, that this kind of potash contains, befides the vegetable earth, a large proportion of quicklime. A purer and whiter falt is brought to us from Germany, under the name of pearl ashes: this is extracted from wood ashes by means of water, and afterwards reduced into a dry form by evaporation. These falts are liable to great abuses from fundry admixtures, and therefore should never be employed for medicinal purposes, without due purification: this may be effected by folution in cold water, filtration, and exficcation. See Part III. chap viii.

CINABARIS NATIVA. Native

cinnabar [E.]

This is a ponderous mineral of a red colour, found in Spain, Hungary, and feveral other parts of the world. The finest fort is in pretty large masses, both externally and internally of an elegant deep red colour, which greatly improves upon grinding the mass into fine powder; this is imported by the Dutch from the East-Indies. There is another fort of a good colour, in roundish drops, smooth without, and striated within.

This mineral appears from chemical experiments to be composed of mercury and sulphur, in such a manner, that the quantity of the former is commonly above six times greater than that of the latter: the siner the colour of the cinnabar, the more mercury it is found to hold. Native cinnabar has been by many preferred as a medicine to that made by art: but there does not appear to be any just foundation for this

preference.

preference. The native has sometimes been observed to occasion nauseæ, vomiting, and anxiety: these probably proceeded from an admixture of some arsenical particles from which it could not be freed by repeated ablution. When pure, it has no quality or medical virtue dissinct from those of the artificial cinnabar, like which it is not dissoluble in the animal fluids, and is commonly sound of little activity. See part III. chap. iv. sect. 7.

CINNAMOMUM: Cinnamomum five cannella Zeylanica C. B. Laurus Cinnamomum Lin. Cinnamon [E.]

This is a light thin bark of a reddish colour, rolled up in long quills or canes; of a fragrant, delightful fmell, and an aromatic, fweet, pungent tafte, with some degree of aftringency. It is generally mixed with the casia bark: this latter is easily distinguishable by its breaking over fmooth, whilst cinnamon splinters; and by its slimy mucilaginous tafte, without any thing of the roughness of the true cinnamon. Cinnamon is a very elegant and useful aromatic, more grateful both to the palate and stomach, than most other substances of this class: by its astringent quality it likewise corroborates the viscera, and proves of great fervice in feveral kinds of alvine fluxes, and immoderate discharges from the ute-An essential oil, a simple and spirituous distilled water, and a tincture of it, are kept in the shops: it is likewise employed as a spicy ingredient in a great number of compositions.

CITREORUM cortex et succus: Frustus mali medicæ C.B. Citreorum medicæ Lin. Citrons; the yellow rind and juice [E.]

The citron is an evergreen tree or shrub, of the same genus with

the orange and lemon: it was first brought from Assyria and Media (whence the fruit is called mala Assyria, mala Medica) into Greece, and thence into the southern parts of Europe, where it is now cultivated. Citrons are rarely made use of among us: they are of the same quality with lemons, except that their juice is somewhat less acid.

CITRULLI semen: Anguriæ Citrulli dietæ C.B. Cucurbitæ Citrulli Lin. Citruls: the seed [E.]

This plant is rarely met with among us, unless in botanic gardens. The seeds are in the number of the four greater cold seeds, and agree in quality with the others of that class.

CNICUS, vide CARTHAMUS.

COCCINELLA, seu Cochinilla:

Cochineal [L. E.]

This is a small irregular roundish body, of a dark red colour on the outfide, and deep bright red within: it is brought from Mexico and New Spain. This fubstance has long been supposed to be the feed of a plant: but it appears, from chemical experiments, to be an animal, and from the accounts of the more celebrated naturalists, an infect, which breeds on the American prickly pear-tree, and adheres to it without changing its place. Cochineal has been strongly recommended as a fudorific, cardiac, and alexipharmac; but practitioners have never observed any considerable effects from it. Its greatest confumption is among the fearlet dyers; and in medicine its principal use is as a colouring drug: both watry and spirituous. liquors extract its colour. In the London pharmacopœia three tinctures, in the Edinburgh eight, with two decoctions, an infusion and a confection,

tion, receive from this drug a fine tural fecretions, and prevent or rered colour.

COCHLEÆ TERRESTRES, vide LIMACES TERRESTRES.

COCHLEARIÆ HORTENSIS folia: Cochleariæ folio subrotundo C. B. Cochleariæ officinalis Lin. Garden scurvy-grass; the leaves [L. E.]

COCHLEARIÆ MARINÆ folia: Cochleariæ folio sinuato C. B. Cochleariæ anglicæ Lin. Sea scurvy-

grafs; the leaves.

These plants have little other difference, as to their external appearance, than that expressed in their titles: in tafte and medical virtue, the former is confiderably the stronger; and hence is alone retained both by the London and Edinburgh colleges.

Scurvygrass is a pungent stimulating medicine; capable of diffolving viscid juices, opening obstructions of the viscera and the more distant glands, and promoting the fluid fecretions: it is particularly celebrated in scurvies, and is the principal herb employed in these kinds of disorders in the northern countries. Its officinal preparations are a conserve [L. E.] and spirit [E.]: it is an ingredient also in the fcorbutic juices and compound horse-radish-water [L. E.] and its fpirit is used for drawing a tincture from gum lac [E.]

COFFEA [E.] Coffee: the fruit of an oriental shrub called by Justieu jasminum Arabicum lauri folio, cujus semen apud nos caffé dicitur.

This fruit is employed rather as food than as a medicine. The medical effects expected from it, are to affift digeftion, promote the namove a disposition to sleepiness.

\* COLCHICUM : Colchicum autumnale Stærck. & Lin. Colchicum commune C. B. Meadow Saffron: a plant growing in rich moist meadow grounds in the fouthern and western parts of England. It has a bulbous root, producing from the lower part a smaller bulb; from this last arises, in autumn, along a furrow in the fide of the old root, a flender hollow transparent pedicle, widening at top into a flower like those of crocuses, of a purplish or whitish colour: from the fame root, next spring, come forth three or four upright leaves, like those of the lily; in the middle of which appear, on thort pedicles, three triangular pods, about the fize of fmall walnuts, divided into three cells full of roundish dark-coloured seeds. The roots, freed from the outer blackish coat and the fibres at bottom, are, while fresh, of a white colour, and full of a milky juice.

This is one of those plants, whose violent and fingular effects engaged the attention of Dr. Stærck. He observes, that on cutting the fresh root into flices, the acrid particles emitted from it irritate the nostrils. fauces, and breaft, and that the ends of the fingers with which it had been held, become for a time benumbed: that applied for two minutes to the tip of the tongue, it rendered the part rigid, and almost void of sensation for fix hours: that lefs than a grain, wrapped up in crumb of bread and taken internally, produced alarming fymptoms, a burning heat and pain in the stomach and bowels, ftrangury, tenefmus, thirst, total lois of appetite, &c. which were greatly relieved by an acidulated mixture with fyrup of poppies, and which on the fourth day

went

went entirely off: that an infusion of three grains of the root in four ounces of wine, flowly fwallowed, occasioned a tickling in the larynx, and short dry cough, soon after a heat in the urinary passages and a copious discharge of pale urine : that an ounce of the fliced juicy root, being digested with a gentle heat in a pound of vinegar for fortyeight hours, and the bottle frequently shaken, the root became almost insipid, and the strained liquor proved acrid in tafte, irritated and constringed the fauces, and raifed a short cough: that this vinegar, mixed with twice its quantity of honey, and gently boiled down to the confistence of honey, proved a fufficiently grateful oxymel, which taken in doses of a dram, promoted 2 copious discharge of urine, without inconvenience. He made trial of this oxymel, in the hospital at Vienna, in desperate hydropic and other ferous diforders, in which it was found to act as a most potent diuretic. He begins with giving a dram twice a day in any suitable vehicle, and gradually increases the dose to an ounce, and sometimes an ounce and a half in a day: if this last quantity proves inesfectual, he thinks there are little hopes of any benefit from this medicine. The Edinburgh college have now received into their pharmacopæia a fyrup of colchicum, made with the same infusion of the root in vinegar as above described, in which are disfolved twenty-fix ounces of fine fugar.

COLOCYNTHIDIS medulla. Cucumis Colocynthidis Lin. Coloquintida, or bitter apple; the medullary part of the dried fruit [L. E.]

This is the produce of a plant of the gourd kind growing in Turkey. The fruit is about the fize of an

orange; its medullary part, freed from the rind and feeds, is alone made use of in medicine : this is very light, white, spongy, composed of membranous leaves; of an extremely bitter, naufeous, acrimonious tafte. Colocynth is one of the most powerful and most violent cathartics. Many eminent physicians condemn it as dangerous, and even deleterious: others recommend it not only as an efficacious purgative, but likewife as an alterative in obstinate chronical diforders. Thus much is certain, that colocynth in the dose of a few grains, acts with great vehemence, diforders the body, and fometimes occasions a discharge of blood. Many attempts have been made to correct its virulence by the addition of acids, aftringents, and the like; these may lessen the force of the colocynth, but no otherwise than might be equally done by a reduction of the dofe. The best method of abating its virulence, without diminishing its purgative virtue, feems to be by triturating it with gummy farinaceous substances, or the oily feeds, which without making any alteration in the colocynth itself, prevent its refinous particles from cohering, and flicking upon the membranes of the intestines, so as to irritate, inflame, or corrode them. It is an ingredient in some of the purgative pills, and the cathartic extract of the shops.

\* COLUMB A radix Ph. Edinb. Columbæ Redi Exp. nat. This is a root brought from Columbo, a town in the island of Ceylon, from whence it takes its name, but we are not yet acquainted with the vegetable of which it is a part.

The columbo root has long been a medicine in great repute among the natives of the countries which K produce

produce it, in diforders of the stomach and bowels. It was, however, little known or regarded in this country, till Dr. Percival, in his Essays Medical and Experimental, Vol. II. published his obfervations and experiments on this root, with cases of its efficacy in various diseases depending on the state of the bile; as the bilious colic, bilious fevers, diarrhœas, habitual vomitings, &c. Other practitioners have confirmed its utility in these cases. The dose of the powder usually given, is from one scruple to two.

Symphyti majoris radix: Symphyti consolidæ majoris C. B. Symphyti officinalis Lin. Comfry; the root [E.]

This is a rough hairy plant, growing wild by river-fides and in watery places. The roots are very large, black on the outfide, white-within, full of a vifcid glutinous juice, of no particular tafte. They agree in quality with the roots of althæa; with this difference, that the mucilage of confolida is somewhat stronger bodied. Many ridiculous histories of the confolidating virtues of this plant are related by authors. It is an ingredient in the compound white decoction of the Edinburgh pharmacopæia.

CONSOLIDA MEDIA, vide

CONSOLIDA MINIMA, vide Bellis MINOR.

CONTRAYERVA [L. E.] Dor-

stenia Contrayerva Lin.

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This is a knotty root, an inch or two in length, about half an inch thick, of a reddish brown colour externally, and pale within: long, tough, stender fibres shoot out from all sides of it, which are generally loaded with small round knots. This root is of a peculiar kind of aromatic finell, and a fomewhat aftringent, warm, bitterish taste, with a light and fweetish kind of acrimony when long chewed: the fibres have little tafte or fmell; the tuberous part therefore should be alone choien. Contrayerva is one of the mildest of those substances called alexipharmacs: it is indifputably a good and useful diaphoretic, and may be fafely given in much larger dofes than the common practice is accustomed to exhibit it. Its virtues are extracted both by water and rectified spirit, and do not arise in evaporation with either: the spirituous tincture and extract talte stronger of the root than the aqueous ones. It gives name to an officinal powder, and is an ingredient in the Edinburgh theriaca.

mus sive corallina officinarum C. B. Coralline, or sea moss [E.]

This is a branched ftony substance of a white colour, growing on rocks, and sometimes on the shells of sishes. It is celebrated as a vermisuge, on what soundation I know not. To the taste it is entirely inspid.

CORALLIUM RUBRUM. Red

coral [L. E.]

This is also a marine production, of the same nature with the foregoing. It cannot reasonably be looked upon in any other light than as a mere absorbent; as such it enters the officinal crabs' claw powder, and is sometimes in practice directed alone.

CORIANDRI semen: Coriandri majoris C. B. Coriandri sativi Lin. Coriander; the seed [L. E.]

Coriander is an umbelliferous plant, differing from all the others of that class in producing spherical feeds. These, when fresh, have a strong disagreeable smell, which

improves

improves by drying, and becomes fufficiently grateful; they are recommended as carminative and stomachic. They are an ingredient in the officinal compound lime water and electary of bayberries [L.]

CORNU CERVI [L. E.] The

stag or harts horns.

Many extraordinary virtues have been attributed to these horns, and to all the parts of the animal in general; but experience gives no countenance to them; nor do they seem to have any other foundation than the great timidity of the hart, the annual renewal of his horns, and an opinion of his extraordinary longævity; from these circumstances it was inferred, that all the parts of him must be proper for intimidating the enraged Archeus, renewing health and strength, and prolonging life.

The horns boiled in water, give an emollient nutritious gelly [E.] Burnt to whiteness, they yield an absorbent earth, purer from gelatinous matter than the natural testaceous absorbents, but which appears to be weaker in its absorbent power. This earth is employed in the offi-

cinal white decoction [L. E.]

COSTUS [L. E.] Costus: a root brought from the East Indies.

Authors mention two sorts of costus, sweet and bitter: in the shops we seldom meet with more than one, the costus aulcis officinarum C. B. Costus arabicus Lin. The root is about the size of the singer; and consists of a yellowish woody part inclosed within a whitish bark: the former is very tough, of no smell, and very little taste; the cortical part brittle, of a warm, bitterish, aromatic taste, and an agreeable smell, somewhat resembling that of violets or Florentine orris. Costus is said to attenuate viscid

humours, to promote expectoration, perspiration, and urine. At prefent it is rarely met with in prescription, and not often in the shops; in mithridate, theriaca, and the confectio paulina, the only officinal compositions it is directed in, zedoary supplies its place.

COSTUS HORTORUM, vide BALSAMITA MAS.

CRASSULÆ sive Telephii solia: Telephii vulgaris C. B. Sedi Telephii Lin. Orpine; the leaves

[E. ]

This is a very thick-leaved juicy plant, not unlike the houseleeks. It has a mucilaginous roughish taste, and hence is recommended, as emollient and astringent, but has never been regarded in practice.

CREPITUS LUPI, vide Lyco-PERDON.

CRETA [L. E.] White chalk. This is a pure alkaline earth, totally foluble in vinegar, and the lighter acids, fo as to deftroy every fenfible mark of their acidity. This earth is one of the most useful of the absorbents, and is to be looked upon simply as such; the astringent virtues which some attribute to it have no foundation, unless fo far as the earth is fatiated with acid, with, which it composes a faline concrete manifeltly subastringent. It gives name to an officinal julep [L.] and decoction [E.] and is an ingredient in the cardialgic troches. It is employed also for extricating the volatile falt of fal ammoniac [L.]

CRITHMI folia: Crithmi five faniculi maritimi minoris C. B. Sampire; the leaves [E.]

This plant grows wild on rocks, and in maritime places: the leaves are somewhat like those of senuel,

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but

but the segments much thicker and shorter: their smell resembles that of smallage; the taste is warm, bitterish, not agreeable. They are said to be stomachic, aperient, and diuretic.

CROCUS: Crocus fativus C. B. Saffron; the chives or fleshy capillaments growing at the end of the pistil of the flower, carefully picked and pressed together into cakes

[L, E.]

There are three forts of faffron met with in the shops, two of which are brought from abroad, the other is the produce of our own country; this last is greatly superior to the other two, from which it may be distinguished by its blades being broader. When in perfection, it is of a fiery orange red colour, and yields a deep yellow tincture: it should be chosen fresh, not above a year old, in close cakes, neither dry, nor yet very moift, tough and firm in tearing, of the fame colour within as without, and of a firong, acrid, diffusive smell.

Saffron is a very elegant and useful aromatic: besides the virtues which it has in common with all the bodies of that class, it remarkably exhilarates, raises the spirits, and is defervedly accounted one of the highest cordials; taken in large doles, it is faid to occasion immoderate mirth, involuntary laughter, and the ill effects which follow from the abuse of spirituous liquors. This medicine is particularly ferviceable in hysteric depressions proceeding from a cold cause or obstruction of the uterine fecretions, where other aromatics, even those of the more generous kind, have little effect. Saffron imparts the whole of its virtue and colour to rectified spirit, proof spirit, wine, vinegar, and water: a tincture drawn with vinegar, lofes greatly

of its colour in keeping: the watery and vinous tinctures are apt to grow four, and then lose their colour also: that made in pure spirit keeps in perfection for many years. Its officinal preparations are, a spirituous tincture [E.] a vinous tincture, and syrup [L.] It is an ingredient in the cordial confection [L.] the sudorific tincture, the pectoral and paregoric elixirs, the powder for promoting delivery [E.] and several of the aloetic compositions.

CUBEBÆ [L. E.] Cubebs.

Cubebs are a fruit brought from the East Indies. This fruit has a great resemblance to pepper. The principal difference distinguishable by the eye, is, that each cubeb is furnished with a long slender stalk (whence they are called by some piper caudatum). In aromatic warmth and pungency, cubebs are far inferior to pepper. They are an ingredient in mithridate and theriaca, [L.] and in the compound spirit of lavender [E].

CUCUMERIS HORTENSIS

femen Garden cucumbers; the

feeds [E.]

These are in the number of the four greater cold seeds; they are less apt to grow rancid in keeping than the others of that class.

fructus: Cucumeris sylvestris assnini dicti C. B. Memordica Elaterii Lin. Wild cucumber; the fruit [L. E.]

This plant, found wild in foreign countries, is, with us, cultivated in gardens. Its principal botanic difference from the former; is the smallness of its fruit, which is no bigger than a Spanish olive: when ripe, it bursts on a light touch, and sheds its feeds with violence, and hence was named by the Greeks elaterium. This name was applied likewise

likewise to the inspissated juice of the fruit, the only preparation of the plant made use of in medicine. Elaterium is a strong cathartic, and very often operates also upwards. Two or three grains are accounted in most cases a sufficient dose. Simon Paulli relates some instances of the good effects of this purgative in dropfies; but cautions practitioners not to have recourse to it till after milder medicines have proved ineffectual; to which caution we heartily subscribe. Medicines, indeed, in general, which act with violence in a small dose, require the utmost skill to manage them with any tolerable degree of fafety: to which may be added, that the various manners of making these kinds of preparations, as practifed by different hands, must needs vary their power.

CUCURBITÆ semen: Cucurbitæ oblongæ, flore albo, folio molli C. B. Cucurbitæ lagenariæ Lin. The gourd; its feeds [E.]

These are in the number of the four greater cold feeds. They unite with water by trituration into an emulfion, and yield to the press a foft infipid oil, and possess the general virtues of unctuous substances.

## CUMINUM, vide CYMINUM.

CUPRESSI fructus. Cupressi sempervirentis Lin. The cypress tree; its fruit.

This is a tall tree growing wild in the warmer climates. The fruit is a strong astringent; and in some places frequently used as such: among us it is very rarely employed, and not often met with in the shops.

CUPRUM [L. E.] Copper.

The preparations of copper are violently emetic, and therefore very

rarely exhibited internally. Some have ventured upon a folution of a grain or two of the metal in vegetable acids, and observe, that it acts almost as foon as received into the stomach, so as to be of good ule for occasioning poisonous substances that have been swallowed, to be immediately thrown up again. Boerhaave recommends a faturated folution of this metal in volatile alkaline spirits, as a medicine of great fervice in diforders proceeding from an acid, weak, cold, phlegmatic cause: if three drops of this tincture be taken every morning with a glass of mead, and the dose doubled every day to twenty-four drops, it proves, (he fays) aperient, attenuating, warming, and diuretic: he affures us, that by these means he cured a confirmed ascites, and that the urine run out as from an open pipe: but at the same time acknowledges, that upon trying the same medicine on others, it failed. He likewise recommends other preparations of copper, as of wonderful efficacy in certain kinds of ill habits, weakneis of the stomach, &c. but we cannot think the internal use of this metal commendable, or even fafe. Physicians in general feem to be agreed, that it has really a virulent quality; and too many examples are met with of fatal confequences enfuing upon eating food that had been dreft in copper veffels not well cleaned from the rust which they had contracted by lying in the air.

Great care ought to be taken that acid liquors, or even water defigned for internal use, be not suffered to stand long in vessels made of copper; otherwise they will disfolve so much of the metal as will give them disagreeable qualities. Hence in the distillation of simple waters with copper stills, the last

runnings, K 3

runnings, which are manifestly acid, have frequently proved emetic. It is remarkable, that whilst weak acid liquors are kept boiling in copper vessels, they do not seem to dissolve any of the metal; but if suffered to remain in them for the same length of time without boiling, they become notably impregnated with the copper. Hence the confectioners, by skilful management, prepare the most acid syrups in copper vessels without giving them any ill taste from the metal.

CURCUMA [E.] Curcuma longa Lin. Turmeric.

Turmeric is a root brought from the East Indies. It is internally of a deep lively yellow, or fassron-colour, which it readily imparts to watery liquors. It has an agreeable, weak smell, and a bitterish somewhat warm taste. Turmeric is esteemed aperient and emmenagogue, and of singular esticacy in the jaundice. It is an ingredient in the icteric decoction of the Edinburgh pharmacopæia. It tinges the urine of a saffron colour.

\* CURSUTÆ radix Pb. Edinb.

This is a foreign root, which has been used by some practitioners at Edinburgh for more than forty years. It is a strong bitter, and has very much the appearance and tafte of gentian. Dr. Home, in his lift of the materia medica, stiles it Gentiana lutea sylvestris; while he terms the common gentian, Gentiana lutea sativa. No botanic author, however, makes this diffinction; nor can the name of curfuta be met with in any writer the editor has confulted. The Edinburgh college received it on Dr. Home's recommendation; but it is little used there, and is not in general kept in the shops.

CUSCUTA. Dodder.

This is of the class of plants called parafitical, or which grow out from the body of others. It has no leaves, but confifts only of a number of juicy filaments matted together. There are two forts of it, cuscuta major C. B. which grows commonly in heaths on furzes, nettles, &c. and likewise in fields on flax, and other manured plants; and the cufcuta minor, or epithymum of the same author, so called from its being found only upon thyme. This latter is preferred for medicinal use, and is usually brought from Leghorn and Turkey, with tops and stalks of thyme among it. Epithymum has a pretty firong fmell, and roughish somewhat pungent fubtile tafte. Its virtues remain as yet to be determined; the ancients ranked it among cathartics; but those who have given it in that intention have been generally difappointed.

CYANI flores Cyani segetum C. B. Centaureæ Cyani Lin. Bluebottle; the flowers.

This is a common weed among corn. The flowers are of an elegant blue colour, which, if carefully and hastily dried, they retain for a confiderable time. As to their virtues, the present practice expects not any from them; notwithstanding they have been formerly celebrated against the bites of poisonous animals, contagious diseases, palpitations of the heart, and many other distempers.

CYCLAMEN, vide ARTHA-

CYDONIA MALA, corumque femina: Fructus Cotoneæ mali J. B. Pyrus Cydonea Lin. The quince-tree; the fruit and its feeds [L. E.]
Quinces

Quinces have a very auftere acid taile: taken in fmall quantity, they are supposed to restrain vomiting, and alvine fluxes; and more liberally, to loofen the belly. The feeds abound with a mucilaginous substance, of no particular taste, which they readily impart to watery liquors: an ounce will render three pints of water thick and ropy like the white of an egg. A fyrup [L.]and gelly [E.] of the fruit, and mucilage of the feeds [L.] are kept in the shops.

CYMINI semen: Cymini semine longiore C. B. Cumini Cymini Lin. Fæniculi orientalis cumini dicti Tourn. Cummin; the feeds [L. E.]

This is an umbelliferous plant, in appearance refembling fennel, but much fmaller; the feeds are brought chiefly from Sicily and Malta. Cummin feeds have a bitterish warm taste, accompanied with an aromatic flavour, not of the most agreeable kind. They are accounted good carminatives, but not very often made use of. An esfential oil of them is kept in the shops, and they give name to a plaster and cataplaim [L.]

CYNOBASTI fructus: Rojæ Sylvestris vulgaris flore odorato incarnato C. B. Rosæ caninæ Lin. The wild briar, dog rofe, or hip tree;

its fruit [L. E.]

This bush grows wild in hedges throughout England. The flowers have a pleasant smell; but so weak, that Parkinfon and others have named the plant roja sylvestris inodora: a water distilled from them imells agreeably. The fruit or hips contain a fourish sweetish pulp; with a rough prickly matter inclosing the feeds, from which the pulp ought to be carefully feparated before it is taken internally. The Wirtemberg college

observes, that from a neglect of this caution, the pulp of hips sometimes occasions a pruritus, and uneafiness about the anus; and I have known the conserve of it to excite violent The conferve is the vomiting. only officinal preparation of this

CYPERI LONGI radix: Cyperi odorati radice longa, sive cyperi officinarum C. B. Long cyperus; the root.

This is a plant of the graminifolious kind; it is sometimes found wild, in marshy places in England; the roots have been generally brought to us from Italy. This root is long, flender, crooked, and full of knots: outwardly of a dark brown, or blackish colour, inwardly whitish; of an aromatic smell, and an agreeable warm taffe: both the tafte and fmell are improved by moderate exficcation. Cyperus is accounted a good stomachic and carminative, but at present very little regarded.

DACTYLI: Fructus Palmæ majoris C. B. Phænicis dastyliferæ Lin. Dates [E.]: a half dried fruit, about the shape of an acorn, but generally larger, confifting of a fweet pulpy part and a hard stone: the best are brought from Tunis. They were formerly used in pectoral decoctions, and supposed, befides their emollient and incraffating virtue, to have a flight aftringency.

DAUCI CRETICI semen 3 Dauci foliis fæniculi tenuissimis C. B. Athamantæ Cretensis Lin. Candy carrot, or carrot of Crete; the feeds [L. E.]

This is an umbelliferous plant, growing wild in the Levant, and the warmer parts of Europe. The feeds, which are brought from Crete, have a warm biting talte,

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and rather an aromatic smell. They are carminative, and said to be diuretic, but at present little otherwise used than as ingredients in the mithridate and theriaca.

DAUCI SYLVESTRIS semen: Papinacæ sylvestris tenuisoliæ Dioscoridis, vel dauci officinarum C. B. Dauci carotæ Lin. Wild carrot;

the feed [E.]

This is common in pasture grounds and fallow fields throughout England. The seeds possess the virtues of those of the daucus Creticus, in an inserior degree: and have often supplied their place in the shops; and been themselves supplied by the seeds of the garden carrot: these last are, in warmth and slavour, the weakest of the three: the seeds of the Candy carrot are much the strongest.

DENTIS LEONIS sive Taraxaci, radix et folia: Dentis leonis latiore folio, et angustiore folio C. B. Leontodonis Taraxaci Lin. Dandelion; the root and herb [E.]

This plant is common in fields, and uncultivated places; it has feveral narrow dentated leaves lying on the ground, with a flender naked ftalk fuftaining a yellow flower. The root, leaves, and stalk, contain a bitter milky juice : they promife to be of use as aperient and detergent medicines; and have fometimes been directed in this intention with good fuccefs. Boerhaave esteems them capable, if duly continued, of refolving almost all kinds of coagulations, and opening very obstinate obstructions of the viscera.

DIAPENSIA, vide SANICULA.

DICTAMNUS ALBUS, vide FRANINELLA.

DICTAMNI CRETICI folia: Origani Cretici latifolii tomentosi Tourn. Dittany of Crete [L. E.]

This is a kind of origanum, faid to grow plentifully in the island of Candy, in Dalmatia, and in the Morea: it has been found hardy enough to bear the ordinary winters of our own chmate. The leaves, which are the only part in use with us, come from Italy. The best fort are well covered over with a thick white down, and now and then intermixt with purplish flowers. In smell and taste, they fomewhat refemble lemon thyme; but have more of an aromatic flavour, as well as a greater degree of pungency; when fresh, they yield a confiderable quantity of an excellent effential oil. They are ingredients in the pulvis e myrrha, species e scordio, mithridate, and theriaca [L.]

DIGITALIS folia: Digitalis purpureæ folia aspero C. B. Fox-

glove; the leaves.

This grows wild in woods, and on uncultivated heaths: the elegant appearance of its purple flowers (which hang in spikes along one fide of the stalk) has gained it a place in some of our gardens. The leaves have been strongly recommended, externally against scrophulous tumours; and likewife internally, in epileptic diforders: what fervice they may be capable of doing in these cases, we have no experience. Several examples are mentioned by medical writers of their occasioning violent vomiting, hypercatharses, and disordering the whole conftitution; infomuch that Boerhaave accounts them poisonous. Their tafte is bitter and very naufeous.

\* DOLICHOS Ph. Edinb. Dolichos lichos pruriens Lin. Couhage, or Cow-Itch. Cadjust, Bengalis.

This is an herbaceous plant, of the papilionaceous tribe, growing in the East and West Indies. It bears pods, denfely covered with sharp hairs, which have the property of penetrating the fkin, and caufing a most troublesome itching. In the West Indies, the cow-itch is given internally, as an efficacious anthelmintic. The most particular account of the use of this remedy is contained in Mr. Bancroft's Hift. of Guinea, and it is confirmed by a letter in the Medical Comment.

The manner in which it is employed, is to mix the hairy matter fcraped off from the pods, with fyrup or melasses, into a thin electary, of which a tea-spoonful is given to a child two or three years old, and double the quantity to an adult. The dose is exhibited in the morning, fasting, for three succesfive days, after which a dose of rhubarb is given. Its effects are represented as remarkably powerful and certain, without the least dangerous consequence.

Mr. Kerr has given a botanical description of the plant in the Medical Comment. vol. II.

DORONICI GERMANICI, seu Arnicæ, folia et radix : Doronici plantaginis folio alterius C. B. Arnicæ montanæ Lin. German leopardsbane; the leaves and root [E.]

This plant is a native of Germany. It has been eleemed a ipecific for refolving coagulated blood, but operates so violently, that it is rarely used. The dose is said to be one or two pugils of the leaves, and, in some cases, of the roots.

DRACONTIUM: Dracunculis polythyllus C. B. Arum polyphyllum

Rivini. Arum Dracunculus Lin. Dragons, or the many-leaved arum.

This is cultivated in gardens. It has scarce any other medical difference from the common arum, than being in all its parts fomewhat more pungent and acrimonious.

DRAKENA, vide CONTRA-YERVA.

DULCAMARÆ, seu Amaradulcis, solani lignosi, berba, radix: Solani scandentis seu dulcamara C. B. Bittersweet, or woody nightshade;

the herb and roots. [E.]

This plant grows wild in moift hedges, and climbs on the bushes with woody brittle stalks. tafte of the twigs and roots, as the name of the plant expresses, is both bitter and sweet; the bitterness being first perceived, and the sweetness afterwards. They are commended as deobstruents for resolving coagulated blood, &c. and are faid to occasion generally some considerable evacuation by fweat, urine, or stool, particularly the last.

EBULI folia, cortex, radix: Sambuci bumilis sive ebuli C. B. Dwarf elder, or danewort; the root, bark,

and leaves [E.]

This plant grows wild in some counties of England; but about London is rarely met with, unless in gardens: the eye distinguishes little difference betwixt it and the elder tree, except in the fize; the elder being a pretty large tree, and the dwarf elder only an herb three or four feet high. The leaves, roots, and bark of ebulus have a nauseous, sharp, bitter taste, and a kind of acrid ungrateful fmell: they are all strong cathartics, and as fuch are recommended in dropfies, and other cases where medicines of that kind are indicated. The bark of the root is faid to be strongest;

strongest; the leaves the weakest. But they are all too churlish medicines for general use; they sometimes evacuate violently upwards, almost always nauseate the stomach. and occasion great uneafiness of the bowels. By boiling they become (like the other draftics) milder, and more fafe in operation. Fernelius relates, that by long coction they entirely lose their purgative virtue. The berries of this plant are likewife purgative, but less virulent than the other parts. A rob prepared from them may be given to the quantity of an ounce, as a cathartic; and in smaller ones as an aperient and deobstruent in chronic disorders: in this last intention, it is faid by Haller to be frequently used in Swifferland, in the dose of a dram.

ELATINES folia: Linariæ fegetum nummulariæ folio non villoso Tourn. Antirrhini Elatines Lin. Fluellin, or female speedwell; the leaves.

This is a low creeping plant, growing wild in corn fields. The leaves have a very bitter, roughish tafte. They were formerly confidered as excellent vulneraries, and of great use for cleansing and healing old ulcers and fpreading canterous fores: fome have recommended them internally in leprous and scrophulous disorders; as also in hydropic cases. It gives name to one of the officinal honeys [L.]; but the plant itself is never used in the present practice, and this preparation of it is in no great efteem.

ELEMI [L. E.] Gum elemi.

This is a refin brought from the Spanish West Indies, and sometimes from the East Indies, in long roundish cakes, generally wrapped up in stag leaves. The best

fort is foftish, somewhat transparent, of a pale whitish yellow colour, inclining a little to greenish, of a strong not unpleasant smell. It almost totally dissolves in pure fpirit, and fends over fome part of its fragrance along with this menftruum in distillation : distilled with water, it yields a confiderable quantity of a pale coloured, thin, fragrant, essential oil. This refin gives name to one of the officinal unguents, and is at prefent scarce any otherwise made use of; though it is certainly preferable, for internal purposes, to some others which are held in greater efteem.

## ELEOSELINUM, vide APIUM.

ELEUTHERIÆ, seu Cascarillæ cortex [L. E.] Crotonis Cascarillæ Lin. Cascarilla; a bark said to be imported into Europe from one of the Bahama islands called Elatberia, in curled pieces, or rolled up into short quills, about an inch in width, pretty much resembling in appearance the Peruvianus cortex, but of a paler brown colour on the inside, less compact, and more friable.

Its taste is more bitter, yet less disagreeable, and less rough than that of the Peruvian bark; with a considerably greater share of aromatic pungency and heat: the thin outward skin, which is of a whitish colour, has no taste. It is easily slammable, and yields, while burning, a very fragrant smell: this peculiar property distinguishes the eleutheria from all other known barks.

Stifferus feems to have been the first that employed the cortex eleutheriæ as a medicine, in Europe; he relates (in his AEL laborat. chym. published in the year 1693) that he received this aromatic bark from England; and that, some time af-

ter, it was fold at Brunswick for Peruvian bark: that a tincture of it in alkalized vinous spirits, or dulcified alkaline ones, proved carminative and diaretic, and did confiderable fervice in arthritic, fcorbutic, and calculous cases; and that if taken immediately after meals, it affected the head a little. Eleutheria was foon after employed by Apinus in an epidemic fever which raged in some parts of Norway in 1694 and 1695: this difease, which at first had the appearance of an ordinary intermittent, at length was accompanied with petechial The common alexipharmacs and fudorifics were found ineffectual: But the powder or extract of this bark, joined with them, proved successful, even after petechiæ had come forth : dyfenteries succeeding the fever were removed by the fame medicine; During the use of the eleutheria, the patient generally sweated plentifully, without loss of strength, or other inconvenience: the belly was likewise kept open; those who did not sweat, had three or four Rools a day: where the menstrual or hæmorrhoidal fluxes were juppressed, at the beginning of the diforder, they generally, upon the use of this medicine, re-appeared. Among the Germans, the eleutheria is at prefent in very great effeem, and frequently employed against common intermittents, in preference to the Peruvian bark, as being less subject to some inconveniences which the latter, on account of its greater aftringency, is apt to occasion; it is also given, with good success, in flatulent colics, internal hæmorrhages, dyfenteries, the diarrhoeze of acute tevers, and other fimilar diforders. The gentlemen of the French academy found this bark of excellent fervice in an epidemic dysentery

in the year 1719; in which ipecacuanha proved ineffectual. M. Boulduc observed, that this latter left a lowness and weakness of stomach, which continued for a long time, whilst eleutheria soon raised the strength, and promoted appetite. Among us the use of this bark is not yet so general as it seems to deserve: infusions of it are sometimes directed for promoting expectoration.

ENDIVIÆ radix, folia: Intybi sativæ latifoliæ C. B. Cichorii endiviæ Lin. Endive; the roots and

leaves [E.]

Endive is raised in gardens for culinary use. It is a gentle cooler and aperient, nearly of the same quality with the cichorium. The seeds are ranked among the four lesser cold seeds.

ENULÆ CAMPANÆ seu Helenii radix: Asteris omnium maximi Tourn. Elecampane; the root

[L. E.]

This is a very large downy plant, fometimes found wild in moist rich soils. The root, especially when dry, has an agreeable aromatic smell: its taste, on first chewing, is glutinous, and as it were fomewhat rancid; in a little time it discovers an aromatic bitterness, which by degrees becomes confiderably acrid and pungent. Elecampane root possesses the general virtues of alexipharmacs: it is principally recommended for promoting expectoration in humoural afthmas and coughs, in which intention it enters the pectoral oxymel of the Edinburgh pharmacopæia: liberally taken, it is faid to excite urine, and loofen the belly. In some parts of Germany, large quantities of this root are candied, and used as a stomachic, for strengthening the tone of the

the viscera in general, and for attenuating tenacious juices. Spirituous liquors extract its virtues in greater perfection than watery ones: the former scarce elevate any thing in distillation: with the latter an essential oil arises, which concretes into white slakes: this possesses at first the slavour of the elecampane, but is very apt to lose it in keeping. An extract made with water (a preparation pow kept in the shops) possesses the bitterness and pungency of the root, but in a less degree than one made with spirit.

EQUISETUM, vide CAUDA

ERIGERI, seu Senecionis folia: Senecionis minoris vulgaris C. B. Groundsel; the leaves [E.]

This is a common weed, which, notwithstanding its being annual, is met with at all times of the year. The juice, or an infusion of it in ale, is generally said to be a mild and safe emetic; but unless taken in very large quantity, it has no effect this way. The fresh herb, beaten into a very coarse pulp, and applied externally, cold, to the pit of the stomach, is said to have occasioned strong vomiting: but, as Haller justly suspects, there was probably some fallacy in the observation.

ERUCÆ semen: Erucæ latisoliæ albæ, sativæ Dioscoridis C. B. Brassicæ Erucæ Lin. Rocket; the seeds [E.]

This was formerly much cultivated in gardens for medicinal use, and for salads: but is at present less common. In appearance, it resembles mustard, but is easily distinguishable by the smoothness of its leaves, and its disagreeable smell. The seeds have a pungent taste, of the mustard kind, but weaker: they have long been ce-

lebrated as aphrodifiacs, and may, probably, have in fome cases a title to this virtue, in common with other acrid plants.

ERVUM, vide OROBUS.

ERYNGII radix: Eryngii maritimi C. B. Eryngo, or sea holly;

the root [L. E.]

This plant grows plentifully on fome of our fandy and gravelly shores; the roots are slender, and very long; of a pleasant sweetish taste, which, on chewing them for some time, is followed by a light degree of aromatic warmth and acrimony. They are considered as aperient and diuretic, and have also been celebrated as aphrodisiac; their virtues however are too weak to admit them under the head of medicines. The candied root is ordered to be kept in the shops.

ERYSIMI folia: Erysimi vulgaris C. B. Erysimi officinalis Lin. Hedge mustard; the leaves [E.]

This is a low hairy plant, common in waste places, and by waysides. The leaves are said to promote expectoration, excite urine,
and the other sluid secretions, attenuate and dissolve viscid juices, &c.
This they are supposed to perform
by an acrimonious stimulating quality; but the taste discovers in them
only an herbaceous softness void of
acrimony: the seeds indeed are
considerably pungent, and the roots
in some small degree.

ESULA MAJOR et MINOR, vide TITHYMALUS.

EUPATORII CANNABINI folia: Eupatorii cannabini C. B. Hemp agrimony, water agrimony, or water hemp; the leaves.

This plant is found wild by the fides of rivers and ditches. It has

an acrid smell, and a very bitter taste, with a considerable share of pungency. The leaves are greatly recommended for strengthening the tone of the viscera, and as an aperient; and said to have excellent essets in the dropsy, jaundice, cachexies, and scorbutic disorders. Boerhaave informs us, that this is the common medicine of the tursdiggers in Holland, against scurvies. foul ulcers, and swellings in the feet, to which they are subject. The root of this plant is said to operate as a strong cathartic.

EUPATORIUM MESUES, vide AGERATUM.

EUPATORIUM GRÆCO-RUM, vide AGRIMONIA.

EUPHORBIUM [E.] Ex Euphorbia officinarum Lin. a gummy refin exuding from a large oriental shrub. It is brought to us immediately from Barbary, in drops of an irregular form; some of which, upon being broken, are found to centain little thorns, small twigs, flowers, and other vegetable matters; others are hollow, without any thing in their cavity: the tears in general are of a pale yellow colour externally, fomewhat white withinfide: they eafily break betwixt the fingers. Lightly applied to the tongue, they affect it with a very tharp biting tafte; and, upon being held for fome time in the mouth, prove vehemently acrimonious, inflaming, and exulcerating the fauces, &c. Euphorbium is extremely troublesome to pulverize; the finer part of the powder, which flies off, affecting the head in a violent manner. The acrimony is fo great as to render it absolutely unfit for any internal use: several correctors have been contrived 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, unless for some external purposes, we think, with Hossiman and others, that it ought to be expunged from the catalogue of internal medicines.

FARFARA, vide Tussilaco.

FERRUM et CHALYBS [L.E.]

Iron and steel [L. E.]

Steel is accounted less proper for medicinal use than the softer iron, as being acted upon with more difficulty by the animal juices and the common menstrua: iron dissolves readily in all acids, and rusts freely in the air, especially if occasionally moistened with water; steel requires a longer time for its solution, and does not rust so

eafily.

The general virtues of these metals, and the feveral preparations of them, are, to constringe the fibres, to quicken the circulation. to promote the deficient fecretions in the remoter parts, and at the same time repress inordinate difcharges into the intestinal tube. After the use of them, if they take effect, the pulse is very sensibly raised; the colour of the face, though before pale, changes to a florid red; the alvine, urinary, and cuticular excretions, are increased. Nidorous eructations, and the faces voided of a black colour. are marks of their taking due effect.

An aperient virtue is usually attributed to some of the preparations of iron, and an astringent to others; but in reality, they all produce the effects both of aperients and astringents, and seem to differ only in degree. Those distinguished by the name of astringent sometimes occasion a very copious discharge of

urine,

urine, or a diarrhæa; whilst those called aperient frequently stop these evacuations.

Where either a præternatural discharge, or suppression of natural fecretions, proceed from a languor and sluggishness of the sluids, and weakness of the solids; this metal, by increasing the motion of the former, and the strength of the latter, will suppress the slux, or remove the suppression: but where the circulation is already too quick, the solids too tense and rigid, where there is any stricture or spasmodic contraction of the vessels; iron, and all the preparations of it, will aggravate equally both distempers.

Though the different preparations of iron act all in the fame manner, yet they are not equally proper in all constitutions. Where acidities abound in the first passages, the crude filings, reduced into a fine powder, prove more ferviceable than the most elaborate preparation of them. On the other hand, where there is no acid in the primæ viæ, the metal requires to be previously opened by faline menstrua: hence a solution of iron in acid liquors has in many cases excellent effects, where (as Boerhaave observes) the more indigestible preparations, as the calces made by fire, have scarce any effect at all. If alkalescent juices be lodged in the stomach, this metal, though given in a liquid form, proves at least useless; for here the acid solvent is absorbed by the alkaline matters which it meets with in the body, fo as to leave the iron reduced to an inactive calx.

Chalybeate medicines are likewife supposed to differ, independent of differences in the constitution, according to the nature of the acid united with the metal: vegetable acids superadd a detergency and aperient virtue: combined with the vitriolic, the metal acts in the first passages powerfully as an aperient; whilst the nitrous renders it extremely styptic; and the marine still more so. For the different preparations of iron, see the third part of this work.

FILIPENDULÆ radix: Filipendulæ vulgaris, an Moli Plinii C.

B. Dropwort; the root.

This plant grows wild in fields and chalky grounds: the root confifts of a number of tubercles, faftened together by flender firings; its tafte is rough and bitterish, with a flight degree of pungency. These qualities point out its use in a flaccid flate of the veffels; and a fluggishness of the juices: the natural evacuations are, in some meafure, restrained or promoted by it, where the excess or deficiency proceed from this cause. Hence some have recommended it as an aftringent in dysenteries, immoderate uterine fluors, &c. others as a diuretic; and others as an aperient and deobstruent in scrophulous habits. At present it is wholly difregarded.

FILICIS MARIS radix: Filicis non ramofæ, dentatæ C. B. Folypodit Filicis Maris Lin. Common male fern; the root [E.]

FILICIS FŒMINÆ radiz: Filicii ramosæ majoris pinnulis obtusts non dentatis C. B. Polypodii Filicis faminæ Lin. Female fern; or

brakes; the root [E.]

FILICIS FLORIDÆ, seu Osmundæ regalis radix: Filicis ramosæ non dentatæ storidæ C. B. Osmund royal, or the slowering fern; the root [E.]

The roots of these plants (which are the only part directed for medicinal use) have, when first chew-

ed, somewhat of a sweetish glutinous tafte, which foon becomes bitterish, subastringent, and nauseous. They are faid to be aperient and anthelmintic. Simon Paulli tells us, that they have been the grand fecret of some empirics against the broad kind of worms called tænia: and that the dose is one, two, or three drams of the powder. The third fort is supposed to be the weakest, and the second the strongeft; this therefore has been generally made choice of; practice has, however, at length expunged them all, though the college of Edinburgh fill retains them in their catalogue of fimples.

\* FLAMMULA JOVIS Stærck. Ph. Edinb. Flammula recta C. B. Clematis recta Lin Upright Virgin's Bower: This species of clematis, distinguished by its pinnated oval leaves, and erect stalk, grows wild in thickets in the fouthern parts of France and Germany. Its leaves and flowers are extremely acrid; the former, when fresh, raising blifters on the part to which they

are applied.

The flammula jovis is one of the new medicines introduced by Dr. Stærck. He has published several cases of its efficacy in cancerous, venereal, and other malignant ulcers, obstinate pains of the head and bones, inveterate itch, and other diseases proceeding from peculiar acrimony. It was used internally, in infusion of the flowers or leaves, and extract of the plant; and the powder was sprinkled on the ulcers externally, where it was found to act as a most excellent efcharotic and detergent. The medicine is faid to have proved diuretic to some, and sudorific to others, but rarely to have moved the belly. Small doses, of only half a grain of

the extract, and half a dram of the dried leaves in infusion, were at first exhibited, which were gradually increased.

FŒNICULI DULCIS, semen Fæniculi dulcis C. B. Sweet fea-

nel; the feeds [L. E.]

FENICULI VULGARIS folia, radix, semen : Fæniculi vulgaris germanici C. B. Anethi Fæniculi Lin. Common fennel; the feeds,

roots, and leaves [E.]

The sweet fennel is smaller in all its parts than the common, except the feeds, which are confiderably larger. The feeds of the two forts differ likewise in shape and colour: those of the common are roundish, oblong, flattish on one side, and protuberant on the other, of a dark almost blackish colour; those of the fweet are longer, narrower, not fo flat, generally crooked, and of a whitish or pale yellowish colour. Both forts are cultivated in our gardens: the common is a perennial plant : the sweet perishes after it has given feed; nor do its feeds come to fuch perfection in this climate as those which we receive from Germany.

The feeds of both the fennels have an aromatic fmell, and a moderately warm, pungent tafte: those of the fæniculum dulce are in flavour most agreeable, and have also a considerable degree of sweetishness: hence our college have directed the use of these only. They are ranked among the four greater hot feeds; and not undefervedly looked upon as good stomachics and carminatives. An effential oil [E.] and fimple water [L.] are prepared from them in the shops; they are ingredients also in the compound juniper water, garlic-oxymel, mithridate, theriaca, and decoction

for glysters [L.]

The root is far less warm, but has more of a sweetish taste, than the seeds; it is one of the sive roots called openers; and has sometimes been directed in aperient apozems. Boerhaave says, that this root agrees in taste, smell, and medical qualities, with the celebrated genseng of the Chinese; from which, however, it appears to be very considerably different.

The leaves of fennel are weaker than either the roots or feeds, and have very rarely been employed for any medicinal use. A simple water is directed to be prepared from them in the Edinburgh pharmaco-

pœia.

FŒNI GRÆCI semen: Fæni græci sativi C. B. Trigonellæ sænigræci Lin. Fænugreek; the seeds

[L. E.]

This plant is cultivated chiefly in the fouthern parts of France, Germany, and in Italy; whence the feeds are brought to us. They are of a yellow colour, a rhomboidal figure; a difagreable strong smell, and a mucilaginous taste. Their principal use is in cataplasms, fomentations, and the like, and in emollient glysters. They enter the oleum e mucilaginibus of the shops; to which they communicate a considerable share of their smell.

FOLIUM INDUM, vide Ma-

FORMICÆ. Ants; their bo-

dies and eggs.

These insects are at present of no use with us in medicine, though formerly much celebrated for approdisiac virtues, and still employed in the aqua magnanimitatis, and other like compositions of foreign dispensatories. It is remarkable, that these animals contain a

truly acid juice, which they shed in small drops upon being irritated: by insuffing a quantity of live and vigorous ants in water, an acid liquor is obtained nearly as strong as good vinegar. Neumann observes, that on distilling them either with water or pure spirit, a clear limpid oil arises, which has scarce any taste, or at least is not hot or pungent like the essential oils of vegetables.

FRAGARIÆ folia, fructus e Fragariæ ferentis fragra rubra J. B. The strawberry bush; its leaves and

fruit [E.]

The leaves are somewhat styptic, and bitterish; and, hence, may be of some service in debility and laxity of the viscera; and immoderate lecretions, or a suppresfion of the natural evacuations, depending thereon: they are recommended in hæmorrhages and fluxes; and likewife as aperients, in suppressions of urine, obstructions of the viscera, in the jaundice, &c. The fruit is in general very grateful both to the palate and stomach: like other fruits of the dulco-acid kind, they abate heat, quench thirst, loosen the belly, and promote urine; but do not afford much nourishment. Geoffroy obferves, that the urine of those who eat liberally of this fruit, becomes impregnated with its fragrant smell.

FRANGULA, vide Atnus NI-

FRAXINELLÆ, seu Distamni albi, radix: Distamni vulgo sive fraxinellæ C. B. White or bastard dittany: the root [E]

dittany; the root [E.]

This plant grows wild in the mountanous parts of France, Italy, and Germany; whence the cortical part of the root, dried and rolled, rolled up into quills, is sometimes brought to us. This is of a white colour; a weak, not very agreeable smell; and a durable bitter, lightly pungent taste. It is recommended as an alexipharmac; but not regarded by common practice, nor often kept in the shops.

FRAXINI cortex et semen: Fraxini excelsioris C. B. Fraxini vulgatioris J. B. The ash tree;

its bark and feeds [E.]

The bark of this tree is moderately aftringent, and as such has sometimes been made use of: the seeds, which are somewhat acrid, have been employed as aperients. There are so many other medicines more agreeable, and more essicacious for these intentions, that all the parts of the ash tree have long been neglected.

FULIGO lignorum combustorum.

Wood foot [L. E.]

This concrete is of a shining black colour, a disagreeable smell, and an acrid, bitter, naufeous tafte. Its chief use is in hysteric cases, in which it is fometimes given in conjunction with the fetid gums : it gives name to a tincture of this kind in the shops. Its virtues are extracted both by watery and spirituous liquors, each of which, if the foot be of a good kind, dissolve about one-fixth. Soot is faid to differ greatly in quality, according to the wood from which it was produced: the more refinous the wood, the more the foot abounds with oily matter.

FUMARIÆ folia: Fumariæ officinarum et Diascoridis C. B. Fu-

mitory; the leaves [E.]

This is a common weed in shady cultivated grounds, producing spikes of purplish slowers, in May and June. It is very juicy, of a

bitter taste, without any remarkable fmell. The medical effects of this herb are, to strengthen the tone of the bowels, gently loofen the belly, and promote the urinary and other natural fecretions. It is principally recommended in melancholic, scorbutic, and cutaneous disorders; for opening obstructions of the viscera, attenuating and promoting the evacuation of vifcid juices. Frederick Hoffman had a very great opinion of it as a purifier of the blood; and affures us, that in this intention scarce any plant exceeds it. Both watery and spirituous menstrua extract its vir-

GALANGÆ MINORIS radix [E.] Kempferiæ Galangæ Lin. Galangal; a root brought from China.

This root comes to us in pieces fearce an inch long, and not half fo thick, full of joints, with feveral circular rings on the outfide; of an aromatic smell, and a bitterish, hot, biting taste. Galangal is a warm stomachic bitter: it has been frequently prescribed in bitter insusions, but the slavour it gives is not agreeable. The London college has rejected it from the officinal simples.

GALBANUM [L. E.]

This is the concrete juice of an African plant of the ferulaceous kind. The juice as brought to us, is semipellucid, soft, tenacious; of a strong, and to some unpleasant smell; and a bitterish warm taste: the better fort is in pale coloured masses, which, on being opened, appear composed of clear white tears. Geosfroy 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 forts of

L galbanum

galbanum are faid by fome to diffolve entirely in wine, vinegar, or water; but these liquors are only partial menstrua with regard to this drug; nor do spirit of wine, or oils, prove more effectual in this respect: the best dissolvent is a mixture of two parts of spirit of wine, and one of water. Galbanum agrees in virtue with gum ammoniacum; but is generally confidered less efficacious in althmas, and more so in hysterical complaints. It is an ingredient in the gum pills, species e scordio, mitbridate, theriaca, confectio Paulina, maturating cataplasm [L] and antihysteric plaster [E.]

GALLÆ [L. E.] Galls.

These are excrescences, found, in the warmer countries, upon the oak tree: they are produced by a kind of infect (which wounds the young buds or branches) and afterwards they ferve as a lodgement for its eggs: the animal within the gall eats its way through; those which have no hole are found to have the infect remaining in them. The best galls come from Aleppo: these are not quite round and smooth, like the other forts, and have several tubercles on the furface. Galls have a very auftere flyptic tafte, without any smell: they are very strong astringents, and as fuch have been fometimes used both internally and externally, but are not much taken notice of by the present practice.

GALLII folia: Gallii lutti C. B. Gallii veri Lin. Ladies bedstraw, or cheese-rennet; the herb [E.]

This herb has a fubacid tafte, with a very faint, not difagreeable smell. The juice changes blue vegetable infusions of a red colour, and coagulates milk, and thus discovers marks of acidity. It stands recommended as a mild flyptic; but has never been much in use.

GAMBOGIA [L. E] Gamboge; a folid concrete juice, brought from the East-Indies, in large cakes or rolls. The best fort is of a deep yellow or orange colour, and breaks shining and free from drofs. It has no fmell, and very little tafte, unless kept in the mouth for fome time; when it impresses a slight fense of acrimony. It immediately communicates to spirit of wine a bright golden colour, and almost entirely dissolves in it; Geoffroy fays, except the fixth part: alkaline falts enable water to act upon this substance powerfully as a menstruum: the folution made by their means is fomewhat transparent, of a deep blood-red colour, and passes the filtre: the dulcified spirit of fal ammoniac readily and entirely diffolves it, and takes up a confiderable quantity; and, what is remarkable, this folution mixes either with water or spirit, without

growing turbid.

Gamboge evacuates powerfully both upwards and downwards. Hoffman and fome others condemn it as acting with too great violence, and occasioning dangerous hypercatharfes; whilst others are of a contrary opinion. Geoffroy feems particularly fond of this medicine, and informs us, that he has frequently given it, from two to four grains, without its proving at all emetic; that from four to eight grains, it both vomits and purges, without violence; that its operation is foon over; and that if given in a liquid form, and fufficiently diluted, it flands not in need of any corrector; that in the form of a bolus or pill, it is most apt to prove emetic, but very rarely has this effect if

joined

joined with mercurius dulcis. He nevertheless cautions against its use where the patient cannot easily bear vomiting. It gives name to a pill in the Edinburgh pharmacopæia, but is not used in any composition of the London.

GENIST Æ folia, flores, semen: Cytiso genistæ scopariæ vulgaris flore luteo Tourn. Spartii scoparii Lin. Broom; the leaves, flowers, and seeds [E.]

The leaves of this shrub have a nauseous bitter taste: decoctions of them loosen the belly, promote urine, and stand recommended in

hydropic cases.

The flowers are faid to prove cathartic in decoction, and emetic in fubitance, though in some places, as Lobel informs us, they are commonly used, and in large quantity, in salads, without producing any effect of this kind. The qualities of the seeds are little better determined: some report, that they purge almost as strongly as hellebore, in the dose of a dram and half; whilft Lobel relates, that he has given a decoction of two ounces of them as a gentle emetic.

GENTIANÆ radix: Gentianæ majoris luteæ C. B. Gentian; the

root [L. E.]

This plant is found wild in fome parts of England: but the dried roots are most commonly brought from Germany, &c. they should be chosen fresh, and of a yellow or bright gold colour within. This root is a strong bitter, and as such, very frequently made use of in practice: in taste it is less exceptionable than most of the other substances of this class; infusions of it, slavoured with orange peel, are sufficiently grateful. It is the capital ingredient

in the bitter wine, tincture, and infusion of the shops. An extract made from it is likewise an officinal

preparation.

A poisonous root was some years ago discovered among some of the gentian brought to London; the use of which occasioned violent diforders, and in fome instances death. This is eafily distinguishable by its being internally of a white colour, and void of bitterness. This poisonous simple seems to be the root of the thora valdenfis of Ray, the anconitum primum pardalianches of Gesner; a plant with which, Lobel informs us, the inhabitants of fome parts of the Alps used formerly to empoison darts.

\* GEOFFRÆÆ cortex: Geoffrææ Jamaicensis inermis Dis
Wright. Geoffrææ Pharm. Eding.
Cabbage Bark, or Worm-Bark
tree.

This is a tree growing abundantly in the low favannahs of Jamaica,
of a confiderable height, but no
great thicknefs. It has a straight
smooth trunk, and sends off its
branches near the top. Its leaves
are of a dark green, its slowers
are rose-coloured and of the papilionaceous kind, set in purple
slower-cups. These are succeeded
by a green hard fruit, of the size
of a plum, having a skin the
thickness of a crown piece, and a
nut within.

The bark of this tree is externally of a grey colour, black and furrowed on the infide. Its tafte is mucilaginous and fweetish; its smell disagreeable. It has long been celebrated as an anthelmintic in the West-Indies, and has lately been introduced into European practice.

This bark is used in decoction, syrup, powder and extract. For L 2 making

making the decoction, an ounce of fresh-dried bark is to be boiled gently in a quart of water, till the liquor be of the colour of Madeira wine; and then to be strained off for use. The decoction is preferred in Jamaica, and seems to be the most efficacious as an anthelmintic.

Mr. Anderson, who has written a paper concerning this bark, in the Medical Commentaries, recommends its exhibition in gradually augmented doses of the decoction, for eight or nine mornings successively, and then a dose of jalap and calomel, which seldom fails to bring away the worms.

GINSENG [E.] Panacis quinquefolii Lin. A small root brought from North America, and sometimes from China; an inch or two in length, taper, finely striated, of a whitish or yellowish colour. It has a very sweet taste, accompanied with a slight bitterishness and warmth.

The Chinese are said to have a very extraordinary opinion of the virtues of this root, and to look upon it as an universal restorative, in all decays from age, intemperance, or disease. The great value, there fet upon it, has prevented its being exported into other countries, and its discovery in North America is but of late date, so that among us it has hitherto been very rarely made use of; although, from what can be judged of it by the taste, it feems to deferve fome regard, especially as it is now procurable in plenty.

GITH, vide NIGELLA.

GLADIOLI LUTEI radix: Iridis palustris, lutea, sive acori adulterini J. B. Acori vulgaris pharm. August. et Wirt, Iridis Pseudo Acori

Lin. Yellow water-flag, baftard acorus, or water flower de luce; the roots [L.]

This grows common by the brinks of rivers and in other watery places. The root has a very acrid tafte, and proves, when fresh, a strong cathartic: its expressed juice, given to the quantity of eighty drops every hour or two, and occasionally increased, has occasioned a plentiful evacuation, after jalap, gamboge, &c. had proved ineffectual (see the Edinburgh Eslays, vol. v. art. 8. Abridg. vol. i. page 202.) By drying, it lofes its acrimony and purgative virtue. The pulvis ari of our dispensatory contains about one-fifth of the dry root; the Edinburgh dispensatory uses in its place the acorus verus, or calamus aromaticus.

GLYCYRRHIZÆ radix: Glycyrrhizæ filiquofæ vel Germanicæ C. B. Glycyrrhizæ glabræ Lin. Liquo-

rice; the root [L. E.]

This is produced plentifully in all the countries of Europe. That which is the growth of our own is preferable to fuch as comes from abroad; the latter being generally mouldy, which this root is very apt to become, unless kept in a dry place. The powder of liquorice, usually fold, is often mingled with flour, and I fear too often with substances not quite so wholefome: the best fort 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 fresh root. Liquorice is almost the only fweet that quenches thirst; whence it was called by the Greeks adipson. Galen takes notice, that it was employed in this intention in hydropic cases, to prevent the necesfity of drinking. Mr. Fuller, in his Medicina gymnastica, recom-

mends

mends this root as a very useful pectoral, and fays it excellently foftens acrimonious humours, at the fame time that it proves gently detergent: and this account is warranted by experience. It is an ingredient in the pectoral fyrup, pectoral troches, the compound lime waters, decoction of the woods, compound powder of gum tragacanth, lenitive electary, and theriaca. An extract is directed to be made from it in the shops, but this preparation is brought chiefly from abroad, though the foreign extract is not equal to fuch as is made with proper care among ourfelves.

GRAMINIS CANINI radix: Graminis canini arwensis, siwe graminis Dioscoridis C. B. Tritici repentis Lin. Quick-grass: the roots.

Grass roots have a sweet roughish taste. They are principally recommended in aperient spring drinks, for what is called purifying and sweetening the blood.

GRANA PARADISI: Cardamomum majus semini piperato Geoffroii. Amomum Grana Paradisi Lin. Grains of paradise: a fruit brought from the East Indies [E.]

This fruit is about the fize of a fig, divided internally into three cells, in each of which are contained two rows of small seeds like cardamoms. These seeds are somewhat more grateful, and confiderably more pungent, than the common cardamoms, approaching in this respect to pepper, with which they agree also in their pharmaceutical properties: their pungency residing, not in the distilled oil, as that of cardamom seeds does, but in the resin extracted by spirit of wine.

GRANATI cortex: Frudûs Mali punicæ sativæ C. B. The rind of the pomegranate, called malicorium

[L.E.]

The pomegranate tree is fometimes met with in our gardens, but the fruit, for which it is chiefly valued, rarely comes to such perfection as in warmer climates. The fruit has the general qualities of the other sweet summer fruits, allaying heat, quenching thirst, and gently loosening the belly. This rind is a strong astringent, and as such is occasionally made use of.

GRATIOLÆ folia: Gratiolæ centaurioidis C. B. Gratiolæ officinalis Lin. Hedge hysfop; the leaves [E.]

This is a small plant, met with, among us, only in gardens. The leaves have a very bitter, disagreeable taste: an insusion of a handful of them when fresh, or a dram when dried, is said to operate strongly as a cathartic. Kramer reports (Tentam. botanic. p. 18.) that he has found the root of this plant a medicine similar in virtue to ipecacuanha.

GUAIACI lignum, cortex, gummi: Guaiaci Americani primi fructu aceris, sive legitimi Breyn. prodr. Guaiaci officinalis Lin. Guaiacum, a tree growing in the warmer parts of the Spanish West-Indies; its wood, bark, and resin called gum

guaiacum [L. E.]

The wood is very ponderous, of a close compact texture; the outer part is of a yellow colour, the heart of a deep blackish green, pale, and brown colours: the bark is thin, fmooth, externally of a dark greyish hue: both have a lightly aromatic, bitterish, pungent taste; the bark is fomewhat the weaker. The refin (which exudes from incisions made in the trunk of the tree) is brought to us in irregular masses, usually friable, of a dufky greenish, and fometimes of a reddish cast, with 1 3 pieces

pieces of the wood among them: its take is more acrid and pungent than that of the wood or bark.

Their general virtues are those of a warm stimulating medicine: they strengthen the stomach and other vifcera; and remarkably promote the urinary and cuticular difcharge: hence in cutaneous defedations, and other diforders proceeding from obstructions of the excretory glands, and where fluggish ferous humours abound, they are eminently useful; rheumatic and other pains have often been relieved by them. The refin is the most active of these drugs; and the efficacy of the others depends upon the quantity of this part contained in them: the refin is extracted from the wood in part by watery liquors, but much more perfectly by spirituous ones; the watery extract of this wood, kept in the shops, proves not only less in quantity, but confiderably weaker than one made with fpirit. This latter extract is of the fame quality with the native refin, and differs from that brought to us only in being purer. The gum or extracts, are given from a few grains to a scruple or half a dram: which latter dose proves for the most part confiderably purgative. The officinal preparations of guaiacum are an extract of the wood [L.] a folution of the gum in rectified fpirit of wine [L.] and a folution in volatile spirit [L. E.] as also an empyreumatic oil distilled from the wood. The wood is an ingredient in the compound lime water [L. E.] and in the compound tinctures of jalap and sena [E.] of which it increases the purgative virtue; the gum, in the aromatic pills [L.] ecphractic pills [L. E.] mercurial and ethiopic pills, Edinburgh theriaca [E] and the compound oil of balfam of Copaiba [L.]

GUMMI AMMONIACUM, vide Ammoniacum.

GUMMI ARABICUM [L. E.] Ex Mimosa nilotica Lin. Gum Arabic; a concrete gum, exuding from the Egyptian acacia tree. This is brought to us from Turkey, in small irregular maffes or strings, of a pale yellowish colour. The true gum Arabic is rarely to be met with in the shops; gum senega or senica, which comes from the coast of Guinea, being usually fold for it: this greatly refembles the other, and perhaps, 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 betwixt the two; although the former is held to be the purer and finer gum, and therefore preferred for medicine; and the latter the stronger, more substantial and cheaper, and confequently more employed for mechanic uses. The virtues of this gum are the same with those of gummy and mucilaginous fubstances in general: it is given, from a scruple to two drams, in hoarsenesses, a thin acrimonious state of the juices, and where the natural mucus of the intestines is abraded. It is an ingredient in the white decoction, chalk julep, the compound powders of bole, scordium, amber, gum tragacanth, the common emulfion, mithridate, theriaca, and some of the troches.

GUMMI CERASORUM,

Cherry-tree gum.

There is not any medical difference betwixt this and the preceding. Some have supposed that all the gum brought to us from the East, under the name of Arabic, is no other than the gum of cherry, plum,

plum, and other trees common among curselves. This opinion is nevertheless erroneous; for these trees, as Geosfroy observes, do not grow in the countries whence gum Arabic is brought; whilst the acaciae are very common there.

GUMMI ELEMI, vide ELEMI.

GUMMI TRAGACANTHÆ [L. E.] Ex Aftragolo Tragacantha Lin. The gum of the tragacanth, a thorny bush growing in Crete, Afia, and Greece. This gum is of a much stronger body than either of the foregoing, and does not fo perfectly dissolve in water. A dram will give a pint of water the confiftence of a fyrup, which a whole ounce of gum Arabic is scarce sufficient to do. Hence its use for forming troches, and the like purpoles, in preference to the other gums. It gives name to an officinal powder, and is an ingredient in the compound powders of cerufs and amber.

GUTTA GAMBA, vide GAM-BOGIA.

HEMATITES lapis [L. E.] Hematites, or bloodstone.

This is an elegant iron ore, extremely hard, of a dark reddish or yellowish colour: it is found either along with the other ores of iron, or in distinct mines by itself. With regard to its medical virtues, we conceive they do not vary from those experienced from rust, and the common croci of iron, notwithstanding the extraordinary opinion which many have entertained of it; as of its curing ulcers of the langs, which Geosfroy says hæmatites dries and heals.

HALICACABUM, vide ALKE-

HEDERÆ ARBOREÆ folia, Baccæ, et gummi seu resina: Hederæ communis majoris Raii. Hederæ Helicis Lin. Ivy; the leaves, berries, and resin called gum hederæ [E.]

This is a climbing shrubby plant, growing commonly from the trunks of trees, or on old walls. The leaves have very rarely been given internally, notwithstanding they are recommended (in the Ephem. natur. eurios. vol. ii. obs. 120.) against the atrophy of children: their tafte is nauseous, acrid, and bitter. Externally they have fometimes been employed for drying and healing ichorous fores, and likewise for keeping issues open. The berries were supposed by the ancients to have a purgative and emetic quality: later writers have recommended them in small doses, as diaphoretics and alexipharmacs; and Mr. Boyle tells us, that in the London plague the powder of them was given with vinegar, with good fuccess, as sudorific. It is probable the virtue of the composition was rather owing to the vinegar than to the powder. The refin was ranked by the ancients, (if their a to x1003 was the same with our gummi hedera) among the depilatories; from this class, to which it certainly had no title, it has fince been removed to that of conglutinaters of wounds, to which it has no very just one.

HEDERÆ TERRESTRIS folia: Hederæ terrestris vulgaris C. B. Glecomæ hederaceæ Lin. Groundivy; the leaves [E.]

Ground-ivy is a low plant, frequent in hedges and shady places. It has an aromatic, though not very agreeable smell; and a quick, bitterish, warm taste. This herb is an useful corroborant, aperient, and detergent; and hence stands recommended against laxity, debility, and obstructions of the viscera:

L 4 fome

fome have had a great opinion of it for cleanfing and healing ulcers of the internal parts, even of the lungs; and for purifying the blood. It is customary to infute the dried leaves in malt liquors; a practice not to be commended, though it readily communicates its virtue, and likewise helps to fine them down: scarce any other herb has this effect more remarkably than ground ivy.

HELENIUM, vide Enulacam-

HELLEBORI ALBI radix: Hellebori albi flore subviridi C. B. Veratri albi Lin. White hellebore;

the root [L. E.]

This plant grows spontaneously in Swifferland, and the mountainous parts of Germany. The root has a nauseous, bitterish, acrid taste, burning the mouth and fauces: wounded when fresh, it emits an extremely acrimonious juice, which mixed with the blood, by a wound, is faid to prove very dangerous: the powder of the dry root, applied to an iffue, occasions violent purging: inuffed up the noie, it proves a strong, and not always a fafe sternutatory. This root, taken internally, acts with extreme violence as an emetic, and has been observed, even in a small dose, to occasion convulsions, and other terrible disorders. The ancients sometimes employed it in very obstinate cases, and always made this their last resource. Modern practice seems to have almost entirely rejected its internal use, though I am informed that fome have lately ventured upon fo large a dofe as a scruple, in maniacal cases, and found good effects from it, after the stronger antimonial preparation had been given in vain. A tincture and honey of it are kept in the shops [L.]

HELLEBORI NIGRI radix;
Hellebori nigri flore roseo, C. B. Black
hellebore; the roots [L. E.]

This plant grows wild in the mountainous parts of Swisserland, Austria, and Stiria: the earliness of its flowers, which sometimes appear in December, has gained it a

place in our gardens.

In some parts of Germany, a fpecies of black hellebore has been made use of, which not unfrequently produces violent, and fometimes deleterious effects: this the Wirtemberg college particularly caution against, though without mentioning any marks by which it may be distinguished, or even giving the precise name of the plant. It appears to be the fetid black hellebore of C. B. called in England, where it grows wild, fetterwort, fettlewort, or bastard hellebore. The roots of this may be diftinguished from the officinal fort by their being less black. The roots of the poisonous aconites refemble in appearance those of the black hellebore; and in the Breslaw collections we find fome instances of fatal effects occasioned by mistaking the former for the latter: these also are happily discoverable by their colour; the aconitum being lighter coloured than even the paleit of the black hellebores. The faculty of Paris, by allowing the use of one of the paler hellebores (the green flowered, which grows wild in England, and is called by our farriers, peg-root) have in some measure deprived the shops of the benefit of this criterion: but the London college have directed the darkest coloured of all the roots of this class. Since therefore the two noxious roots which the buyer is most apt to mistake for this, are distinguishable from it by their colour, but have no other external mark by which they may be with

certainty

certainty known, particular regard ought to be had to this circumstance; only the deepest black being choien, and all the paler roots

rejected. The taite of hellebore is acrid and bitter. Its acrimony, as Dr. Grew observes, is first felt on the tip of the tongue, and then spreads immediately to the middle, without being much perceived on the intermediate part: on chewing it for a few minutes, the tongue feems benumbed, and affected with a kind of paralytic stupor, as when burnt by eating any thing too hot: the fibres are more acrimonious than the head of the root from which they iffue. Black hellebore root, taken from lifteen grains to half a dram, proves a firong cathartic; and as fuch has been celebrated for the cure of maniacal, and other disorders, proceeding from what the ancients called atra bilis: in which cases, medicines of this kind are doubtless occasionally of use, though they are by no means possessed of any specific power. It does not however appear, that our black hellebore acts with fo much violence as that of the ancients: whence many have supposed it to be a different plant: and indeed the defcriptions which the ancients have left us of their hellebore, do not agree with any of the forts usually taken notice of by modern botanists. Another species has been discovered in the eastern countries, which Tournefort distinguishes by the name of helleborus niger orientalis, amplissimo folio, caule præalto, flore purpurascente, and supposes to be the true ancient hellebore, from its growing in plenty about mount Olympus, and in the island Anticyra, celebrated of old for the production of this antimaniacal drug: he relates, that a scruple of this

fort, given for a dofe, occasioned convultions.

Our hellebore is at prefent looked upon principally as an alterative, and in this light is frequently employed, in small doses, for attenuating viscid humours, promoting the uterine and urinary discharges, and opening inveterate obstructions of the remoter glands: it often proves a very powerful emmenagogue in plethoric habits, where steel is ineffectual or improper. An extract made from this root with water, is one of the mildest, and for the purposes of a cathartic, the most effectual preparation of it; this operates fufficiently, without occasioning the irritation with which the pure refin is accompanied. A tincture drawn with proof spirit, contains the whole virtue of the hellebore, and feems to be one of the best preparations of it when defigned for an alterative: this tincture, and the extract, are kept in the shops. The college of Edinburgh makes this root an ingredient in the purging cephalic tincture, and compound tincture of jalap; and its extract in the purging deobstruent pills, gamboge pills, the laxative mercurial pills, and Rudius pills, or the compound cathartic extract.

HELXINE, vide PARIETARIA.

HEPATICÆ NOBILIS folia: Ranunculi tridentati verni, flore simplici caruleo Tourn. Marchantiæ polymorphæ Lin. Noble liver-wort:

the leaves [E.]

This herb has a place in our gardens on account of the beauty and early appearance of its flowers. It is a cooling, gently restringent herb; and hence recommended in a lax state of the fibres as a corroborant.

Part II.

HEPATICA TERRESTRIS, wide LICHEN.

HERBÆ PARIS folia & frudus: Solani quadrifolii bacciferi C. B. Herb Paris, true-love, or one berry; the leaves and fruit.

This is a low plant, growing wild in shady woods. It is said, but not truly, to be alexipharmac: Gefner relates, that its juice has killed poultry: and its fmell and tafte manifestly agree with those of the narcotic herbs.

HERMODACTYLUS. Hermodactil; a root brought from Turkey. It is of the shape of a heart flatted, of a white colour, compact, yet easy to cut or powder; of a viscous sweetish taste, with a light degree of acrimony.

Hermodactils were of great repute among the ancients as a cathartic; but those we now meet with in the shops have very little purgative virtue. Neumann declares he never found them to have any effect at all.

HERNIARIÆ folia: Polygoni minoris sivemillegranæ majoris glabræ C. B. Rupture-wort; the leaves.

This is a low herb, growing wild in fandy and gravelly grounds. It is a very mild restringent, and may, in some degree, be serviceable in disorders proceeding from a weak flaccid state of the viscera: to the virtue for which it has been most celebrated, it has little title; that of curing hernias.

\* HIPPOCASTANUM. Edinb. Æsculus Hippocastanum Lin. Horse-chesnut. The fruit of this tree, which is a trilocular capfule, containing two feeds in each cell, has been given as food to theep; and and steeped in water, so as to extract its bitterness, is said to fatten poultry. It falls spontaneously into a saponaceous gluten, which has been used instead of soap for washing linen. No writer mentions its medical application; but the Edinburgh college have admitted it on the recommendation of Dr. Gardiner, who fays, that three or four grains of the powder snutfed up the nostrils in the evening, operates next morning as an excellent sternutatory, and thereby proves very beneficial in obstinate inflammations of the eyes.

The bark of the horse-chesnut has been proposed in Italy, according to Haller, as a substitute to the Peruvian bark in the cure of intermittents; and the experiment has

proved fuccefsful (\*).

HIPPOSELINI seu Smyrnii, folia, radix, semen: Hipposelini Theophrasti, wel Smyrnii Dioscoridis, C.B. Alexanders; the leaves, root, and

feeds [E.]

This is an umbelliferous plant, differing from the others of that class, in bearing a large tumid black feed: it grows by the fea fide, upon rocks. In medical qualities it agrees with apium (smallage) except that the hippofelinum is somewhat stronger.

HIRUNDINARIA, vide VIN-CETOXICUM.

HORDEI semen: Hordei distichi, quod spica binas ordines habeat Plinio C. B. Common barley [L. E.]

HORDEUM GALLICUM five MUNDATUM. French barley, or the common barley freed from

HORDEUM PERLATUM dictum [L.] Pearl barley; prepared in

Germany and Holland, by grinding the shelled barley into little round granules, which appear of a kind of

pearly whiteness.

Barley, in its several states, is more cooling, less glutinous, and less nutritious than wheat or oats; among the ancients, decoctions of it were the principal aliment, and medicine, in acute diseases. The London college directs a decoction of pearl barley, and both the London and Edinburgh make common barley an ingredient in the pectoral decoction.

HORMINI SATIVI, seu Sclarea, folia, semen: Hormini sclarea dicti C. B. Salvia sclarea Lin. Garden clary; the leaves and seeds

[E.]

These have a warm, bitterish, pungent taste; and a strong, not very agreeable smell: the touch discovers in the leaves a large quantity of glutinous or resinous matter. They are principally recommended in the fluor albus, and other semale weaknesses, in hysteric disorders, and in statulent colics.

HYBERNICUS LAPIS: Tegula vel ardesia Hybernica [E.] Irish slate.

This is a blackish fossile stone brought from Ireland. It seems to consist of an argillaceous or bolar earth, slightly impregnated with sulphur and iron; and may be presumed to possess in a low degree the virtues of the other ferrugineous minerals.

HYDRARGYRUS, vide Ar-GENTUM VIVUM.

HYDROLAPATHUM, vide LAPATHUM.

HYOSCYAMI folia: Hyoscyami albi majoris wel tertii Dioscoridis et quarti Plinii C. B. White henbane; the leaves [E.]

This is met with only in botanic

gardens.

HYOSCYAMI NIGRI folia: Hyoscyami vulgaris vel nigri C. B. The common wild, or black henbane: the leaves.

These plants stand recommended for many external purposes, and by some likewise internally against dyfenteries and hæmorrhages: but there are so many examples of their pernicious effects, that common practice has very defervedly rejected them. They are strong and virulent narcotics, greatly diforder the fenfes, occasioning deliria and madness, either deadly, or of long duration, Haller tells us of one who eat of all the poisons of the physic garden, the napelli, apocyna, bello donna, without injury, but was mastered by this; that after its common effects as a narcotic had abated, a paralysis of one of the legs remained; and that Boerhaave had his fenfes disordered by only making a plaster from this plant. There are other examples also, though from less unexceptionable authorities, of henbane's proving narcotic, though none of it was received into the body.

HYPERICI folia, flores, femen: Hyperici vulgaris, C. B. St. John's wort; the leaves, flowers [L. E.]

and feeds [E.]

This plant grows wild in woods and uncultivated places throughout England. Its taste is rough and bitterish; the smell disagreeable. Hypericum has long been celebrated as a corroborant, diuretic, and vulnerary; but more particularly in hysterical and maniacal disorders: it has been reckoned of such essicacy in the latter, as to have thence received the name of sugar damonum. It is observable, that the

Howery

flowery tops tinge expressed oils of a red colour (which very few vegetable substances will do) and communicate a blood-red to rectified spirit. The oil tinged by them is kept in the shops [L.]

HYPOCISTIDIS succus inspissatus: Hypocistidis sub cisto C. B. Asari Hypocistidis Lin. Juice of hypo-

cistis [L. E.]

Hypociftis is a fleshy production, growing in the warmer climates from the roots of different kinds of cifti. Its inspissated juice is an aftringent, similar to acacia, but somewhat stronger. At present it is scarce otherwise made use of than as an ingredient in some of the old compositions, viz. mithridate, theriaca, and the compound powder of amber [L.]

HYSSOPI folia: Hyssopi officinarum cæruleæ sive spicatæ C. B.

Hystop; the leaves [L. E.]

The leaves of hyslop have an aromatic smell, and a warm pungent taste. Besides the general virtues of aromatics, they are particularly recommended in humoral asthmas, coughs, and other disorders of the breast and lungs; and faid to promote expectoration. A simple water is prepared from them in the Edinburgh pharmacopæia.

JACOBÆÆ folia: Jacobææ vulgaris laciniatæ C. B. Senecionis Jacobææ Lin. Ragwort, or seggrum; the leaves.

This ragged-leaved plant grows wild by road fides, and uncultivated places. Its taste is roughish, bitter, pungent, and extremely unpleasant: it stands strongly recommended by Simon Paulli against dysenteries; but its forbidding taste has prevented its coming into practice.

JALAPIUM [L. E.] Convolvuli

Jalapæ Lin. Jalap.

Jalap is the root of an American convolvulus, brought to us in thin transverse slices, from Xalapa, a province of New Spain. pieces should be chosen as are most compact, hard, weighty, dark coloured, and abound most with black circular striæ. Slices of briony root are faid to be fometimes mixed with those of jalap: these may be easily distinguished by their whiter colour, and less compact texture. This root has no fmell, and very little tafte upon the tongue; but when fwallowed, it affects the throat with a sense of heat, and occasions a plentiful discharge of saliva.

Jalap in substance, taken in a dote of about half a dram (lefs or more, according to the circumstances of the patient) in plethoric, or cold phlegmatic habits, proves an effectual, and in general a fafe purgative, performing its office mildly, feldom occasioning nausea or gripes, which too frequently accompany the other strong catharties. In hypochondriacal diforders, and hot bilious temperaments, it gripes violently, if the jalap be good; but rarely takes due effect as a purge. An extract, made by water, purges almost universally, but weakly; and at the same time, has a confiderable effect by urine; the root remaining after this process, gripes violently. The pure refin, prepared by spirit of wine, occafions most violent gripings, and other terrible fymptoms, but scarce proves at all cathartic: triturated with fugar, or with almonds into the form of an emulfion, or diffolved in spirit and mixed with syrups, it purges plentifully in a small dofe, without occasioning much diforder: the part of the jalap remaining after the feparation of the

refin,

refin, yields to water an extract, which has no effect as a cathartic, but operates powerfully by urine. Its officinal preparations are an extract made with water and spirit [L. E.] a resin [E.] a simple tincture [L. E.] and a compound tincture [E.] The extract is the basis of one of the purgative pills [E.]

Frederick Hoffman particularly cautions against giving this medicine to children, and assures us, that it will destroy appetite, weaken the body, and perhaps occasion even death. In this point, this celebrated practitioner was probably deceived: children, whose vessels are lax, and the food soft and lubricating, bear these kinds of medicines, as Geoffroy observes, better than adults.

JAPONICA TERRA five catechu [L. E.] Japan earth, improperly fo called; being neither an earth, nor the produce of Japan; but an inspissated vegetable juice, prepared in the East-Indies from the fruit, as is supposed, of the areca palm tree. It is dry and pulverable, outwardly of a reddish colour, inwardly of a thining dark brown, almost black, with some cast of red. When pure, it dissolves totally in water, and almost totally in rectified spirit. we usually meet with it, a confiderable quantity of fandy matter is left by both these menstrua. This medicine is a mild aftringent, and frequently employed as fuch in alvine fluxes, uterine profluvia, in laxity and debility of the viscera in general, and in coughs proceeding from thin acrid defluxions. Its taite is more agreeable than that of most other substances of this class; chewed for some time, it leaves a kind of fweetishness in the mouth. The troches and tincture, kept in the shops, are very elegant preparations of it. It gives name to an

officinal confection [E.] and is an ingredient in the compound powder of amber, mithridate, and theriaca [L.]

JASMINI flore: Jasmini vulgatioris flore albo C. B. Jasmine; the flowers.

This is a fmall tree, commonly planted in our gardens. flowers have a strong smell, which is liked by most people; expressed oils extract their fragrance by infusion; and water elevates somewhat of it in distillation, but no effential oil has hitherto been obtained from them: the distilled water, kept for a little time, loses its odour. As to their medical virtues, the present practice expects not any from them, notwithstanding they have been recommended for promoting delivery, curing ulcerations of the uterus, &c.

IBERIDIS folia: Lepidii gramineo folio sive iberidis Tourn. Sciatica cresses; the herb.

This is met with in botanic gardens: in taste, smell, and medical virtues, it agrees with the nasturtium. It has been particularly recommended in external applications against the sciatica, whence the English name of the plant.

ICHTHYOCOLLA [E.] Fift-

glue, or ifing-glass.

This is a folid glutinous substance, obtained from a large kind
of fish, caught in the seas of Muscovy. The skin, and some other
parts of the animal, are boiled in
water, the decoction inspissated to a
proper consistence, and then poured
out so as to form thin cakes; these
are either surther exsiccated till
perfectly dry, or cut whilst soft into
slices, which are afterwards bent,
or rolled up into spiral, horseshoe,
and other shapes. This glue is more
employed

employed for mechanic purposes than in medicine. It may be given in a thin acrimonious state of the juices, after the same manner as the vegetable gums and mucilages; regard being had to their different disposition to putrescence.

IMPERATORIÆ seu Magistrantiæ radix: Imperatoriæ majoris C. B. Imperatoræ Astrutii Lin. Master-

wort; the root [E.]

This is a native of the Alps and Pyrenean mountains, and some parts of Germany, whence we are fupplied with roots fuperior in aromatic flavour to those raised in our gardens. The smell of this root is very fragrant; its tafte bitterish, warm, and pungent, glowing in the mouth for a long time after it has been chewed. This simple, though undoubtedly an elegant aromatic, is not regarded in the present practice: it is scarcely ever directed in extemporaneous prescription, and the only officinal composition it has a place in, is the plague water of the Edinburgh pharmacopæia. Its flavour is fimilar to that of angelica, but stronger.

IPECACUANHA [L. E.] Radix Psycotriæ emetica Lin. A root brought from the Spanish West-Indies.

It is divided into two forts, Peruvian and Brazilian: but the eye distinguishes three, ash-coloured or grey, brown, and white. The ash-coloured, or Peruvian ipecacuanha of the shops, is a small wrinkled root, bent and contorted into a great variety of sigures, brought over in short pieces, full of wrinkles, and deep circular sissures, quite down to a small white woody sibre that runs in the middle of each piece: the cortical part is compact, brittle, looks smooth and resinous upon breaking: it has very little

fmell; the taste is bitterish and fubacrid, covering the tongue, as it were, with a kind of mucilage. The brown is small, and somewhat more wrinkled than the foregoing, of a brown or blackish colour without, and white within; this is brought from Brazil. The white fort is woody, has no wrinkles, and no perceptible bitterness in taste. The first fort (the ash-coloured or grey ipecacuanha) is that usually preferred for medicinal use. The brown has been fometimes observed, even in a fmall dofe, to produce violent effects. The white, though taken in a large one, has scarce any effect at all: Mr. Geoffroy calls this fort baftard ipecacuanha, and complains that is is an imposition upon the public. To what species of plant the ipecacuanha belongs, has not as yet been determined. Geoffroy, Neumann, Dale, and Sir Hans Sloane, inform us, that the roots of a kind of apocynum (dog's bane) are too frequently brought over instead of it: and instances are given of ill confequences following from the use of these roots. If the marks above laid down, particularly the ash colour, bitterness, deep wrinkles, and bitterish taste, be carefully attended to, all mistakes of this kind may be prevented.

Ipecacuanha was first brought into Europe about the middle of the last century, and an account of it published about the same time by Piso; but it did not come into general use till about the year 1686, when Helvetius, under the patronage of Lewis XIV. introduced it into practice. This root is one of the mildest and safest emetics we are acquainted with; and has this peculiar advantage, that if it should not operate by vomit, it passes off by the other emunctories. It was first introduced among us with the

character

character of an almost infallible remedy in dysenteries, and other inveterate fluxes; as also in diforders proceeding from obstructions of long standing: nor has it lost much of its reputation by time. In dyfenteries, it almost always produces happy effects, and often performs a cure in a very short space of time. In other fluxes of the belly, in beginning dysenteries, and such as are of a malignant kind, or where the patient breathes a tainted air, it has not been found equally fuccessful. In these cases, it is necesfary to continue the use of this medicine for several days, and to join with it opiates, diaphoretics, and the like. This root, given in fubstance, is as effectual, if not more so than any of the preparations of it: the pure refin acts as a strong irritating emetic, but is of little fervice in dysenteries; whilst an extract prepared with water is almost of equal service in these cases with the root itself, though it has little effect as an emetic. Geoffroy concludes hence, that the chief virtue of ipecacuanha in dyfenteries depends upon its gummy fubstance, which lining the intestines with a foft mucilage, when their own mucus has been abraded, occasions their exulcerations to heal, and defends them from the acrimony of the juices: and that the refinous part, in which the emetic quality refides, is required, where the morbific matter is lodged in the glands of the stomach and intestines. But if the virtues of this root were entirely owing to its mucilaginous, or gummy part, pure gums, or mucilages, might be employed to equal advantage. Water, affisted by a boiling heat, takes up from all vegetables a confiderable portion of refinous along with the gummy matter. If the ipecacuanha re-

maining after the action of water be digested with pure spirit, it will not yield half fo much refin as at first: fo that the aqueous extract differs from the crude root only in degree, being proportionably less refinous, and having less effect. both as an emetic, and in the cure of dysenteries. The virtues of ipecacuanha, in this disorder, depend upon its promoting perspiration, the freedom of which is here of the utmost importance, and an increase of which, even in an healthful perfon, is generally observed to suppress the evacuation by stool. In dysenteries, the skin is for the most part dry and tense, and perspiration obstructed: the common diaphoretics pass off without effect through the intestinal canal: but ipecacuanha, if the patient, after a puke or two, be covered up warm, brings on a plentiful fweat. After the removal of the dyfentery, it is necessary to continue the use of the medicine for fome time longer, in order to prevent a relapfe. For this purpose, a few grains, divided into several doses, so as not to occasion any fensible evacuation, may be exhibited every day; by which means the cure is effectually effablished. And indeed small doses given, even from the beginning, have been often found to have better effects in the cure of this disease than larger ones. Geoffroy informs us, from his own experience, that he has observed ten grains of the powder to act as effectually as a scruple or two; and therefore confines the dose betwixt fix and ten grains: it has lately been found, that even smaller doses prove fufficiently emetic. only officinal preparation of this root is a tincture made in wine [L. E].

IRIDIS FLORENTINÆ radix: Iridis Florentinæ albæ C. B. Florentine orris; the root.

IRIDIS PURPUREÆ NOS-TRATIS radix: Iridis vulgaris Germanicæ sive sylvestris C. B. Flower-de-luce; the root [E.]

Both these appear to be the same species of plant: several varieties of it are cultivated in our gardens on account of the elegance of their flowers. The roots, when recent, have a bitter, acrid, nauseous taste, and taken into the body prove strongly cathartic; and hence the juice is recommended in dropfies, in a dose of three or four scruples. By drying they lose this quality, vet still retain a fomewhat pungent, bitterish taste : their smell in this state is of the aromatic kind; those produced in the warmer climates have a very grateful flavour, approaching to that of March violets: hence the use of the Florentine iris in perfumes, and for flavouring liquors: the shops employ it in the white pectoral troches [L. E.] and as an ingredient in the theriaca [L.] pectoral decoction, and pectoral oxymel [E.]

IVA ARTHRITICA, vide CHAMÆPITYS.

JUJUBÆ, Fructus Rhamni Zizyphi Lin. Jujubes; a half-dried fruit

brought from France.

Jujubes have a pleasant sweet taste. They are recommended in an acrimonious state of the juices; in coughs from thin sharp defluxions; and in heat of urine: but they are at present, among us, strangers to medicinal practice, and to the shops.

JUNCUS ODORATUS: Juncus odoratus sive aromaticus C. B. Andropogon Schænanthus Lin. Sweet rush, or camels hay [L.]

This is a dry fmooth stalk, brought to us along with the leaves, and sometimes the flowers, from Turkey and Arabia, tied up in bundles about a foot long. The stalk, in shape and colour, fómewhat refembles a barley straw: it is full of a fungous pith, like those of our common rushes: the leaves are like those of wheat, and furround the stalk with feveral coats, as in the reed: the flowers are of a carnation colour, striped with a lighter purple. The whole plant, when in perfection, has a hot bitterish, not unpleasant, aromatic taste; and a very fragrant fmell; by long keeping, it lofes much of its aromatic flavour. Diftilled with water, it yields a confiderable quantity of essential oil. It was formerly often used as an aromatic, and in obstructions of the viscera, &c. but at present is scarce otherwise employed than as an ingredient in mithridate and theriaca.

JUNIPERI baccæ, lignum, gummi: Juniperi vulgaris fruticosæ C.

B. Juniperi communis Lin. Juniper; the berries [L. E.] wood, and the refin (improperly called gum) which exudes from it in the warmer climates [E.]

This is an evergreen shrub, growing upon heaths and hilly grounds in all the parts of Europe: the wood and refin are not at present made use of for medicinal purposes: the berries are brought from Holland, where this shrub is very plen-

tiful.

Juniper berries have a strong, not disagreeable smell; and a warm, pungent, sweet taste, which if they be long chewed, or previously well bruised, is followed by a bitterish one. The pungency seems to reside in the bark; the sweet in the juice; the aromatic shavour

flavour in oily vesicles, spread through the substance of the pulp, and distinguishable even by the eye; and the bitter in the seeds: the fresh berries yield, on expression, a rich, sweet, honey-like, aromatic juice; if previously pounded so as to break the seeds, the juice proves tart and bitter.

These berries are useful carminatives and stomachics: for these purposes, a spirituous water [L.] and effential oil distilled from them [L. E.] are kept in the shops: they are ingredients also in the compound horseradish water, tincture of jalap, tincture of sena [E.] mithridate and theriaca [L.] The liquor remaining after the distillation of the oil, passed through a strainer, and gently exhaled to the confiftence of a rob, proves likewife a medicine of great utility, and in many cases is perhaps preterable to the oil, or berry itself. Hoffman is expressly of this opinion, and firongly recommends it in debility of the stomach and intestines, and fays it is particularly of fervice to old people who are subject to these disorders, or labour under a difficulty with regard to the urinary excretion: this rob is of a dark, brownish yellow colour, a balfamic sweet taste, with a little of the bitter, according as the feeds in the berry have been more or less bruised.

KALI folia: Kali majoris cochleato semine C. B. Salsolæ Sodæ Lin. Glasswort; its leaves, and the alkaline salt called cineres clavellati, or potash [E.] which used formerly to be prepared from this plant only, but now from sundry sorts of woods, and other vegetable matters indifferently (see the article Cine-RES Russici.) Several sorts of these salts, differing in degree of purity and strength, are to be met with in the shops of the drysalter: they are rarely to be found under this denomination in those of the apothecary or druggist.

KERMES [L. E.] a round grain about the bulk of a pea, found (in Spain, Italy, and in the fouthern parts of France) adhering to the branches of the ilex aculeata

cocciglandifera C. B.

These grains appear, when fresh, full of fmall, reddish ovula, or animalcules, of which they are the nidus. On expression, they yield a red juice, of a bitterish, fomewhat rough and pungent tafte, and a not unpleasant smell: this is brought to us from the fouth of France. The grains themselves are cured by fprinkling with vinegar before exficcation: this prevents the exclusion of the ova, and kills fuch of the animals as are already hatched; otherwife, they change into a winged infect, leaving the grain an empty hulk.

Kermes, considered as a medicine, is a grateful, very mild restringent, and corroborant. In this light it was looked upon by the Greeks. The Arabians added a cordial virtue. European writers also have in general recommended it for exhilarating the spirits, and against palpitations of the heart; but more particularly for promoting birth, and preventing abortion. I have known, fays Geoffroy, many women, who had never reached the end of pregnancy, made joyful mothers by the use of pills composed of kermes, germin. ovor. exficcat. and confectio de byacintho (a composition, containing. fome vegetable aftringents and aromatics, together with gold and filver leaf, four precious stones, and other ingredients of less value): three of these pills must be taken for the first dose, and this repeated

M

three

three times, at the interval of drawn lightly over the shrub, so polition.

\* KINO. Gummi-rubrum astringens Dris Fothergill in med. obf. exude from incifions made in the trunks of certain trees called pan de sangue, growing in the inland parts of Africa.

crumbled in pieces by the hands; of an opake dark reddish colour inclining to black, when reduced to powder, of a deep brick red.

It is foluble in aqueous and spirituous menstrua. The Edinburgh college have now received this gum as an officinal, and have directed a tincture, in which two ounces of it are dissolved in a pound and an half of proof spirit.

It is recommended in diforders from laxity and acrimony, habitual diarrhœas, fluor albus, immoderate menstrual discharges, and seminal weaknesses.

LABDANUM [L. E.]

This is a refinous fubstance exuding upon the leaves of the ciffus ladanifera Cretica flore purpureo Tourn. This refin is faid to have been formerly collected from the of the milk of different animals. beards of goats, who brouzed the leaves of the ciftus: at prefent, a common water, the mineral chalykind of rake, with feveral straps or thongs of skins fixed to it, is quors that are not acid, weak vi-

twice three hours; after which as to take up the uncluous juice, three pills more are to be taken which is afterwards scraped off every morning on the three last with knives. It is rarely met with days of the moon in every month pure, even in the places which till delivery. Notwithstanding this produce it; the dust, blown upon affertion, we conceive our readers the plant by the wind, mingling will with us believe, that neither with the tenacious juice. The inthe kermes, or its auxiliaries, are habitants are also said to mix with to be much depended on. The it a certain black fand. In the kermes gives name to an officinal shops two forts are met with: the confection, which appears to be better (which is very rare) is in dark greatly superior to the above com- coloured, almost black masses, of the confishence of a foft plaster, which grows still fofter upon being handled; of a very agreeable smell, and of a light pungent bitterish Kino Ph. Edinb. Red aftringent tafte: the other fort is harder, not gum from Gambia: supposed to so dark coloured, in long rolls coiled up: this is of a much weaker smell than the former, and has a large admixture of a fine fand, which in the labdanum examined by the It is very friable, so as to be French academy, made up threefourths of the mass. Rectified spirit of wine almost entirely dissolves pure labdanum, leaving only a fmall portion of gummy matter which has no tafte or fmell: and hence this refin may be thus excellently purified for internal purpofes. It is an uleful ingredient in the stomachic and cephalic plasters of the ihops.

LAC (E.) Milk.

Milk appears to be a vegetable juice, with little or nothing of an animal nature. The quality and uses of this foft nutritious liquor are in general well known: we shall therefore, in this place, only give an account of some experiments, pointing out the alterations it undergoes from different admixtures, and the difference in quality

New milk mixes uniformly with beate waters, wines, and malt liAffes' milk

nous spirits, folutions of fugar, foaps, and neutral falts; but not with oils expressed or distilled. Acids both mineral and vegetable coagulate it; as also do fixt and volatile alkalies, and highly rectified fpirit of wine: the curd made by acids is in part refolved again by alkaline liquors, as that made by alkalies is by acids. Neutral falts, nitre in particular, preferve it from coagulating ipontaneously; and likewise render it less

cretes into more compact maffes which fink. eafily coagulable by acids. From which water extracted a fweet There remained Upon evapoof dry matter rating twelve exficcated, to ounces of drams, drams, 12 Cows' milk 13 12 121 Goats' milk 6 8 Human milk

The faline substance obtained from affes' milk was white, and fweet as fugar; that of the others brown or yellow, and confiderably less sweet; that of cows' milk, the least sweet of all. It appears, therefore, that affes' milk contains more ferum, and much more of a faccharine faline matter, than that of cows and goats; and that thefe two abound most with unctuous gross matter : hence these are found to be most nutritious, whilst the first proves most effectual as an aperient and detergent.

The inspissated residuum of milk, digested with about as much water as was wasted in the evaporation, yields an elegant kind of whey, more agreeable in tafte, and which keeps better than that made in the common manner. This liquor promotes the natural fecretions in general, and if its use be duly continued, does good fervice in fcorbutic, and other disorders, proceeding faline fubstance, amounting, when

The human milk is the fweetest of these liquors, and that of asses

next to it. This latter is the most

dilute of them all; on fuffering it

to coagulate spontaneously, the curd scarce amounted to two drams,

from twelve ounces, whilst that of

cows' milk was five times as much:

the coagulum of affes' milk, even

when made by acids, forms only

into fine light flakes which fwim in

the ferum; that of goats' milk con-

from thick phlegm and obstructions of the viscera.

There are confiderable differences in the milk of the fame animal, according to its different aliment. Dioscorides relates, that the milk of goats, who feed on the scammony plant and spurges proved cathartic: and examples are given in the Acta Haffniensia of bitter milk from the animal's having eaten wormwood. It is a common observation, that cathartics and spirituous liquors given to a nurse, affect the child : and that the milk of animals feeding on green herbs, is much more dilute than when they are fed with dry ones. Hoffman, from whom most of the foregoing observations are taken, carries this point fo far, as to direct the animal to be dieted according to the difeafe for which its milk is to be drunk.

LACCA, gummi-refina [E.] Lac, improperly called gum lac. This M 2

This is a fort of wax, of a red colour, collected in the East-Indies, by certain infects, and deposited on flicks fastened for that purpose in It is brought over, the earth. either adhering to the flicks, or in small transparent grains, or in femi-transparent flat cakes: the first is called stick lack, the second feed lac, and the third shell lac. On breaking a piece of stick lac, it appears composed of regular cells like the honeycomb, with small corpufcles of a deep red colour lodged in them. These are the young infects, and to these the lac owes its tincture, for when freed from them its colour is very dilute. The shell and seed lacs, which do not exhibit any infects or cellular appearance upon breaking, are fupposed to be artificial preparations of the other: the feed fort is faid to be the flick lac bruised and robbed of its more foluble parts; and the shell to be the feed lac, melted and formed into cakes. The flick lac therefore is the genuine fort, and ought alone to be employed for medicinal purpofes. This concrete is of great esteem in Germany, and other countries, for laxity and sponginess of the gums, proceeding from cold, or a fcorbutic habit. For this use the lac is boiled in water, with the addition of a little alum, which promotes its folution: or a tincture is made from it with rectified spirit. This tincture is recommended also internally in the fluor albus, and in rheumatic and scorbutic disorders: it has a grateful fmell, and a not unpleafant, bitterish, astringent taste : in the Edinburgh Pharmacopæia, a tincture is directed to be made with spirit of scurvy-grass. The principal use of lac among us is in certain mechanic arts as a colouring drug, and for making fealing wax.

LAMII ALBI folia, flores: Lamii albi non fætentis folio oblongo C. B. White archangel, or dead nettle; the leaves [E.] and flowers

[L.E.]

This grows wild in hedges; and flowers in April and May. The flowers have been particularly celebrated in uterine fluors, and other female weaknesses, as also in diforders of the lungs; but they appear to be of very weak virtue.

LAPATHUM, Dock; the roots. We have ten or eleven docks growing wild in England, the roots of most of which are brought to market promiscuously; though two have been generally directed by physicians in preference to the others. These are

OXYLAPATHUM: Lapathum folio acuto plano C. B. Rumex acutus Lin. The dock with long, narrow, sharp-pointed leaves, not curled up about the edges [E.]

HYDROLAPATHUM, sive Herba Britannica: Lapathum aquaticum folio cubitali C. B. Rumex aquaticus Lin. The great water dock

[E.]

The leaves of the docks gently loofen the belly, and have fometimes been made ingredients in decoctions for removing a costive habit. The roots are celebrated for the cure of scorbutic and cutaneous disorders, both exhibited internally, and applied externally in ointments, cataplasms, and fomentations. Muntingius published a treatife on these plants in the year 1681, in which he endeavours to prove, that our great water dock is the herba Britannica of the ancients: and indeed the description which Dioscorides gives of the latter, does not ill agree to the former. This author author therefore attributes to the by drolapathum all the virtues afcribed of old to the Britannica, particularly recommending it in the fcurvy and all its fymptoms. Where this disorder is of very long standing, fo as not to yield to the bydrodapathum alone, he directs a compofition, by the use of which, he fays, even the venereal lues will, in a short time, be effectually cured. Six ounces of the roots of the water dock, with two of faffron; and of mace, cinnamon, gentian root, liquorice root, and black pepper, each three ounces (or, where the pepper is improper, fix ounces of liquorice), are to be reduced into coarse powder, and put into a mixture of two gallons of wine, with half a gallon of strong vinegar, and the yolks of three eggs; and the whole digested, with a moderate warmth, for three days, in a glazed vessel, close stopt: from three to fix ounces of this liquor are to be taken every morning on an empty stomach, for fourteen or twenty days, or longer.

LAPATHUM UNCTUOSUM, vide Bonus HENRICUS.

LAPIS BEZOAR, CALAMI-NARIS, HÆMATITES, LA-ZULI; vide BEZOAR, CALAMI-NARIS, &C.

LAPPA MAJOR, vide BAR-DANA MAJOR.

LAVENDULÆ flores : Lavendulæ angustifoliæ C. B. Common, or narrow - leaved lavender, or fpike; the flowers [L.]

LAVENDULÆ flores: Lavendulæ latifoliæ C. B. Lavendulæ Spica Lin. Greater, or broad-leaved lavender; the flowers [E.]

These plants have a fragrant fmell, and a warm, pungent, bitterish taste: the broad-leaved fort is the stronger in both respects, and yields in distillation thrice as much effential oil as the other; its oil is also hotter, and specifically heavier. Hence in the fouthern parts of France, where both kinds grow wild, this only is made use of for the diftillation of what is called oil of fpike. The narrow-leaved is the fort commonly met with in our gardens, and therefore alone directed

by the London college.

Lavender is a warm stimulating aromatic. It is principally recommended in vertigoes, palfies, tremors, suppression of the menstrual evacuations; and in general in all disorders of the head, nerves, and uterus, proceeding from a weakness of the solids, and lentor or fluggishness of the juices. It is fometimes also used externally in fomentations for paralytic limbs. The distilled oil is particularly celebrated for destroying the pediculi inguinales, and other cutaneous infects. If foft spongy paper, dipt in this oil, either alone, or mixed with that of almonds, be applied at night to the parts infested by infects, they will certainly, fays Geoffroy, be all found dead in the morning. The officinal preparations of lavender, are, the effential oil, a spirit [L. E.] and a conserve [L.] the flowers in substance are an ingredient in the sternutatory powder [L.] and the oil in the cephalic balfam and cephalic plaster [E.]

LAUREOLÆ folia, baccæ: Laureolæ semper virentis flore viridi, quibusdam laureolæ maris C. B. Daphnes laureolæ Lin. Spurge-laurel; the leaves and berries.

This is a fmall shrub, growing wild in fome of our woods. The leaves, M 3

leaves, berries, and bark, both of Lentis vulgaris Semine Subrufo C. B. the stalks and roots, have an extremely acrid, hot tafte, which laft for a long time, burning and inflaming the mouth and fauces. Taken internally they operate with great violence by ftool, and fometimes by vomit; fo as scarce to be exhibited with any tolerable degree of fafety, unless their virulence be previously abated by boiling.

LAURI folia, baccæ: Lauri vulgaris C. B. The bay tree; its

leaves and berries [L. E.]

These are generally brought from the Streights, though the tree bears the colds of our own climate. They have a moderately ftrong aromatic fmell, and a warm, bitterish, pungent taile: the berries are ftronger in both respects than the leaves, and afford in distillation a larger quantity of aromatic effential oil; they yield also an almost infipid oil to the prefs, in confequence of which they prove unctuous in the mouth. These simples are warm carminative medicines, and fometimes exhibited in this intention against flatulent colics; and likewise in hysterical disorders.

Their principal use in the present practice is in glysters, and some external applications. The leaves enter our common fomentation; and the berries, the plaster and cataplaim of cummin; they also give name to an electary, which is little otherwise used than in glysters.

LAZULI lapis; [E.] a compact ponderous fossil, of an opake blue colour, met with in the eastern countries, and in some parts of Germany. It is a strong emetic, rarely or never used in the present practice.

LENTIS VULGARIS semen:

Lentile; the feed.

This is a strong, flatulent food, very hard of digestion : it is never, at least with us, used for any medicinal purpose.

LENTISCUS: Lentiscus verus ex insula Chio, cortice et foliis fuscis Commelin. Pistachia Lentiscus Lin. The lentisc, or mastich tree; the

wood [E.]

This tree, or shrub, is a native of the warm climates, but bears the common winters of our own. The wood is brought to us in thick knotty pieces, covered with an ash coloured bark, and white within, of a rough, somewhat pungent tafte, and an agreeable, though faint fmell; the fmaller tough fprigs are both in tafte and fmell the stronger. This wood is accounted a mild balfamic restringent; a decoction of it is in the German ephemerides dignified with the title of vegetable aurum potabile, and strongly recommended in catarrhs, nauseæ, and weakness of the stomach; for strengthening the tone of the vifcera in general, and promoting the urinary fecretion.

This is the tree which in the island Chio affords the resin, called

mastich. See Mastiche.

LEPIDII folia: Lepidii latifolii C. B. Common broad ditander, pepperwort, or poor man's pepper;

the leaves [E.]

This plant is fometimes found wild by the fides of rivers, and in other moist places. The leaves have an aromatic, pungent, biting tafte, somewhat approaching to that of pepper, but going off fooner than that of most other substances of this class. They are very rarely employed in medicine, though strongly recommended as antiscor-

butics,

Part II. butics, and for promoting the urinary and cuticular fecretions; virtues to which they have undoubtedly a good title.

LEUCOIUM LUTEUM, vide CHEIRI.

LEVISTICI, seu Ligustici radix femen [E.] Angelicæ montanæ perennis, paludapii folio Tourn. Lovage;

the root and feed [E.]

This is a large umbelliferous plant, cultivated with us in gardens. The root nearly agrees in quality with that of angelica: the principal difference is, that the lovage root has a stronger smell, and a somewhat less pungent taffe, accompanied with a more durable sweetness: the feeds are rather warmer than the root. These simples, though certainly capable of being applied to useful purposes, are not at present regarded: neither of them is directed in extemporaneous prefeription, and the root enters no officinal composition. The feeds are an ingredient in the compound valerian water and troches of myrrh of the Edinburgh pharmacopæia; in both which they excellently coincide with the other ingredients.

LICHEN: Lichen petræus cauliculo pileolum sustinente C. B. Liver-

wort; the herb.

This grows wild in moift shady places, and by the fides of rivers. It has a faint not disagreeable smell; and an herbaceous, roughish, and somewhat bitterish taste. Great virtues have been attributed to this fimple in obstructions of the liver, jaundice, &c. which practitioners do not now expect from it.

LICHEN CINEREUS TER-RESTRIS: Lichen terrestris cinereus Raii. Lichen caninus Lin. Ashcoloured ground liverwort [L. E.]

This confifts of pretty thick digitated leaves, flat above, of a reticular texture underneath, and faftened to the earth by fmall fibres: the leaves when in perfection are of an ash colour; by age they become darker coloured or reddish. It is met with on commons and open heaths, where it quickly spreads on the ground. Dr. Mead informs us, that this plant grows in all countries, and has been brought over from America along with the Peruvian bark: that it is found at all times, but ought to be gathered from autumn to winter, as being then

in its freshest vigour.

This fimple is faid to be a warm diuretic; but the taste discovers in it little or no warmth. It is chiefly celebrated for its virtue in the cure of the disorders occasioned by the bite of a mad dog. An account of the remarkable effects in these cases of a powder composed of the dried leaves and pepper, was communicated to the Royal Society by Mr. Dampier, and published in the Phil. Trans. No. 237. This powder was afterwards inferted (in the year 1721) into the London pharmacopæia, under the title of pulvis antily ffus, at the defire of an eminent physician, who had great experience of its good effects. Some years after, the same gentleman published and dispersed a paper containing the method of cure, which he had in a great number of instances constantly found successful. In this paper, the directions were to the following effect: " Let " the patient be blooded nine or " ten ounces; and afterwards take " a dram and a half of the powder every morning falling, for " four mornings fuccessively, 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, W 4

every morning fasting, for a " month; he must be dipt all over, but not flay 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 fort-" night longer." In the year 1745, the world was favoured with a new edition of the mechanical account of poisons, in which we find the fame method of cure again recommended, as having, in a course of thirty years experience, never failed of fuccess; where it had been followed before the hydrophobia begun. It is greatly to be wished, that the efficacy of this medicine in preventing these terrible disorders, was absolutely certain, and proved by incontestible facts. Instances have been produced of its proving unfuccessful; and the many examples of the fatality of the difeafe which continually occur, feem arguments either of the inefficacy of the medicine, or of a strange negligence in applying it. We thall only further observe, that Boerhaave, who is in general fufficiently liberal in the commendation of remedies, ranks this among those infignificant trifles, upon which whoever shall depend will find himself deceived.

LIGNUM ALOES, vide AGAL-

et ASPALATHUS [E.] Rosewood, a wood or root, brought from the Canary islands: and aspalathus, a simple of considerable esteem among the ancients, but which has not come to our kowledge.

The writers on botany, and the materia medica, are much divided about the lignum rhodium, not only with regard to the plant which affords it, but likewise in their accounts of the drug itself, and have described, under this name, simples manifestly different. This confusion seems to have arisen from an opinion, that the rhodium and aspalathus are the same; whence different woods brought into Europe for the aspalathus were sold again by the name of rhodium.

As to aspalathus, the ancients themselves disagree; Dioscorides requiring by this appellation the wood of a certain shrub freed from the bark, and Galen the bark of a root. At present, we have nothing under this name in the shops. What was sold among us as aspalathus, was a pale-coloured wood brought from the East Indies, and more commonly called calamback.

The lignum rhodium of the shops is usually in long crooked pieces, full of knots, which, when cut, appear of a yellow colour like box, with a reddish cast: the largest, fmoothest, most compact, and deepest coloured pieces, should be chofen; and the small, thin, or pale ones rejected. The tafte of this wood is lightly bitterish, and somewhat pungent; its fmell very fragrant, resembling that of roses: long kept, it feems to lofe its fmell; but, on cutting, or rubbing one piece against the other, it smells as well as at first. Distilled with water, it yields an odoriferous effential oil, in very small quantity. Rhodium is at present in esteem only upon account of its oil, which is employed as an high and agreeable perfume in scenting pomatums, and the like. But if we may reason from analogy, this odoriferous simple might be advantageoully applied to nobler purpofes: a tincture of it in rectified spirit of wine, which contains in a small volume the virtue of a confiderable

deal

deal of the wood, bids fair to prove a cordial, not inferior perhaps to any thing of this kind.

LIGNUM TINCTILE CAMPECHENSE [L. E.]: Lignum Brafilio simile, cæruleo tingens f. B.
Hæmatoxylum Campechianum Lin.
Campeachy or logwood; a wood
brought from Campeachy in the

bay of Honduras.

This is usually in large logs, very compact and hard, of a red colour, and an astringent sweet taste. It was for a long time used only by the dyers. A decoction of it, and the extract, are now in use in our hospitals, and are said to have proved very serviceable in diarrheas. The extract is now received into the shops. See Part III. chap. vi.

LILII ALBI radix, flores: Lilii albi flore erecto et vulgaris C. B. White lily; the roots and flowers

This is cultivated in gardens, more for the beauty of its flowers,

than medicinal ufe.

flores: Lilii convallium albi C. B. Convallariæ majalis Lin. Lily of the valley, or May lily; the roots and flowers [E.] This grows wild in woods and shady places, flower-

ing in May.

The flowers of these plants are said to be cephalic and nervine. They have a pleasant sweet smell, which they impart by insusion to expressed oils, and give over in distillation both to water and spirit; but no essential oil has been hitherto obtained from them. Etmuller says, that the distilled spirit is more fragrant than the water. The roots of the garden lily abound with a soft mucilage, and hence they have been used externally in emollient and maturating cataplasms. They

are an ingredient in the suppurating cataplasms of the Edinburgh pharmacopæia. Those of the wild lily are very bitter: dried, they are said to prove a gentle errhine; as also the slowers.

LIMONUM fuccus, cortex: Fractus mali limoniæ acidæ C. B. Citri Limonis Lin. Lemons; their juice, yellow rind [L. E.] and its essential oil, called essence of le-

mons [L.]

The juice of lemons is similar in quality to that of oranges, from which it differs little otherwise than in being more acid. The yellow peel is an elegant aromatic, and is frequently employed in stomachic tinctures and infusions: it is confiderably less hot than orange peel, and yields in distillation with water less quantity of essential oil. Its flavour is nevertheless more perishable, yet does not arise so readily with spirit of wine; for a spirituous extract made from lemon peel possesses the aromatic taste and smell of the subject in much greater perfection than an extract prepared in the same manner from the peels of oranges. In the shops, a syrup is prepared from the juice, and the peel is candied; the peel is an ingredient in the bitter infusions, bitter wine, and both the peel and juice in one of the infusions of sena; the effential oil in the volatile aromatic spirit, saponaceous pills, and ointment of fulphur [L.]

LINGUÆ CERVINÆ, seu Scolopendrii folia: Linguæ cervinæ officinarum C. B. Asplenii Scolopendrii Lin. Harts tongue: the leaves [E.]

This plant confifts of a number of long narrow leaves, without any stalk: it grows upon rocks and old walls, and remains green all the year. The leaves have a roughish, somewhat mucilaginous taste, like

that

that of the maiden hairs, but more disagreeable. They are recommended in obstructions of the viscera, and for strengthening their tone; and have sometimes been made use of for these intentions, either alone, or in conjunction with maiden-hair, or the other plants called capillary.

LINI CATHARTICI folia: Lini pratenfis flosculis exiguis C. B. Purging flax, or mill-mountain;

the leaves [E.]

This is a very small plant, not above four or five inches high, found wild upon chalky hills, and in dry pasture grounds. Its virtue is expressed in its title; an infusion in water or whey of a handful of the fresh leaves, or a dram of them in substance when dried, are said to purge without inconvenience.

LINI VULGARIS semen: Lini sativi C. B. Common flax; the seed, called linseed [L. E.]

Linseed yields to the press a confiderable quantity of oil; and boiled in water, a strong mucilage. These are occasionally made use of for the fame purposes as other substances of that class; and sometimes the feeds themselves in emollient and maturating cataplasms. They have also been employed in Asia, and, in times of scarcity, in Europe, as food, but are not agreeable, or in general wholesome. Tragus relates, that those who fed on these feeds, in Zealand, had the hypochondres much distended, and the face and other parts swelled, in a fhort time; and that not a few died of these complaints. The expressed oil is an officinal preparation [L. E.]: the cake, remaining after the oil, is an ingredient in the fuppurating cataplasm, and the seeds in the nephritic decoction [E.]

LITHARGYRUS [L. E.] Litharge: a preparation of lead, usually in form of foft flakes, of a yellowish reddish colour. If calcined lead be urged with a hafty fire, it melts into the appearance of oil, and on cooling concretes into litharge. Greatest part of the litharge met with in the shops, is produced in the purification of filver from lead, and the refining of gold and filver by means of this metal. According to the degree of fire and other circumstances, it proves of a pale or deep colour; the former has been commonly called litharge of filver, the other of gold. See PLUMBUM.

\* LOBELIÆ radix: Lobeliæ [E.]
Rapunculi galeati virginiani flore
violaceo Morison. Lobeliæ siphiliticæ
Lin. Blue Cardinal-Flower.

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

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

A decoction is made of a handful of the roots in three measures of water. Half a measure is taken in the morning fasting, and repeated in the evening; and the dose is gradually increased till its purgative effects become too violent, when the medicine is for a time to be intermitted, and then renewed, till a perfect cure be effected. One dose daily is fufficient during the latter part of the treatment; and the regimen, during the whole process, is to be equally strict with that obferved in a course of mercurial falivation. From the third day, the ulcers are to be well washed twice daily with the decoction; and it is faid that, when they are very deep and foul, the Indians sprinkle them with powder of the internal bark of the fpruce-tree. The Edinburgh college have received it into their latest catalogue of simples.

· LOPEZIANA Indica Radix Ph. Edinb. e Janne Lopez denominata Gaubii Adversar. Cap. VI. The root of an unknown tree brought to us from Batavia. It is met with in pieces of different thickness and diameter. The woody part is whitish, and very light; softer, more spongy, and whiter next the bark, including a denfer, fomewhat reddish medullary part.

The bark is rough, wrinkled, brown, foft, and as it were woolly, pretty thick, covered with a thin

paler cuticle.

It has no remarkable fmell or tafte. On boiling in water, no odour is emitted; and the strained liquor, which is of a yellow hue, is almost insipid, only impressing the tongue with a very light obscure bitterishness; and without viscidity. Reclified spirit is tinged by this root of a brown colour, but acquires no particular tafte.

It is regarded in the East Indies as a medicine of extraordinary ef-

Gaubius in his Adversaria has published an account of some experiments made with it, which in some degree confirm its reputation.

LUJULÆ folia: Oxyos albæ Gerard. Oxalis Acetosellæ Lin. Wood forrel; the leaves [L. E.]

This is a fmall plant, growing wild in woods. In taste and medical qualities, it is fimilar to the common forrel (fee Acetosa), but confiderably more grateful, and hence is preferred by the London college. Boiled with milk, it forms an agreeable whey; and beaten with fugar, a very elegant conferve, which has been for some time in the shops, and is now received in the dispensatory.

LUMBRICI et LIMACES TERRESTRES. Earthworms

and fnails [E.]

Both these are supposed to cool and cleanse the viscera. The latter, from their abounding with a viscid glutinous juice, are recommended as a restorative in confumptions. For this purpose, they are directed to be boiled in milk; and thus managed, they may poffibly be of some service. give over nothing in distillation either with water or spirit; and hence the distilled waters of them, though formerly in great efteem, are not found to have any of the virtues which the animals themfelves are supposed to possess.

LUPINI, semen: Lupini vulgaris, semine et flore albo, sativi J. B.

White lupins; the feeds.

Thefe have a leguminous tafte, accompanied with a disagreeable bitter one. They are said to be anthelmintic, both internally taken, and applied externally.

LUPULUS: Convolvulus ficacy in diarrhoas; and the learned perennis, beteroclitus, floribus berbaceis, capsulis foliaceis strobili instar Moris. Humulus Lupulus Lin. Hops; the loose leasy heads on the tops of the stalks.

These form one of the most agreeable of the strong bitters, though rarely employed for any medicinal purposes. Their principal consumption is in malt liquors, which they render less glutinous and dispose to pass off more freely by urine.

LYCOPERDON: Fungus rotundus orbicularis C. B. Licoperdon BovistaLin. Puff-ball, or dusty Mush-

room [E.]

This fungus is found in dry pasture grounds. It seems to be nearly of the same quality with the agaric of the oak (see p. 76.) and has, like it, been employed for restraining external hæmorrhages and other fluxions. The fine dust, with which it becomes filled by age, has been applied also in the same intentions.

MACIS [L. E.] Mace; one of the coverings of the nutmeg (fee Nux moschata). This spice, confidered as the subject both of medicine and of pharmacy, agrees nearly with the nutmeg. principal difference is, that mace is fomewhat less astringent, yields to the press a more sluid oil, and in distillation a more volatile one. What is called in the shops expressed oil of mace, is prepared not from this spice, but from the nutmeg. Mace is an ingredient in the officinal steel wine [L.] and aqua mirabilis [E.]; and the expressed oil in the stomachic and cephalic plasters [L.]

MAGISTRANTIA, vide IM-PERATORIA.

MAJORANÆ folia: Majoranæ

vulgaris C. B. Origani Majoranæ Lin. Sweet marjoram; the leaves

[L. E.]

Marjoram is raised annually in our gardens for culinary as well as medicinal uses; the seeds are commonly procured from the fouthern parts of France, where the plant grows wild. It is a moderately warm aromatic, yielding its virtues both to aqueous and spirituous liquors by infusion, and to water in distillation. It is principally celebrated in disorders of the head and nerves, and in the humoural aithmas and catarrhs of old people. An effential oil of the herb is kept in the shops. The powder of the leaves proves an agreeable errhine, and enters the officinal flernutatory powder.

MALABATHRUM folium: Folium cinnamoni sive canellæ Malavaricæ et Javanensis C. B. Laurus Cassia Lin. Indian leaf [L.]

This leaf is of a green colour, firm texture, very smooth on one fide, less so on the other, on which run three remarkable ribs through its whole length. Lemery and Pomet affirm, that these leaves have no perceptible smell or taste; Herman and others, that they have a very great share of both: those met with in our shops have little or no fmell, till well rubbed, when they emit an agreeable spicy odour: on chewing, they are found extremely mucilaginous. This drug is of no further use in medicine, than as an ingredient in the mithridate and theriaca; and is, when in its greatest perfection, much inferior to the mace, which our college direct as a fuccedaneum to it.

MALVÆ folia, flores: Malvæ fylvestris folio sinuato C. B. Mallow; the leaves and flowers [L. E.] These have a somewhat mucilaginous

ginous sweetish taste. The leaves are ranked the first of the four emollient herbs: they were formerly of fome efteem, in food, for loofening the belly; at prefent, decoctions of them are fometimes employed in dyfenteries, heat and sharpness of urine, and in general for obtunding acrimonious hu-Their principal ule is in mours. emollient glysters, cataplasms, and fomentations. The leaves enter the officinal decoction for glyfters, and a conferve is prepared from the flowers [L.]

MALA: Fructus mali sativæ

Raii. Apples [E.]

All the forts of apples have the common quality of cooling and abating thirst: the more acid kinds loofen the belly; the austere have rather a contrary effect.

MALA SYLVESTRIA: Fructus mali sylvestris acido fructu Tourn. Crab apples, or wildings [E.]

These are so acid as not to be eatable: their juice, called verjuice, has fometimes supplied the place of vinegar, and has been made an ingredient in cooling and restringent gargarisms. At prefent, they are fcarce ever employed for any medicinal ufe.

MANNA [L. E.] Ex Fraxino Orno Lin. The juice of certain trees of the ash kind (growing in Italy and Sicily) either naturally concreted on the plants; or exficcated and purified by art. There are feveral forts of manna in the shops. The larger pieces, called flake manna, are usually preferred; though the smaller grains are equally as good, provided they be white, or of a pale yellow colour, very light, of a fweet not unpleafant taite, and free from any visible

impurities. Some people injudicioully prefer the fat honey-like manna to the foregoing: this has either been exposed to a moist air, or damaged by fea or other water. This kind of manna is faid to be fometimes counterfeited by a composition of sugar and honey, mixed with a little scammony: there is alfo a factitious manna, which is white and dry, faid to be composed of fugar, manna, and fome purgative ingredient, boiled to a proper confistence; this may be distinguished by its weight, solidity, untransparent whiteness, and by its tafte, which is different from that

of manna.

Manna is a mild, agreeable laxative, and may be given with fafety to children and pregnant women: nevertheless, in some particular constitutions, it acts very unkindly, producing flatulencies and distension of the viscera; these inconveniencies may be prevented by the addition of any grateful warm aromatic. Manna operates so weakly, as not to produce the full effect of a cathartic, unless taken in large doses, and hence it is rarely given in this intention by itself. It may be commodiously dissolved in the purging mineral waters, or joined to the cathartic falts, fena, rhubarb, or the like. Geoffroy recommends acuating it with a few grains of emetic tartar; the mixture is to be divided into feveral doses, each containing one grain of the emetic tartar: by this management, he fays, bilious ferum will be plentifully evacuated, without any naufea, gripes, or other inconvenience. It is remarkable, that the efficacy of this drug is greatly promoted (if the account of Vallisnieri deserve credit) by a substance which is itfelf very flow of operation, cafia. (See Casia.) Manna is an ingredient in the electary of cafia [L. E.] and

and gives name to an officinal lohoch [E.]

MARGARITÆ [L. E.] Pearls; fmall concretions of a transparent whiteness, found on the infide of the shell of the concha margaritifera or mother-of-pearl fish, as also of certain oysters, mussels, and other shell fishes. The pearls most efteemed are brought from the East and West-Indies, and distinguished by the names of oriental and occidental: the oriental, which are valued most, have a more shining filver hue than the occidental; these latter are fomewhat milky: a fort inferior to both these is sometimes met with in our own feas, particularly on the coasts of Scotland. The coarse, rough pearls, and the very fmall ones which are unfit for other uses, are those generally employed in medicine. They have been greatly celebrated as cordial, alexipharmac, and comforting the nerves: but the only virtue that can be reasonably expected from them is, that of absorbing acidities in the primæ viæ, in which intention they enter three of the officinal powders. Their comparative strength, with regard to the other absorbents, may be seen among the tables at the beginning of this work: ice p. 63.

MARRUBII folia: Marrubii albi vulgaris C. B. White horehound;

the leaves [L. E.]

These have a very strong, not disagreeable smell, and a roughish very bitter taste. Besides the virtues which they possess in common with other strong bitters, they are supposed to be peculiarly serviceable in humoural asthmas and coughs, the yellow jaundice proceeding from a viscidity of the bile, and other chronical disorders. They are

doubtless an useful aperient and deobstruent, promote the sluid secretions in general, and, liberally taken, loosen the belly. They are an ingredient only in the theriaca [L.]

MARI SYRIACI folia: Mari cortusi J. B. Chamædryos maritimæ incanæ frutescentis foliis lanceolatis Tourn. Origani Syriaci Lin. Syrian herb mastich; the leaves

[L.E.]

This is a small shrubby plant, growing spontaneously in Syria, Candy, and other warm climates, and cultivated with us in gardens. The leaves have an aromatic bitterish taste; and, when rubbed betwixt the fingers, a quick pungent smell, which foon affects the head, and occasions fneezing: distilled with water, they yield a very acrid, penetrating effential oil, refembling one obtained by the same means from scurvy-grass. These qualities point out the uses to which this plant might be applied; at prefent, it is little otherwise employed than in cephalic fnuffs. It is an ingredient in the pulvis sternutatorius of the London pharmacopæia.

MARI VULGARIS folia: Sampfuci sive mari mastichen redolentis C.B. Thymbræ Hispanicæ majoranæ folio Tourn. Thymi mastichinæ Lin. Herb mastich; the leaves [L. E.]

This pungent aromatic plant is become almost a stranger to practice.

MASTICHE [L. E.] Mastich; a resin exuding from the lentisc tree (see Lentiscus) and brought from Chio, in small, yellowish transparent grains or tears, of an agreeable smell, especially when heated or set on sire. This resin is recommended in old coughs, dysenteries, hæmoptoes, weakness of

the stomach, and in general in all debilities and laxity of the sibres. Geoffroy directs an aqueous decoction of it to be used for these purposes: but water extracts little or nothing from this resin; rectified spirit almost entirely dissolves it. The solution tastes very warm and pungent.

MATRICARIÆ folia, flores:
Matricariæ vulgaris seu sativæ C. B.
Matricariæ Parthenii Lin. Common wild feathersew or feversew;
the leaves [L. E.] and flowers [E.]

This plant is a celebrated antihysteric. Simon Paulli relates, that he has experienced most happy effects from it in obstructions of the uterine evacuations. I have often feen, fays he, from the use of a decoction of matricaria and chamomile flowers with a little mugwort, hysteric complaints instantly relieved, the discharge succeed plentifully, and the patient from a lethargic flate, return as it were into life again. Matricaria is likewife recommended in many other diforders, as a warm flimulating bitter : all that bitters and carminatives can do, fays Geoffroy, may be expected from this. It is undoubtedly a medicine of fome use in these cases, though not perhaps equal to chamomile flowers alone, with which the matricaria agrees in fensible qualities, except in being weaker.

MECHOACANNÆ radix [E.] Convolvuli Mechoacannæ Lin. The root of an American convolvulus, brought chiefly from Mechoacan, a province of Mexico, in thin flices like jalap, but larger, and of a whitish colour. It was first introduced among us (about the year 1524) as a purgative universally safe, and capable of evacuating all morbific humours from the most remote parts of the body. As soon

as jalap became known, Mechoacan gradually loft its reputation, which it has never fince been able to retrieve. It is nevertheless by some ftill deemed an useful cathartic. It has very little fmell or tafte, and is not apt to offend the flomach; its operation is flow, but effectual and fafe. Geoffroy affirms, that there is scarce any purgative accompanied with fewer inconveniencies. It feems to differ from jalap only in being weaker; the refins obtained from both have nearly the same qualities, but jalap yields five or fix times as much as Mechoacan. Hence it is found necessary to exhibit the latter in fix times the dose of the former, to produce the same effects.

MEL [L. E.] Honey.—Honey is a vegetable juice, obtained from the honey-comb, either by feparating the combs, and laying them flat upon a fieve, through which the honey spontaneously percolates; or by including the comb in canvas bags, and forcing the honey out by a press. The former fort is the purer; the latter is found to contain a good deal of the matter of which the comb is formed, and many other impurities: there is another fort still inferior to the two foregoing, obtained by heating the combs before they are put into the press. The best fort is thick, of a whitish colour, an agreeable smell, and a very pleafant tafte: both the colour and flavour differ according to the plants from which the bees collect it: that of Narbonne in France, where rolemary abounds, is faid to have a very manifest flavour of that plant, and to be imitable by adding to other honey an infusion of rosemary flowers. Honey, confidered as a medicine, is a very useful detergent and aperient, powerfully dissolving viscid juices, juices, and promoting the expectoration of tough phlegm: in fome particular constitutions it has an inconvenience of griping or proving purgative; this is faid to be in fome measure prevented, by previoufly boiling the honey.

MELAMPODIUM, vide HEL-LEBORUS NIGER.

MELILOTI folia, flores: Trifolii odorati seu meliloti vulgaris J. B. Trifolii Meliloti officinalis Lin. Melilot; the leaves and flowers [E.]

This grows wild in hedges and among corn; and has likewife, for medicinal uses, been cultivated in gardens. The green herb has no remarkable smell; when dry, a pretty ftrong one: the tafte is roughish, bitter, and if long chewed, naufeous. A decoction of this herb has been recommended in inflammations of the abdomen; and a decoction of the flowers in the fluor albus. But modern practice rarely employs it any otherwise than in emollient and carminative glyffers, and in fomentations, cataplasms, and the like; and in these not often. It formerly gave name to one of the officinal plasters, which received from the melilot a green colour, but no virtue.

MELISSÆ folia: Melissæ bortensis C. B. Melissæ officinalis Lin.

Balm; the leaves [L. E.]

This plant, when in perfection, has a pleafant smell, somewhat of the lemon kind: and a weak roughish aromatic taste. The young shoots have the strongest flavour: the flowers, the herb itself when old, or produced in very moist rich foils or rainy feafons, are much weaker both in smell and taste. Balm is appropriated, by the writers on the Materia Medica, to the head, stomach, and uterus; and in

all disorders of these parts is supposed to do extraordinary service. So high an opinion have fome of the chemists entertained of balm, that they have expected to find in it a medicine which should prolong life beyond the usual period. The prefent practice however holds it in no great efteem, and ranks it (where it certainly deferves to be) among the weaker corroborants. In distillation, it yields an elegant effential oil, but in exceeding small quantity; the remaining decoction tastes roughish. Strong infusions of the herb, drunk as tea, and continued for fome time, have done fervice in a weak lax flate of the viscera: these liquors, lightly acidulated with juice of lemons, turn of a fine reddish colour, and prove an useful, and to many a very grateful drink, in dry parching fevers. A fimple water of the plant is directed in the Edinburgh pharmacopœia, as an officinal.

MELONUM semen. Melons: the feeds. These stand among the four greater cold feeds. They have been fometimes used, with the others of that class, as cooling and emollient; but are at present little taken notice of.

MENTHA CATARIA, vide NEPETA.

MENTHÆ VULGARIS folia: Menthæ angustifoliæ spicatæ C. B. Garden or spearmint; the leaves L. E.

The leaves of mint have a warm, roughish, somewhat bitterish taste; and a strong, not unpleasant, aromatic fmell. Their virtues are those of a warm stomachic and carminative: in loss of appetite, naufeæ, continual reachings to vomit, and (as Boerhaave expresses it) al-

most all paralytic weaknesses of the stomach,

stomach, there are few simples perhaps of equal efficacy. In colicky pains, the gripes to which children are fubject, lienteries, and other kinds of immoderate fluxes, this plant frequently does good fervice. It likewise proves beneficial in many hysteric cases, and affords an useful cordial in languors and other weaknesses consequent upon delivery. The best preparations for these purposes are, a strong infufion made from the dry leaves in water (which is much superior to one from the green herb) or rather a tincture or extract prepared with rectified spirit. These possess the whole virtues of the mint. The effential oil and distilled water contain only the aromatic part; the expressed juice only the astringency and bitterishness, together with the mucilaginous substance common to all vegetables. The effential oil, a fimple and spirituous water, and a conserve, are kept in the shops: the Edinburgh college directs an infufion of the leaves in the distilled water. This herb is an ingredient also in the three alexeterial waters; and its effential oil in the stomach plaster [L.] and pills [E.]

MENTASTRI folia: Mentastri spicati folio longiore candicante f. B. Horse mint; the leaves. This and several other sorts of mint are found wild in moist meadows, marshes, and on the brinks of rivers. They are much less agreeable in smell than spearmint, and have more of a hot unpleasant bitterness.

MENTHÆ PIPERITIDIS folia: Menthæ spicis brevioribus & babitioribus, foliis menthæ suscæ, sapore servido piperis Raii Synops. Menthæ piperitæ Lin. Peppermint; the leaves [L. E.]

This species has been lately in-

troduced into practice, and received for the first time in our present pharmacopæia; very few of the botanical or medical writers make mention of it. It grows wild in fome parts of England, in moist watery places, but is much less common than the other forts. The leaves have a more penetrating fmell than any of the other mints, and a much warmer, pungent, glowing talte like pepper, finking as it were into the tongue. The principal use of this herb is in flatulent colics, languors, and fimilar disorders: it seems to act as soon as taken, and extend its effects through the whole fystem, instantly communicating a glowing warmth. Water extracts the whole of the pungency of this herb by infufion, and elevates it in distillation. Its officinal preparations are an effential oil, and a simple and spirituous water [L.] The Edinburgh college employ it also in the aqua mirabilis and elixir of vitriol.

MERCURIALIS maris & feminæ folia: Mercurialis testiculatæ sive maris, & spicatæ sive fæminæ Dioscoridis & Plinii C. B. Mercurialis annuæ Lin. Male and female French mercury; the leaves [E.]

These stand among the sive emollient herbs; and in this intention are sometimes made use of in glysters. A syrup made from the leaves, given in a dose of two ounces, is said to prove a mild and useful laxative.

There is another fort of mercurialis growing in woods and hedges, which though recommended by fome botanic writers, as having the fame virtues with the foregoing, and as more palatable, has been found possessed of noxious qualities. (See Raii Synops. edit. 3. page 138. Phil. Trans. abr. Lowthorp. ii. 640.) This may be distinguished from the

N foregoing,

foregoing, by its being a perennial plant, larger, having its leaves rough, and the stalk not at all branched. The officinal fort is named by Linnæus mercurialis caule brachiato, foliis glabris; the poisonous mercurialis caule simplicissimo, foliis scabris; and is commonly called with us dogs mercury.

MERCURIUS, vide ARGEN-TUM VIVUM.

MEI ATHAMANTICI radix:
Mei foliis anethi C.B. Æthusæ Mei
Lin. Spignel; the root [L. E.]

Spignel is an umbelliferous plant, found wild in Italy, and the warmer parts of Europe, and fometimes also in England. The roots have a pleasant aromatic smell, and a warm, pungent, bitterish taste: in virtue they are similar to the levisticum, from which this root seems to differ only in being weaker, and somewhat more agreeable. It is an useful aromatic and carminative, though at present little regarded.

MEZEREI radix, cortex, bacca: Laureolæ folio deciduo, flore purpureo, officinis, laureolæ fæminæ C. B. Daphnes Mezerei Lin. Mezereon, or spurge-olive; the root, bark, and berries.

The bark and berries are strong purgatives, similar to the laureola, or spurge laurel. The root is sometimes used in diet-drinks,

MILII semen: Milii semen luteo C. B. Panici miliacei Lin. Millet; the seed.

These seeds are frequently employed in food, but hardly ever as medicines: they are sufficiently nutritious, and not difficult of digestion.

MILIUM SOLIS, vide LITHO-SPERMUM. MILLEFOLII folia: Millefolii vulgaris albi, et Millefolii purpurei C. B. Achillææ Millefolii Lin. Milfoil, or yarrow; the leaves [E.]

This grows plentifully about the fides of fields, and on dry commons, flowering during the greatest part of the fummer. The leaves have a rough bitterish taste, and a faint aromatic fmell. Their virtues are those of a very mild aftringent, and as such they stand recommended in hæmorrhages both internal and external, diarrhœas, debility and laxity of the fibres; and in spasmodic hysterical affections. In these cases, some of the Germans have a very high opinion of this herb, particularly Stahl, who esteemed it a very effectual astringent, and in his language, one of the most certain tonics and fedatives. Its virtues are extracted in great perfection by proof fpirit; water takes up its aftringency and bitterness, but little of its aromatic flavour; tinctures made in rectified fpirit contain both, though rather weaker than those in proof spirit.

The flowers of milfoil are confiderably stronger in aromatic flavour than the leaves; in distillation, they yield a small quantity of essential oil, of an elegant blue colour.

The roots, taken up in the fpring, have an agreeable warm, pungent taste. Dr. Grew resembles them to contrayerva, and imagines they might in some measure supply its place. This, however, is greatly to be doubted, since there is such a remarkable difference betwixt the two, that whilst one retains its taste for a length of time after it has been brought to us from America, the taste of the other is in great measure lost by drying.

MILLEPEDÆ [L. E.] Woodlice, hoglice, flaters.

Thefe

These insects are found in cellars, under stones, and in cold moist places: in the warmer countries they are rarely met with. Millepedes have a faint difagreeable fmell, and a fomewhat pungent, sweetish, nauseous taste. They have been highly celebrated in suppressions of erine, in all kinds of obstructions of the bowels, in the jaundice, weakness of fight, and a variety of other disorders. Whether they have any just title to these virtues, is greatly to be doubted: thus much is certain, that their real effects come far short of the character usually given of them. Their officinal preparations are, the millepedes dried and powdered [L. E.] and an infusion of the live insect in wine [E.] They are an ingredient also in the icteric decoction of the Edinburgh pharmacopæia.

MINIUM [L.E.] Red lead; lead calcined to redness. See the article PLUMBUM.

MORI fructus, et cortex radicis: Mori fructu nigro C. B. The mulberry tree; its fruit [L. E.] and the

bark of the roots [E.]

This tree is commonly cultivated on account of its fruit, which is rather eaten for pleasure than used as a medicine; it has the common qualities of the other sweet fruits, abating heat, quenching thirst, and promoting the grosser secretions. An agreeable syrup made from the juice, is kept in the shops. The bark of the roots has been in considerable esteem as a vermifuge; its taste is bitter, and somewhat astringent.

MOSCHUS [L. E.] Musk.

Musk is a grumous substance like clotted blood, found in a little bag, situated near the umbilical

region of a particular kind of animal met with in China, Tartary, and the East-Indies: the best must is brought from Tonquin, an inferior fort from Agria and Bengal, and a still worse from Russia.

Fine musk comes to us in round, thin bladders; which are generally about the fize of a pigcon's egg, covered with fhort brown hairs, well filled, and without any appearance of having been opened. The musk itself is dry, with a kind of unctuolity, of a dark reddish brown, or rufty blackish colour, in small round grains, with very few hard black clots, and perfectly free from any fandy or other vinble foreign matter. If chewed, and rubbed with a knife on paper, it looks smooth, bright, yellowish, and free from grittiness. Laid on a red-hot iron, it catches flame, and burns almost entirely away, leaving only an exceeding small quantity of light greyish ashes. If any earthy substances have been mixed with the musk, the quantity of the refiduum will readily discover them.

Musk has a bitterish subacrid tafte; a fragrant smell, agreeable at a distance, but when smelt near, fo strong as to be disagreeable, unless weakened by the admixture of other substances. If a small quantity be infused in spirit of wine in the cold for a few days, it imparts a deep, but not red tincture: this, though it discovers no great smell of the musk, is nevertheless strongly impregnated with its virtues; a fingle drop of it communicates to a whole quart of wine a rich musky flavour. The degree of flavour which a tinclure drawn from a known quantity of must, communicates to vinous liquors, is perhaps one of the best criteria for judging of the goodness of this commodity. Neumann informs us, that N 2

that spirit of wine dissolves ten parts out of thirty of musk, and that water takes up twelve; that water elevates its smell in distillation, whilst pure spirit brings over

nothing.

Musk is a medicine of great esteem in the eastern countries : among us, it has been for fome time pretty much out of use, even as a perfume, on a supposition of its occasioning vapours, &c. in weak females, and persons of a sedentary life. It appears, however, from late experience, to be, when properly managed, a remedy of good fervice even against those diforders which it has been supposed to produce. Dr. Wall has communicated (in the Philosophical Transactions, No 474) an account of fome extraordinary effects of musk in convulsive and other diseases, which have too often baffled the force of medicine. The doctor observes, that the smell of perfumes is often of differvice, where the fubstance taken inwardly, and in confiderable quantity, produces the happiest effects: that two persons, labouring under a fubfultus tendinum, extreme anxiety, and want of fleep, from the bite of a mad dog, by taking two doles of mulk, each of which were fixteen grains, were perfectly relieved from their complaints. He likewise observes, that convulfive hiccups, attended with the worst symptoms, were removed by a dose or two, of ten grains: and that in some cases, where this medicine could not, on account of ftrong convultions, be administered to the patient by the mouth, it proved of fervice when injected as a glyfter. He likewife adds, that under the quantity of fix grains, he never found much effect from it; but that, taken to ten grains and upwards, it never fails to produce a mild diaphoresis, without at all heating or giving any uneafinefs; that, on the contrary, it eales pain, raffes the spirits, and after the fweat breaks out, the patient usually falls into a refreshing fleep; that he never met with any hysterical person, how averse foever 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 mulk, observed by another gentleman. Repeated experience has fince confirmed its efficacy in these diforders. I have myfelf frequently given it with remarkable fuccels; and fometimes increased the dose as far as twenty grains every four hours, with two or three spoonfuls of the musk julep between. The julep is the only officinal preparation of it.

MYROBALANI. Myrobalans, dried fruits brought from the East-Indies; their outward part, freed from the stone.

Five kinds of myrobalans were formerly directed as officinals; (1) The yellow, myrobalani teretes citrini C. B. (2) The chebule, myrobalani maximæ oblongæ angulofæ C. B. (3) The Indian or black, myrobalani nigræ octangularis C. B. (4) The belliric, myrobalani rotundæ belliricæ C. B. (5) The emblic, myrobalani emblicæ in segmentis nucleum babentes, angulosæ J. B.

All the myrobalans have a low degree of purgative virtue. They have also an astringent quality, discoverable by the taste, from their use among the Indians for tanning leather, and from their striking a black colour with chalybeate solutions. In consequence of this, they are supposed to strengthen the bowels after their operation as a

cathartic

cathartic is over. Nevertheless their purgative virtue is so inconsiderable, that practitioners have for a long time laid them entirely aside in that intention; and the college of Edinburgh, as well as that of London, has now rejected them from the catalogue of officinal simples.

MYRRHA [L. E.] Myrrh.

Myrrh is a concrete gummy-refinous juice brought from the East-Indies, in glebes or drops, of various colours and magnitudes. The best fort is of a brown or reddish yellow colour, fomewhat transparent; of a lightly pungent, bitter tafte, with an aromatic flavour, though not fufficient to prevent its proving nauseous to the palate; and a strong not disagreeable smell. The medical effects of this aromatic bitter are, to warm and strengthen the viscera, and diffolve thick, tenacious juices; it frequently occasions a mild diaphorefis, and promotes the fluid fecretions in general.

Hence it proves serviceable, in languid cases, diseases arising from a fimple inactivity, those female diforders which proceed from a cold, mucous, fluggish indisposition of the humours, suppressions of the uterine discharges, cachectic diforders, and where the lungs and thorax are oppressed by viscid phlegm. Myrrh is likewife fupposed in a peculiar manner to refift putrefaction in all parts of the body; and in this light stands recommended in malignant, putrid, and pestilential fevers, and in the fmall-pox, in which last it is said to accelerate the eruption.

Rectified spirit extracts the fine aromatic flavour and bitterness of this drug, and does not elevate any thing of either in evaporation.

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The gummy fubstance left by this menstruum has a disagreeable taste, with scarce any thing of the peculiar flavour of the myrrh: this part diffolves in water, except fome impurities which remain. In distillation with water, a confiderable quantity of a ponderous effential oil arises, resembling in flavour the original drug. Myrrh is the basis of an officinal tincture [L. E.] and gives name to a compound tincture [E.] elixir, powder [L.] and troches [E]. It is an ingredient in the aloetic wine or elixir proprietatis, the gum pills, Rufus's pills [L. E.] stomachic pills [B.] mithridate, theriaca [L.] and theriaca Edinenfis [E.]

MYRTI baccæ: Myrti communis Italicæ C. B. Myrtle; the ber-

ries [E.]

This is an evergreen shrub, growing in Italy, and cultivated in our botanic gardens. The leaves and berries have been sometimes made use of as astringents, but are not at present regarded.

NAPI semen: Napi dulcis officinarum: Napi sativa C.B. Sweet navew or navew gentle; the feeds [L.]

This is a fort of turnep, fown in fome of our gardens for culinary use. The roots are warmer than the common turnep. The feeds have a bitterish taste, accompanied with a faint aromatic slavour: abundance of virtues has been ascribed to them, as attenuating, detergent, alexipharmac, and others; at present, they are of no further use in medicine, than as an ingredient in the theriaca.

NAPI SYLVESTRIS femen: Napi fylvestris C. B. Rape; the feeds.

This has little other external difference

difference from the foregoing than being smaller: it grows wild upon dry banks and among corn. The seeds of this are warmer and more pungent than those of the garden fort: the only use, however, they are applied to, is the preparation of the oil called rape oil, which is obtained by bruising and pressing the seeds: large quantities of the plant are cultivated for this purpose in the isle of Ely.

NARDUS CELTICA: Radix nardi Celticæ Dioscoridis C. B. Valerianæ Celticæ Tourn. Celtic nard [L. E.] the root, brought from the Alps, &c.

This root confifts of a number of fibres, with the lower part of the stalks adhering; the latter are covered with thin yellowish scales, the remains of the withered leaves.

NARDUS INDICA [L. E.] Nardus Indica, qua spica, spica nardi, et spica Indica officinarum C. B. Indian nard, or spikenard, brought from the East-Indies.

This is a congeries of small fibres iffuing from one head, and matted close together, so as to form a bunch about the fize of the finger, with fome small strings at the oppofite end of the head. The matted fibres (which are the part chosen for medicinal purposes) are supposed by some to be the head or fpike of the plant, by others the root: they feem rather to be the remains of the withered stalks, or the ribs of the leaves. Sometimes entire leaves and pieces of stalks are found among them. We likewife now and then meet with a number of these bunches issuing from one root.

Both the nards have a warm, pungent, bitterish taste; and a strong, not very agreeable smell. They are stomachic and carminative; and faid to be alexipharmac, diuretic, and emmenagogue. Their only use at present is as ingredients in the mithridate and theriaca,

NASTURTII AQUATICI folia: Nasturtii aquatici supini C. B. Sisymbrii Nasturtii aquatici Lin. Water-cresses: the leaves [L. E.]

This plant grows wild in rivulets, and the clearer standing waters; its leaves remain green all the year, but are in greatest perfection in the spring. They have a quick pungent finell (when rubbed betwixt the fingers) and an acrid taste, similar to that of cochlearia, but weaker. As to their virtues, they are among the milder aperient antiscorbutics. Hoffman has a mighty opinion of this plant, and recommends it as of fingular efficacy for accelerating the circulation, strengthening the visc ra, opening obstructions of the glands, promoting the fluid fecretions, and purifying the blood and humours: for these purposes, the expressed juice, which contains the peculiar taste and pungency of the herb, may be taken in doles of an ounce or two, and continued for a confiderable time. The juice is an ingredient in the succi scorbutici of the shops.

NASTURTII HORTENSIS folia, semen: Nasturtii vulgaris semen bortensis tenuiter divisi Morison. Lepidii sativi Lin. Garden cresses; the leaves and seeds [E.]

The leaves of garden cresses make an useful salad in scorbutio habits. In taste and medical virtues, they are similar to the foregoing, but much weaker. The seeds also are considerably more pungent than the leaves.

NEPETÆ folia: Menthæ catariæ vulgaris et majoris G. B. Nepetæ Petæ Catariæ Lin. Nep, or cat-

mint; the leaves [L. E.]

This plant is commonly cultivated in our gardens, and is sometimes also found growing wild in hedges and on dry banks. It is a moderately aromatic plant, of a strong smell, resembling a mixture of mint and pennyroyal; of the virtues of which it likewise participates.

NEPHRITICUM LIGNUM: Lignum peregrinum, aquam cæruleam reddens C. B. Guilandina Moringa

Lin. Nephritic wood.

This is an American wood, brought to us in large, compact, ponderous pieces, without knots, of a whitish or pale yellow colour on the outfide, and dark coloured or reddish within : the bark is usually rejected. This wood imparts to water or rectified spirit a deep tincture, appearing, when placed betwixt the eye and the light, of a golden colour, in other fituations blue. Pieces of another wood are fometimes mixed with it, which give only a yellow colour to water. The nephritic wood has scarce any fmell, and very little tafte. It stands recommended in difficulty of urine, nephritic complaints, and all diforders of the kidneys and urinary passages; and is said to have this peculiar advantage, that it does not, like the warmer diuretics, heat or offend the parts. Practitioners however have not found these virtues warranted by experience,

NICOTIANÆ folia: Nicotianæ latifoliæ majoris C. B. Nicotianæ Tabaci Lin. Tobacco; the leaves [L. E.]

This plant was first brought into Europe, about the year 1560, from the island Tobago in America; and is now cultivated for medicinal use, in our gardens. The leaves are

about two feet long, of a pale green colour whilst fresh, and when carefully dried, of a lively yellowish. They have a strong, disagreeable fmell, like that of the narcotic plants; and a very acrid burning tafte. Taken internally, they prove virulently cathartic and emetic, orcasioning almost intolerable cardialgic anxieties. By boiling in water, their virulence is abated, and at length destroyed: an extract made by long coction is recommended by Stahl and other German phyficians, as a fafe and most effectual aperient, expectorant, detergent, &c. but this medicine, which is extremely precarious and uncertain in strength, has never come into esteem among us. Tobacco is fometimes used externally in unguents, for destroying cutaneous infects, cleanfing old ulcers, &c. Beaten into a math with vinegar or brandy, it has fometimes proved ferviceable for removing hard tumours of the hypochondres; an account is given in the Edinburgh eslays of two cases of this kind cured by it.

There is another fort of tobacco found wild on dunghills, in feveral parts of England. This is called by C. Bauhine nicotiana minor, by Gerard byoscyamus luteus. Nicotiana rustica Lin. It seems to agree in quality with the hyoscyamus formerly mentioned, though (as Dale informs us) often substituted in our markets for the true tobacco: from which it may be distinguished by the leaves being much smaller, and the slowers not reddish as those of the officinal fort, but of a yel-

lowish green colour.

NIGELLÆ semen: Nigellæ store minore simplici candido C. B. Fennelslower; the seeds.

This plant is fown annually in fome of our gardens; the feeds

N 4 most

most esteemed are brought from Italy. They have a strong, not unpleasant smell; and a subacrid, somewhat unctuous disagreeable taste. They stand recommended as aperient, diuretic, &c. but have long been strangers to practice, and are by some suspected to have noxious qualities.

NITRUM [L. E.] Nitre, or faltpetre; a falt, extracted in Perfia and the East-Indies, from certain earths that lie on the sides of hills; and artificially produced in some parts of Europe, from animal and vegetable matters rotted together (with the addition of lime and ashes) and exposed for a length of time to the air, without the access of which, nitre is never generated. The falt extracted from the earths, &c. by means of water, is purished by colature and crystallization.

Pure nitre dissolves in about fix times its weight of water, and concretes again into colourless transparent crystals; their figure is that of an hexagonal prism, terminated by a pyramid of an equal number of fides. It readily melts in the fire; and in contact with fuel deflagrates, with a bright flame and confiderable noise; after the detonation is over, a large quantity of alkaline falt is found remaining. The tafte of nitre is sharp, penetrating, and bitterish, accompanied with a fensation of coldness.

Nitre is a medicine of celebrated use in many disorders. Besides the aperient quality of neutral salts in general, it has a manifestly cooling one, by which it quenches thirst, and abates sebrile heats and commotions of the blood. It has one great advantage above the refrigerating medicines of the acid kind, that it does not coagulate

the animal inices; blood, which is coagulated by all the mineral acids, and milk, &c. by acids of every kind, are by nitre rendered more dilute, and preserved from coagulation. It nevertheless somewhat thickens the thin, ferous, acrimonious humours, and occations an uniform mixture of them with fuch as are more thick and viscid; by these means preventing the ill confequences which would otherwise ensue from the former, though it has not, as Junckner supposes, any property of really obtunding acrimony. This medicine for the most part promotes urine; fometimes gently loofens the belly; but in cold phlegmatic habits, very rarely has this effect, though given in large dofes: alvine fluxes, proceeding from too great acrimony of the bile or inflammation of the intestines, are suppressed by it: in choleric and febrile diforders, it generally excites sweat; but in malignant cases, where the pulfe is low, and the strength lost, it retards this falutary evacuation and the eruption of the exanthemata.

Dr. Stahl has written an express treatife upon the medical virtues of nitre; in which he informs us, from his own experience, that this falt added to gargarifms employed in inflammations of the fauces in acute fevers, thickens the falival moisture upon the palate and fauces into the confistence of a mucus, which keeps them moift for a confiderable time; whereas, if nitre be not added, a fudden dryness of the mouth immediately enfues; that in nephritic complaints, the prudent use of nitre is of more service than any of the numerous medicines usually recommended in that disease: that nitre gives great relief in suppression and heat of urine, whether fimple or occafioned

fioned by a venereal taint; that it is of great service in acute and inflammatory pains of the head, eyes, ears, teeth, &c. in all eryfipelatous affections, whether particular or universal, and likewise in chronic deliria; that in diarrhææ happening in petechial fevers, nitre mixed with abforbents and diaphoretics, had the best effects, always putting a stop to the flux, or rendering the evacuation falutary; that in diarrhϾ happening in the fmall-pox, it had been employed with the like fuccels, two doles, or three at most (confisting 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 flop to the flux, after the bezoardic powders, both with and without opium, had been given without fuccefs. The fame author recommends this falt likewife as a medicine of fingular fervice in choleras attended with great anxieties and heat of the blood; in the flatulent spasmodic heartburns familiar to hypochondriacal people; and the loss of appetite, nausea, vomiting, &c. which gouty persons are sometimes seized with when the pains of the feet, &c. fuddenly remit. In cases of this last kind, the use of nitre furely requires great caution, although the author affures us, that no bad consequences are to be feared from it. Nevertheless he observes, that in a phthisis and ulcerous affections, it has been found to be of no fervice; and that therefore its use may be superfeded in these complaints. Indeed in diforders of the lungs in general, it is commonly reckoned to be rather hurtful than beneficial.

The usual dose of this medicine among us, is from two or three grains to a scruple; though it may be given with great fafety, and generally to better advantage, in larger quantities: the only inconvenience is its being apt to fit uneafy on the flomach. Some have affirmed, that this falt lofes half its weight of aqueous moisture by fusion, and consequently that one part of melted nitre is equivalent to two of the cryftals; but it did not appear, upon feveral careful trials, to lose so much as one twentieth of its weight. The officinal preparations of nitre are a decoction or folution in water [E.] and troches [L.] A corrofive acid spirit is also extracted from it; see Part II. chap. viii. fect. 3. It is employed likewise in operations on metallic bodies, for promoting their calcination, or burning out their inflammable matter.

NUX MOSCHATA [L. E.] Nux moschata fructu rotundo C. B. Myristica officinalis Lin. Nutmegs; the kernel of a roundish nut which grows in the East-Indies. The outfide covering of this fruit is foft and fleshy, like that of a walnut, and spontaneously opens when the nut grows ripe; immediately under this lies the mace (iee Macis) which forms a kind of reticular covering; through the fiffures whereof appears a hard woody shell that includes the nutmeg. These kernels have long been made use of both for medicinal and culinary purposes, and defervedly looked upon as a warm agreeable aromatic. They are fupposed likewise to have an astringent virtue; and are employed in that intention in diarrhoea and dyfenteries. Their aftringency is faid to be increased 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

efficacious to any good purpose; and if we may reason from analogy, probably abates its aftringency. Nutmegs distilled with water, af ford a large quantity of effential oil, resembling in flavour the spice itself; after the distillation, an infipid febaceous matter is found fwimming on the water; the decoction, inspissated, gives an extract of an unctuous, very lightly bitterish taste, and with little or no aftringency. Rectified spirit extracts the whole virtue of nutmegs by infusion, and elevates very little of it in distillation: hence the spirituous extract possesses the flavour of the spice in an eminent de-

gree.

Nutmegs yield to the press (heated) a confiderable quantity of limpid yellow oil, which in cooling concretes into a febaceous confistence. In the shops we meet with three forts of unctuous fubstances, called oil of mace, though really expressed from the nutmeg. The best is brought from the East-Indies, in stone jars; this is of a thick confistence, of the colour of mace, and an agreeable fragrant fmell; the fecond fort, which is paler coloured and much inferior in quality, comes from Holland in folid maffes, generally flat and of a square sigure: the third, which is the worst of all, and usually called common oil of mace, is an artificial composition of fevum, palm oil, and the like, flavoured with a little genuine oil of the nutmeg. These oils yield all that part in which their aromatic flavour refides, in diffillation to water, and to pure spirit by infusion: the distilled liquor and spirituous tincture nearly refemble in quality those prepared immediately from the nutmeg. The officinal preparations of nutmegs are, a spirituous water, effential oil, and the nutmegs in fubstance roasted [L.] The nutmeg itself is used in the compound horseradish water, compound spirit of lavendar, cordial confection, cardialgic troches, and syrup of buckthorn [L.]; its essential oil, in the volatile aromatic spirit [L.] and the expressed oil in mithridate and theriaca, stomachic and cephalic plasters [L.] and cephalic balsam [E.]

NUX PISTACHIA: Nucleus e fructu Pistaciae Raii. Pistachia

wera Lin. Pistachio [E.]

This is a moderately large nut, containing a kernel of a pale greenish colour, covered with a reddish skin. The tree which produces it, grows spontaneously in Persia, Arabia, and several islands of the Archipelago: it bears likewife the colds of our own climate, fo as to have produced fruit not inferior to that which we receive from abroad. Pistachio nuts have a pleafant, fweet, unctuous tafte, refembling that of almonds. They are ranked amongst the analeptics, and are by fome much effeemed in certain weaknesses, and in emaciated habits.

NYMPHÆÆ ALBÆ radin, flores: Nymphæ albæ majoris B. C. White water lily; the root and

flowers [E.]

This grows in rivers and large lakes, flowering usually in June. The roots and flowers have a rough, bitterish, glutinous taste (the flowers are the least rough); and when fresh, a disagreeable smell, which is in great measure lost by drying: they are recommended in alvine sluxes, gleets, and the like. The roots are supposed by some to be in an eminent degree narcotic, but on no very good foundation. Lindestolpe informs

forms us, that in some parts of Sweden, they were in times of scarcity used as food, and did not prove unwholsome.

OCHRA. Yellow ochre: a foft friable ore of iron, of a yellow colour, dug in several parts of England. It possesses the virtues of the calces of iron and hæmatites; but in so low a degree, that the shops have deservedly rejected it; its principal use is as a pigment.

\* CENANTHE: this is the botanical name of a genus of plants of the umbelliferous class, of which there are three species, natives of Great Britain. One of these only is known by its effects on the human body, the Oenanthe Crocata Lin. Hemlock dropwort. This is a large umbelliferous plant, growing in ditches and other moist places; with pinnated leaves, refembling those of celery or chervil, and ribbed stalks. Its roots afford the easiest mark of distinction, which are white, thick, and fhort, and grow feveral together,

forming a kind of bunch. The hemlock dropwort has long been known as a most dangerous poison; the most virulent, perhaps, Its that this country produces. roots or leaves eaten by mistake, have frequently proved fatal, occalioning violent fickness and vomiting, rigours, convultions, delirium, and other terrible affections of the nervous fystem. Dr. Pulreney has published a case in the Philof. Transact. vol. LXII. in which this plant, used by mistake initead of the water parinep, proved remarkably efficacious in removing an inveterate scorbutic complaint, which had refifted a variety of other remedies. dose first given was a common

spoonful of the juice of the root, which at the first exhibition produced very alarming effects. This was afterwards reduced to three tea-spoonfuls; which quantity was persisted in a considerable time, and then changed for a tea of the leaves. The medicine never proved purgative, but was diuretic. It always occasioned a degree of vertigo; accompanied, when the juice itself was taken, with nausea and sickness.

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

OLIVÆ earumque oleum: Fructus oleæ fativæ C. B. The olive tree; the fruit [E.] and its oil

[L. E.]

This tree grows in the fouthern parts of France, in Spain, Italy, and other warm countries: with us it is usually preserved in the green-houses of the curious, though it will bear our ordinary winters in the open air, and produce very good fruit. Olives have an acrid, bitter, extremely disagreeable taste : pickled (as we receive them from abroad) they prove less disagreeable; the Lucca olives, which are fmaller than the others, have the weakest taste; the Spanish, or larger, the strongest; the Provence, which are of a middling fize, are generally the most esteem-

The oil obtained from this fruit has no particular taste or smell, and does not greatly differ in quality from oil of almonds. Authors make mention of two sorts of this oil; one, expressed from the olives when fully ripe, which is our common oil olive; the other, before it has grown ripe; this is called oleum immaturum, and omphacinum. Nothing is met with in the shops under this name;

and

and Lemery affirms, that there is no fuch oil; unripe olives yielding only a viscid juice to the press. From the ripe fruit, two or three forts are obtained, differing in degree of purity : the pureft runs by light pressure: the remaining magma, heated and pressed more strongly, yields an inferior fort, with fome dregs at the bottom, called amurca. All these oils contain a confiderable portion of aqueous moisture, and a mucilaginous fubstance; which subject them to run into a putrid flate; to prevent this, the preparers add fome fea falt, which imbibing the aqueous and mucilaginous parts, finks with them to the bottom; by these means, the oil becomes more homogene, and confequently less susceptible of alteration. In its passage to us, some of the falt, thrown up from the bottom by the shaking of the vessel, is fometimes mixed with and detained in the oil, which, in our colder climate, becomes too thick to fuffer it freely to subside; and hence the oil is fometimes met with of a manifestly faline taste. Oil olive is used in the simple balfam of fulphur, Locatelli's balfam, and feveral ointments. is oftener employed in this last intention than the other expressed oils, but more rarely for internal medicinal purpoles.

OLIBANUM [L.E.] Ex JuniperolyciaLin. A gummy-refin, brought from Turkey and the East-Indies, usually in drops or tears, like those of mastich, but larger, of a pale yellowish, and sometimes reddish colour; a moderately warm pungent tafte, and a strong, not very agreeable fmell. This drug has received many different appellations, according to its different appearances: the fingle tears are called fimply olibanum, or thus: when two are joined together, they have been called thus masculum, and when two were very large, thus fæmininum. Sometimes four or five, about the bigness of filberds, are found adhering to a piece of the bark of the tree from which they exuded; these have been named thus corticofum; the finer powder which rubs off from the tears in the carriage, mica thuris; and the coarser powder, manna thuris. This drug is not however in any of its states what is now called thus or frankincense in the

shops (see Thus).

Olibanum confifts of about equal parts of a gummy and refinous fubstance, the first soluble in water, the other in rectified ipirit. With regard to its virtues, many have been attributed to it, particularly in disorders of the head and breaft, in hæmoptoes, and in alvine and uterine fluxes: but its real effects in these cases are far from answering the promises of the recommenders. Riverius is faid to have had large experience of the good effects of this drug in pleurifies, especially epidemic ones : he directs a scooped apple to be filled with a dram of olibanum, then covered and roafted under the ashes; this is to be taken for a dose, three ounces of carduus water drank after it, and the patient covered up warm in bed : in a short time, he fays, either a plentiful fweat, or a gentle diarrhœa will enfue, which carry off the difease. Geoffroy informs us, that he has frequently made use of this medicine, after venæsection, with good success; but acknowledges that it has fometimes failed. Olibanum is an ingredient in the pulvis e succino, theriaca [L.] confectio japonica, pilulæ ex olibano, and emplastrum defenfivum [E.]

ONONIDIS.

ONONIDIS, Anonidis, sive Aresta bowis radix: Anonidis spinosa store purpureo C. B. Restharrow, cammock, or petty-whin;

the root [E.]

This plant grows wild in waste grounds, and dry fields. The root has a disagreeable smell, and a nauseous sweetish taste: it stands recommended as an aperient and diuretic; but has never been much regarded among us.

Ophiogloss vulgati C. B. Adders

tongue; the leaf.

This plant has only one leaf, with a flender stalk arising from the bottom of it, dented about the edges, and supposed to resemble the tongue of a serpent: it grows wild in moist meadows. Scarce any other virtues are attributed to it than those of a vulnerary.

OPIUM [L. E.] Opium; the concrete milky juice of the poppy

(fee PAPAVER.)

This juice has not yet been collected in quantity in Europe. Egypt, Perfia, and fome other provinces of Afia, have hitherto fupplied us with this commodity: in those countries, large quantities of poppies are cultivated for this ufe. The opium prepared about Thebes in Egypt, hence named Thebaic opium, has been usually esteemed the best; but this is not now distinguished from that collected in other places. This juice is brought to us in cakes or loaves, covered with leaves, and other vegetable matters, to prevent their Iticking together: it is of a folid confiftence, yet somewhat softish and tenacious, of a dark reddish brown colour in the mass, and when reduced into powder, yellow; of a faint disagreeable smell, and a bitterish taste, accompanied with a

pungent heat and acrimony.

The general effects of this medicine are, to relax the folids, and render them less sensible of irritation, to cheer the spirits, ease pain, procure sleep, promote perspiration and sweat, but restrain all other evacuations. When its operation is over, the pain, and other symptoms which it had for a time abated, return; and generally with greater violence than before, unless the cause has been removed by the diaphoresis, or relaxation which it occasioned.

The operation of opium is generally attended with a flow, but firong and full pulse, a dryness of the mouth, a redness and light itching of the skin: and followed by a degree of nausea, a difficulty of respiration, lowness of the spirits, and a weak languid pulse.

The principal indications of opium are, great watchfulness, immoderate evacuations proceeding from acrimony and irritation, cramps or spasmodic contractions of the nerves, and violent pains of almost every kind. In these cases, opiates procure at least a temporary relief, and an opportunity for other medicines, properly inter-

posed, to take effect.

Opium sometimes deseats the intention of the physician, and instead of producing rest, occasions great anxiety, vomiting, &c. Taken on a full stomach, it often proves emetic; where the patient is exhausted by excessive evacuations, it occasions generally great lowness. It has been observed to operate more powerfully in persons of a lax habit, than in the opposite circumstances; whilst it usefully restrains preternatural discharges proceeding from irritation, it proves injurious in those that arise from a

contrary-

contrary cause, as in the colliquative diarrhoeæ attending hectic severs. By relaxing, taking off strictures, and occasioning a paralysis of particular parts, it often promotes such evacuation as those parts are concerned in. Boerhaave observes, that it sometimes enables the ureters to allow an easy passage even to the calculus: but this es-

fect is by no means constant.

With regard to the dose of opium, one grain is generally a fufficient, and often too large a one; maniacal persons, and those who have been long accustomed to take it, require three or more grains to have the due effect. Among the eastern nations, who are habituated to opium, a dram is but a moderate dose: Garcias relates, that he knew one who every day took ten drams. Those who have been long accustomed to its use, upon leaving it off, are feized with great lowness, languor, and anxiety; which are relieved by having again recourse to opium, and, in some measure, by wine or

spirituous liquors.

Opium is partially foluble in water, and rectified spirit : proof fpirit, wine, and vinegar, totally diffolve it; the impurities only being left. The folutions in proof fpirit and wine, have the same effects with the juice in substance; with this difference, that they exert themselves sooner in the body, and are less apt to leave a nausea on the stomach. A tincture made in rectified spirit is supposed to operate, in an equal dole, more powerfully than the foregoing liquors: Geoffroy informs us, from his own experience, that whilst the watery and vinous folutions occasioned pleasant quiet sleep, a tincture drawn with pure spirit brought on a phrenty for a time. Alkaline fales diminish the soporific virtue of this medicine : fixt alkalies render it diuretic, whilst volatile ones determine its action chiefly to the cutaneous pores. Acids almost entirely destroy its power. Many have endeavoured to correct fome imaginary ill qualities of this drug, by toasting it, by fermentation, by long conti-nued digestions, by repeated diffolutions and distillations. These processes, though recommended by many writers, do not promife any fingular advantage: they may indeed weaken the opium; but by thefe very means become prejudicial, rendering the medicine more uncertain in its operation, and the dose more undetermined.

Opium applied externally, gives ease in many pains, but does not, as some have supposed, stupisy the part, or render it insensible of pain: used immoderately, it is said to produce the same ill effects, as when taken to excess internally.

The officinal preparations of opium are, the Thebaic extract, or stained opium, and a vinous [L.] and spirituous [E.] tincture. It is a capital ingredient in many compositions, as the paregoric elixir [L. E.] sudorisic tincture [E.] saponaceous and storax pills [L.] olibanum and pacific pills [E.] the compound powder of bole, scordium and amber, electary of scordium, consectio Paulina, philonium, mithridate, theriaca [L.] theriaca Edinensis, consectio japonica, and anodyne balsam [E.]

OPOBALSAMUM [L. E.] Balfamum Judaicum, Syriacum, e Mecha. Ex Balfamo Syriaco rutæ folio Lin. Opobalfam, or balm of Gilead; a refinous juice, obtained from an evergreen tree, or shrub, growing spontaneously in Arabia. The best fort, which naturally exudes from the plant, is scarce known in Eu-

rope; and the inferior kinds, faid to be extracted by lightly boiling the leaves and branches in water, are very rarely feen among us. The true opobalfam, according to Alpinus, is at first turbid and white, of a very strong pungent smell, like that of Turpentine, but much fweeter, and of a bitter, acrid, aftringent tafte: upon being kept for some time, it becomes thin, limpid, light, of a greenish hue; then of a gold yellow; and at length of the colour of honey: after this it grows thick like turpentine, and loses much of its fragrance. This balfam is of great esteem in the eastern countries, both as a medicine, and as an odoriferous unquent, and cofmetic. Its great scarcity has prevented its coming into use among us. In the mithridate and theriaca, in which it is directed as an ingredient, the London college allows the expreffed oil of nutmegs as a succedaneum to it.

OPOPANAX[L.E.] Opopanax; a concrete gummy refinous juice, obtained from the roots of an umbelliferous plant, panax pastinacæ folio C. B. which grows spontaneously in the warmer countries, and bears the colds of this. The juice is brought from Turkey and the East-Indies, sometimes in round drops or tears, but more commonly in irregular lumps, of a reddish yellow colour on the outfide, with specks of white, inwardly of a paler colour, and frequently variegated with large white pieces. It has a peculiar strong smell, and a bitter, acrid, somewhat nauseous taste. Its virtues are those of an attenuating and aperient medicine. Boerhaave frequently employed it, along with ammoniacum and galbanum, in hypocondriacal diforders, obstructions of the abdominal vifcera, and suppressions of the mens-

trual evacuations from the fluggishness of mucous humours, and a want of due elasticity of the solids : in these intentions it is an useful ingredient in the pilulæ gummojæ and compound powder of myrrh of the London pharmacopæia, but is not employed in any composition of the Edinburgh. It may be given by itself in the dose of a scruple, or half a dram: a whole dram proves. in many conftitutions, gently purgative.

## ORCHIS, vide SATYRION.

ORIGANI folia: Origani sylvestris, cunilæ bubulæ Plini C. B. Origani vulg. Lin. Wild marjoram;

the leaves [L. E.]

This is met with upon dry chalky hills; and in gravelly foils, in several parts of England. It has an agreeable smell, and a pungent tafte, warmer than that of the garden marjoram, and much refembling thyme, with which it feems to agree in virtue. An effential oil distilled from it, is kept in the inops.

There is another fort of origanum called Creticum, whose flowers, orrather flowery tops, are fometimes brought to us from Candy. There have an agreeable aromatic flavour, fomewhat stronger than the com-

mon fort.

ORYZÆ semen [E.] Rice; the feeds freed from the outward fkin; these are brought chiefly from Garolina, where the plant is cultivated in large quantities. They are fufficiently nutritious, and afford an useful food in diarrhææ, dysenteries, and other diforders from a thin acrimonious state of the juices,

OSTEOCOLLA [E.]

This is a fossil substance, found in many parts of Germany, as alfo

in England, and other countries. It is generally met with in loofe fandy grounds, spreading, from near the surface to a considerable depth, into a number of branches, like the roots of a tree: it has a whitish colour, rough on the surface, and for the most part either hollow within, or filled with folid wood, or a powdery woody matter. Sometimes the roots of living trees are found changed into this kind of substance (See Neumann's chemical works, pag. 11, and the Berlin Memoirs for the year 1748).

Powdered ofteocolla separates, on ablution with water, into two distinct substances; the siner matter washed over, burns into quick-lime, and agrees on all trials with powdered limestone: the grosser part which remains is mere sand; the sand and calcareous earth are for the most part nearly in an equal proportion. From this analysis we may easily judge of the virtue for which this sossil is celebrated, that of bringing on a callus in fractured bones.

OXALIS, vide Acetosa.

OXYACANTHA GALENI, vide BERBERIS.

OXYACANTHA VULGA-RIS, vide SPINA ALEA.

OXYLAPATHUM, vide La-

PÆONIÆ radix, flores, semen:
Pæoniæ folio nigricante splendido,
quæ mas C. B. vel Pæoniæ sæminæ
flore pleno rubro majore C. B. Pæoniæ
officinalis Lin. Male and semale
peony; the roots, slowers, and seeds
[L. E.]

These plants are cultivated in our gardens on account of the beauty of their flowers; the se-

male, which is the larger and more elegant, and for this reason the more common, is the only one with which the shops are supplied. In quality they are scarce sensibly different; and hence the college allows them to be taken promifcuoufly. The roots and feeds of peony have, when recent, an unpleafant fcent, approaching to that of the narcotic plants; and a fomewhat glutinous subacrid taite, with a light degree of bitterness and aftringency: the leaves also difcover an aftringent quality both to the tafte, and by changing chalybeate folutions of a purple colour: the flowers have little tafte, and a very faint, not agreeable imell. The parts which have chiefly been used for medicinal purposes, are the roots and feeds. These are looked upon as emollient, corroborant, and lightly anodyne: and supposed to be of fervice in some kinds of obstructions, erosions of the viscera, heat of urine, pains in the kidneys, and the like. The virtue for which they are chiefly celebrated, is that of curing spasmodic and epileptic complaints; which many have been abfurd enough to believe that the root of this plant would do, by being only worn about the neck. The root is an ingredient in the pulvis ad epilepticos of the Edinburgh pharmacopæia.

PALMÆ oleum: Palmæ foliorum pediculis spinosis, frustu pruniformi, luteo, oleoso Sloan. Phænicis dastyliferæ Lin. Palm-oil [E.]

This oil is obtained from the kernels of the fruit of a species of palm tree, which is a native of the coast of Guinea and Cape Verd islands. From these places it has been transplanted into Jamaica and Barbadoes. The oil as brought to us, is about the consistence of an ointment, and of an orange colour;

a ftrong,

a ftrong, not disagreeable smell, but very little tafte. By long keeping, it loses its high colour, and becomes white, when it ought to be rejected, as no longer fit for use. The inhabitants of the Guinea coast are faid to make this oil part of their food, and to employ it for the same purposes as we do butter. With us, it is rarely given inwardly, and used only in some external applications, for pains and weakness of the nerves, cramps, fprains, and the like. The common people apply it to the cure of chilblains, and when early made use of, not without fuccefs. It is an ingredient in the emollient ointment and flomach plaster of the Edinburgh pharmacopœia.

PAPAVERIS ALBI capita: Papaveris hortensis semine alto C. B. Papaveris somniferi Lin. The large garden poppy, with white slowers and seeds; or the white poppy; its heads [L.]

PAPAVER NIGRUM: Papaver bortense nigro semine C. B. The smaller garden poppy, with purple slowers and black seeds; or the black poppy. The college of Edinburgh seems to allow this species to be used promiscuously with the foregoing; having dropt the distinction of white and black, and retained in the catalogue only the title of papaver bortense; of which they direct the heads, seeds, and leaves, for medicinal use.

The heads and stalks of these plants contain a milky juice; which may be collected in considerable quantity, by lightly wounding them when almost ripe. This juice, exposed for a few days to the air, thickens into a stiff tenacious mass, agreeing in quality with the opium brought from abroad. (See Opium). The juices of both the pop-

pies appear to be similar to one another; the only difference is in the quantity afforded, which is generally in proportion to the size of the plants. The larger, or white poppy, is the fort cultivated by the preparers of opium in the eastern countries, and for medicinal uses in this.

Poppy heads, boiled in water, impart to the menstruum their narcotic juice, together with the other juices, which they have in common with vegetable matters in general. The liquor strongly pressed out, fuffered to fettle, clarified with whites of eggs, and evaporated to a due confistence, yields about onefifth, or one-fixth the weight of the heads, of extract. This possesses the virtues of opium; but requires to be given in double its dose to anfwer the same intention, which it is faid to perform without occasioning a nausea and giddiness, the usual confequences of the other. (See the Edinburgh essays abridg. vol. i. pag. 158 and 132.) A strong decoction of the heads, mixed with as much fugar as is fufficient to reduce it into the confishence of a fyrup, becomes fit for keeping in a liquid form; and is the only officinal preparation of the poppy. Both these preparations are very useful, though liable to variation in point of strength: nor does this inconvenience feem avoidable by any care in the prescriber, or the operator; fince the poppy heads themselves (according to the degree of maturity, and the foil and feafon of which they are the produce) contain different proportions of the narcotic matter to the other juices of the plant; as has been observed in the Pharmacopœia reformata.

The feeds of the poppy are by many reckoned foporific: Juncker fays, they have the fame quality with those of hyoscyamus, and

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Herman

Herman looks upon them as a good substitute to opium; misled probably by an observation which holds in many plants, that the feeds are more efficacious than the veffels

in which they are contained.

The feeds of the poppy have nothing of the narcotic juice which is lodged in their covering, and in the stalks; an oil expressed from them has been used for the same purposes as oil olive; and the seeds themselves taken as food. Their tafte is sweetish and farinaceous.

PAPAVERIS ERRATICI, seu Papaveris rbæados flores: Papaveris erratici majoris C. B. Red poppy or corn-rose; the greater of the hairy wild poppies, with deep red flowers and dark coloured feeds;

its flowers [L. E.]

The flowers of this plant yield upon expression a deep red juice, and impart the fame colour by infusion to aqueous liquors. A syrup of them is kept in the shops: this is valued chiefly for its colour; though some expect from it a lightly anodyne virtue,

PARALYSIS flores: Verbasculi pratensis odorati C. B. Primulæ veris majoris Raii. Cowflips: the

flowers [L. E.]

ALC: N. C. L.

This plant grows wild in marshes and moist meadows. The flowers appear in April; they have a pleafant sweet smell, and a subacrid, bitterish, somewhat astringent taste. An infusion of them, used as tea, is recommended as a mild corroborant, in nervous complaints, and in some semale disorders proceeding from a deficiency of the menfirual purgations. A firong infusion of them forms, with a proper quantity of fugar, an agreeable fyrup, which has long maintained a place in the shops. By boiling,

even for a little time, their fine flavour is destroyed.

PAREIRA BRAVA [E.] Cif-

Sampelos Pareira Lin.

This is the root of an American convolvulus, brought to us from Brazil, in pieces of different fizes, iome no bigger than a man's finger, others as large as a child's arm. It is crooked, and variously wrinkled on the furface; outwardly of a dark colour, internally of a dull yellowish, and interwoven with woody fibres, fo that upon a transverse fection, a number of concentric circles appear, croffed with fibres, which run from the center to the circumference. It has no fmell; the taste is a little bitterish, blended with a sweetness, like that of liquorice. This root is highly extolled by the Brazilians and Portuguefe, in a great variety of diseases, particularly against suppressions of urine, nephritic pains, and the calculus. In the two first, Geoffroy fays he has given it with good fuccels, and that the patient was almost instantly relieved by it, a copious discharge of urine succeeding. He likewise observed large quantities of gravel, and even small stones, voided after its use. This effect he attributes not to any lithontriptic power, but to its diffolving the viscid mucus, by which the fabulous matter had been detained. He likewise relates, that he has had frequent experience of the good effects of this root in deterging and healing ulcers of the kidneys and bladder, where the urine came away purulent and mucous, and could not be voided at all without extreme pain; by the use of the pareira, the urine foon became clear, and of a due confistence, and was evacuated freely; and, by joining to this medicine

dicine balfam of Copaiba, the ulcer perfectly healed. The attenuating quality, which he had discovered in this root, induced him to make trial of it in other difeases, proceeding from tenacious juices, and in these likewise it fully answered his expectations. In humoral afthmas, where the lungs are stuffed up, and the patient almost suffocated by thick phlegm, an infusion of pareira, after many other medicines had proved ineffectual, occasioned a plentiful expectoration, and foon completed a cure. In the jaundice, proceeding from thick bile, it did excellent fervice: but in another icterical case, where the liver was swelled and hard, this medicine did no good. His dose of the root in fubstance is from twelve grains to half a dram, in decoction two or three drams.

PARIETARIÆ, seu Helxines folia: Parietariæ officinarum C. B. Pellitory of the wall; the leaves

[L, E.]

This is a small plant growing upon old walls; of an herbaceous, subsaline taste, without any smell. It is one of the five emollient herbs, and in this intention is occasionally made use of. It is an ingredient in the nephritic decoction of the Edinburgh pharmacopæia. The expressed juice has been given in the dose of three ounces as a diuretic.

PARTHENIUM, vide Ma-TRICARIA.

PASTINACA HORTENSIS:
Pastinaca latifolia sativa Raii.
Garden parsneps.

PASTINACA SYLVESTRIS: Pastinaca sylvestris latifolia Raii.

Wild Parineps.

The roots of the garden parfnep are used as food, and prove sufficiently nutritious. The seeds of both

forts are lightly aromatic; those of the wild are strongest.

PENTAPHYLLI radix: Quinquefolii majoris repentis C. B. Potentillæ reptantis Lin. Cinquefoil; the

root [L.]

This grows plentifully in hedges, and by road-fides. The root is moderately aftringent; and as such is sometimes given internally against diarrhow and other fluxes; and employed in gargarisms for strengthening the gums, &c. The cortical part of the root may be taken, in substance, to the quantity of a dram: the internal part is considerably weaker, and requires to be given in double the dose to produce the same effect. It is seldom used but as an ingredient in the theriaca.

PEPONUM semen: Peponis oblongi C. B. The pumpion; its

feeds [E.]

These seeds are very rarely met with in the shops: in quality they are not different from those of cucumbers, melons, and the others called cold seeds.

PERICLYMENUM, vide Ca-PRIFOLIUM.

PERSICARIÆ MITIS folia: Perficariæ maculofæ Raij. Poligoni Perficariæ Lin. Spotted arsmart: the leaves.

This grows wild in moist watery places: the leaves fomewhat resemble those of the persica malus, and have generally a blackiff fpot in the middle : their tafte is roughish and subsaline. This herb is recommended chiefly for external purposes. Tournesort assures us (in the Memoirs of the French academy, 1703) that it is one of the best vulneraries and antiseptics he knows, and that a decoction of it in wine stops gangrenes in a furprifing manner: The prefent practice 0 2

practice however has no dependance on it.

PERSICARIÆ URENTIS folia: Persicariæ vulgaris acris, sive bydropiperis Raii. Biting arfmart, lakeweed, or water pepper; the

leaves [E.]

This fort is readily diffinguishable from the former, by its pungent, biting, pepper-like tafte. Its virtues are those of an acrid stimulating medicine: in phlegmatic habits, it promotes the urinary difcharge, and has frequently done good fervice in fcorbutic complaints. The fresh leaves are sometimes applied externally for cleanfing old fiftulous ulcers, and confuming fungous fielh: for these purposes they are faid to be employed by the farriers, among whom they have been principally made use of.

PERSICÆ MALI flores: Perficæ molli carne, &c. C. B. Amygdali Perfice Lin. The peach tree; its

flowers [E.]

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Peach flowers have an agreeable fmell, and a bitterish taste : distilled, without any addition, by the heat of a water-bath, they yield one-fixth their weight, or more, of a whitish liquor, which, as Mr. Bolduc observes, communicates to a large quantity of other liquids, a flavour like that of the kernels of An infusion in water of half an ounce of the fresh gathered flowers, or a dram of them when dried, sweetened with sugar, proves for children an useful laxative and anthelmintic. The leaves of the tree are, in this intention, fomewhat more efficacious, though less agreeable. The fruit has the fame quality with the other fweet fruits, that of abating heat, quenching thirst, and gently loosening the belly.

PERUVIANUS CORTEX L. E. | Chinchona officinalis Lin. Peruvian bark; the bark of a tall flender tree, growing in Peru. It is brought to us in pieces of different fizes, fometimes rolled up into fhort thick quills, and fometimes flat. The outfide is brownish and generally covered in part with a whitish moss; the inside is of a yellowish, reddish, or rusty iron colour. It has a lightly aromatic fmell, fomewhat musty, yet not disagreeable; a bitterish, astringent taste, which dwells long upon the tongue, accompanied with a degree of aromatic warmth. The fmall, thin, flat pieces, are by fome accounted the best; by others, the quill fort, with the roughest coat, especially if of a bright cinnamon colour on the infide; though the large flat pieces, whether rough or fmooth, of a lighter or darker colour, are often of equal goodness. The best bark is that which is strongest in smell and taste: this likewife proves friable between the teeth, and does not separate into fibres; it breaks, not shivery, but close and smooth.

The virtues of this bark, as a febrifuge, were discovered by the Indians about the year 1500. Europe did not become acquainted with it till 1649: nor was it received into general practice till feveral years after this; fome ill consequences, ensuing from its imprudent use, having brought it for a time into difrepute. At prefent, it is looked upon as the most effectual remedy in intermittent fevers of almost every kind, and safe in all ages and conflitutions; provided it be judiciously and seasonably administered, and due regard be had to the circumstances of the disease. The modern practice, previous to the use of this medicine, ufually

usually gives an emetic at the beginning of a paroxysm. In some cases a cathartic, and in plethoric habits venæsection, are premised. These render the bark not only more fafe, but likewise more certain and fpeedy in its operation. Where these evacuations are neglected, or not fufficiently plentiful, the difease, if of long standing, scarce yields to the cortex; or if it appear at length subdued, yet the patient does not recover his strength, and foon fuffers a relapfe. The use of the bark is begun at the end of a paroxyfm, and repeated, in the quantity of half a dram (more or lefs, according to the circumstances of the patient) every third or fourth hour during the intermission. Where the fever is of the bilious kind, and accompanied with great heat, a little nitre is joined. In all cases, moderate exercise generally promotes its effect. At first, it usually loofens the belly, and fometimes operates as if a cathartic had been taken; and by these means supplies the omission of evacuations before its exhibition. If the purging continue, the medicine does not anfwer the purposes intended by it. In fuch case, a little opium is added, which effectually suppresses the flux. If after this the patient continue too costive, recourse is had The loofeness, howto glyfters. ever, ought not to be ftopt too foon: on the contrary, where the bark does not itself produce this effect, it is necessary, as Dr. Mead informs us, to join to it a little rhubarb, fo as to occasion for a time two stools a day; by these means the disease is more effectually cured, and less fubject to be followed by a droply, or ill habit of body: after a dram or two of rhubarb have been taken, it is to be discontinued, and the bark exhibited by itself. After the fever has been removed, the medi-

cine is continued for some time longer, to prevent a relapse; and evacuations, unless absolutely necessary, abstained from. The disease is nevertheless seldom completely cured before some very considerable evacuation, either by stool, urine, or perspiration, ensues: if this do not succeed spontaneously, cathartics, diuretics, or diaphoretics, are given in conjunction with the bark, otherwise the patient continues weak, and without appetite, till either the disease returns, or changes into one of a different kind.

In fymptomatic agues, hectic and purulent fevers, cacochymic habits, and where the hypochondres are fwelled and distended, this medicine is improper, and for the most part prejudicial. Its manifest astringency forbids its use in obstructions of the abdominal viscera, or suppressions of any critical evacuation; until the obstruction be first removed, or the evacuation have had its due course.

In acute, inflammatory, or malignant fevers, the bark does not feem to have any good effect. Nevertheless, in the decline of long nervous fevers, or after a remission, when from bad habit, old age, fatigue, or the like, the patient is extremely weak, and the pulse low, the cortex proves a medicine of excellent fervice; provided there be no extravasation, that the vessels remain entire, and pus be not already formed.

Peruvian bark has likewise been found eminently serviceable in gangrenes and mortifications, proceeding either from an internal or external cause. In all the cases of this kind, where it proved successful, it occasioned a kind of suppuration, which degenerated when the use of the medicine was discontinued, and again turned kindly upon resuming it. Some have been hence induced

to try the cortex in variolous cases, where either the pustules did not rightly suppurate, or petechiæshewed a disposition to a gangrane; and here likewise it answered expectation: the empty vesicles filled with matter, watery sanies changed into thick white pus, the petechiæ became gradually of a pale colour, and at length disappeared, and the pox began to turn sooner than was expected. See the Edinburgh medical essays.

The bark has been applied likewife, and not without success, to the cure of periodic head-achs, hysteric and hypochondriac sits, and other disorders, which have regular intermissions. By its astringency and aromatic quality, it strengthens the whole nervous system, and proves useful in weakness of the stomach, and sundry chronical disorders, proceeding from too great laxity of the sibres. In obstinate uterine sluxes, and old gleets, bark joined with

chalybeates has good effects.

The virtues of Peruvian-bark refide chiefly in a refinous fubstance, and hence are extracted in perfection by rectified spirit. strong coction in water, the resin is melted out, and mingled with the water; which whilst hot, appears transparent, but in cooling, grows turbid, and deposits great part of the refin to the bottom. elevates in distillation the aromatic part of the bark; pure spirit brings over nothing. Hence an aqueous extract proves not only less in quantity, but likewise inferior in quality to one made with rectified spirit. Proof spirit extracts the virtues of this drug in tolerable perfection, in the cold; heat enables it to take up more than it can retain when cold. Spirit of fal ammoniac, prepared with fixt alkaline falts, gains very little from the cortex, either with or without heat; the spirit prepared

with quicklime, and the dulcified fpirit, in a few hours become strongly impregnated with its smell and taste.

The officinal preparations of bark are, an extract [L. E.] refin [E.] spirituous tincture [L. E.] tincture in volatile spirit [L.] and compound tincture [E.] It is an ingredient also in the stomachic

tincture [E.]

The fubitances usually joined with bark in prescription seem calculated either to promote its efficacy, or merely for reducing it into the intended form; without much regard to its agreeableness, and the conveniency of taking it. This is nevertheless a point of great consequence, as its taste, and the quantity which is necessary, make the patient too frequently loath it, before enough has been taken to produce the defired effect. If defigned to be given in the folid form of a bolus, electary, &c. it should be made up, not, as is customary, with fyrups, but with mucilages: with the former, it flicks about the mouth and fauces, whence its taite remains for a confiderable time; with the latter, it passes freely, scarce leaving any taste in the mouth. Aromatics do not prevent the tafte of the bark from difcovering itself; extract of liquorice very effectually conceals it. The extract of logwood also, joined to that of bark, and a proper quantity of mucilage, form a very elegant and agreeable composition.

## \* PERUVIANUS CORTEX RUBER: Red Peruvian Bark.

The red bark, as it is called, is in much larger and thicker pieces than the common. Most of the pieces are concave, though not rolled together, like the quilled bark. They break short, like the best common bark; and appear evidently

evidently composed of three layers, The outer is thin, rugged, frequently covered with a mosfy substance, and of a reddish brown colour. The middle is thicker, more compact, and of a darker colour : it is very brittle and refinous. The innermost layer is more woody and fibrous, and of a brighter red. In powdering this bark, the middle layer, which feems to contain the greatest proportion of refinous matter, does not break fo readily as the rest; a circumstance to be attended to, left the most active part should be left out of the fine pow-

This red bark to the taste discovers all the peculiar slavour of the Peruvian bark, but much stronger than the common officinal fort.

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

There have been lately discovered in the province of Santa-Fe, four degrees and a half north of the equator, two kinds of the chinchona, one of which appears to be the same with the red bark of Peru; the other, one of the white species. This is a fortunate discovery, as it points out a new store of this most valuable medicine, when the ancient ones shall be exhausted.

PETROLEUM [E.] Rock oil.
This is a general name for fundry liquid bitumens, or mineral oils, which spontaneously exude from the earth, or from clefts of rocks. These oils are found in almost all countries, but in greatest

quantities in the warmer ones. Some are met with in different parts of England; and many of our common bituminous minerals, as pitcoal, &c. afford, on distillation,

oils not greatly different.

The finest fort of this commodity comes from the dutchy of Modena in Italy, where three different kinds are found; the best is almost as clear, sluid, and transparent as water, of a highly penetrating, yet not difagrecable fmell, fomewhat like that of rectified oil of amber: the fecond fort is of a clear vellow colour, not fo fluid as the former, less penetrating, and partaking more of the oil of amber fmell: the third, or worst, is of a blackish red colour, of a thicker confistence, and more disagreeable. than the two foregoing. The first of thefe is very rarely met with in the shops; the second, mixed with a little of the third, and some subtile oils, is usually fent us instead of Petroleum readily catches fire, and, if pure, burns entirely away: distilled, it becomes somewhat more pellucid than before (a small quantity of yellowish matter remaining) and loses much of its natural smell. It unites with the effential oils of vegetables, not at all with vinous spirits. The finer forts are so light as to fwim upon the most highly rectified spirit of wine.

Petroleum is at present very rarely employed as a medicine, though
if the finer kinds could be procured
genuine, they should seem to deserve some notice: they are more agreeable than the oil of amber, and
milder than that of turpentine; of
the virtues of both of which they participate. They are principally recommended by authors for external
purposes, against pains and aches,
in paralytic complaints, and for
preventing chilblains. For these

O4 intentions,

intentions, fome of the more common mineral oils have been made use of with good success; an oil extracted from a kind of stone coal has been cried up among the common people, under the name of British oil, for rheumatic pains, &c. even this is often counterfeited by a small portion of oil of amber added to the common expressed oils.

PETROLEUM BARBADEN-

SE [L.] Barbadoes tar.

This is thicker than the foregoing petrolea, and nearly of the confiftence of common tar. It is of a reddish black colour, a disagreeable fmell, less pungent than the other forts. This bitumen is found in feveral of our American islands, where it is esteemed by the inhabitants of great service as a sudorific, and in disorders of the breast and lungs, though in cases of this kind, attended with inflammation, it is certainly improper; they likewife apply it externally as a discutient, and for preventing paralytic diforders. Among us it is rarely used, and not often to be met with genuine. The London college employs it as a menstruum for sulphur in the balsamum sulphuris Barbadense, and directs an oil to be distilled from it: that of Edinburgh has not yet received it.

PETROSELINI MACEDO-NICI semen: Apii Macedonici C. B. Macedonian parsley; the seeds [L.]

PETROSELINI VULGARIS femen, folia, radix: Apii hortenfis feu petrofelini vulgo C. B. Common parsley; the roots, leaves [E.] and seeds [L. E.]

The former of these plants is sometimes met with in our gardens; the latter is commonly cultivated for culinary purposes. The seeds of both have an aromatic slavour, and

are occasionally made use of as carminatives, &c. Those of the Macedonian parfley are the stronger, though generally supplied by the other. The root of parfley is one of the five aperient roots, and in this intention is fometimes made an ingredient in apozems and dietdrinks: if liberally used, it is apt to occasion flatulencies, and thus, by distending the viscera, produces a contrary effect to that intended by it; the taste of this root is somewhat sweetish, with a light degree of warmth and aromatic flavour. The feeds of the Macedonian parfley are an ingredient in mithridate and theriaca; and those of the common in the electary of bay-berries [L.]

PEUCEDANI radix: Peucedani Germanici C. B. Peucedani officinalis Lin. Hogs fennel, or sulphur-

wort; the root.

This plant grows wild by the sea shores, and in moist shady places. The roots have a strong disagreeable smell, somewhat resembling that of sulphureous solutions; and an unctuous, subacrid, bitterish taste. They are looked upon as stimulating and attenuating, and supposed to promote expectoration and urine: the expressed juice was employed by the ancients, as an errhine in lethargic disorders. The present practice pays no regard to them in any intention.

PHU, vide VALERIANA SYL-

PILOSELLA, vide AURICULA MURIS.

PIMENTA, vide PIPER JA-MAICENSE.

PIMPINELLÆ SANGUISOR-BÆ folia: Pimpinellæ sanguisorbæ minoris minoris birsutæ et lævis C. B. Bur-

net; the leaves.

This grows wild upon dry chalky hills: fuch as is cultivated in gardens, though preferred by fome, is inferior in quality to the wild fort. The leaves are mildly aftringent, and have been fometimes employed in this intention, in dysenteries and hæmorrhages.

PIMPINELLÆ SAXIFRAGÆ radix, semen, folia. Burnet saxifrage; the root [L. E.] leaves and feeds [E.]

Three forts of this plant are taken

notice of by medical writers :

1. Pimpinella faxifraga major, umbella candida C. B. This is the species celebrated by the German writers under the name of pimpinella alba: it is not very common in this country, and therefore our markets have been generally supplied with the following.

2. Pimpinella saxifraga minor foliis sanguisorbæ Raii. Tragoselinum alterum majus Tourn. This is not unfrequently met with in dry pas-

ture grounds.

3. Pimpinella saxifraga minor C. B. foliis dissettis Hist. Oxon. This fort is the most common in the fields about London: it grows taller than the others, but the leaves are less.

All these plants seem to be possessed of the same qualities, and to differ only in external appearance; and even in this, their difference is so inconsiderable, that Linnæus has joined them into one, under the general name of pimpinella. Our colleges, instead of the first, which has been generally understood as the officinal fort, allow either of the others (which are more common) to be used promiscuously.

The roots of pimpinella have a grateful, warm, very pungent tafte, which is entirely extracted by rec-

tified spirit: in distillation, the menstruum arises, leaving all that it had taken up from the root, united into a pungent aromatic This root promifes, from its sensible qualities, to be a medicine of confiderable utility; though little regarded in common practice: the only officinal composition in which it is an ingredient, is the pulvis ari compositus [L.] Stahl, Hoffman, and other German phyficians, are extremely fond of it, and recommend it as an excellent flomachic, refolvent, detergent, diuretic, diaphoretic, and alexipharmac. They frequently gave it, and not without fuccess, in scorbutic and cutaneous diforders, foulness of the blood and juices, tumours and obstructions of the glands, and diseases proceeding from a deficiency of the fluid fecretions in general. Boerhaave directs the use of this medicine in afthmatic and hydropic cases, where the strongest refolvents are indicated: the form he prefers is a watery infusion; but the fpirituous tincture possesses the virtues of the root in much greater perfection.

There is another species of pimpinella called nigra, from its root being externally of a bright black colour, whilst those of the foregoing forts are whitish: this is remarkable for its yielding an essential oil of a blue colour. It grows wild in some parts of Germany, Swisserland, &c. and is now and then met with in our gardens.

PINUS nuclei et refina: Pinus fativæ C. B. et Pinus sylvestris C. B. Pine tree; the kernels of its fruit or cones, and its refin [E.]

The pine tree differs from the firs in having its leaves standing in pairs, those of the firs being solitary. The pine abounds with the same kind of resinous juice as the

fir trees (see the articles Terebinthina and Thus vulgare.) The kernels have a very pleasant sweet taste, and appear to be nearly of the sante quality with sweet almonds: they are considered rather as dietetic than medicinal articles

PIPER NIGRUM [L. E.] Black pepper; the fruit of a plant growing in Java, Malabar, &c. gathered probably before it is fully ripe, and exfiected in the fun.

PIPER ALBUM [L. E.] White pepper; the fruit of the black pepper plant gathered when ripe, and decorticated by maceration in watter. The grains, as brought to us, have fometimes pieces of a dark coloured skin still upon them.

Long pepper. This is the fruit of a different plant growing also in the East-Indies. It is of a cylindrical figure, about an inch and a half in length; the external surface appears composed of numerous minute grains disposed round the fruit in

a kind of spiral direction.

All these spices have a pungent fmell, and a very hot biting tafte. The long fort, which is the hottest and strongest, is most frequently made use of for medicinal purposes; the black, as being more grateful, for culinary ones; the white, which is the weakest of the three, is rarely employed for either. The warmth and pungency of these spices resides chiefly in their refinous part; their aromatic odour in an effential oil. The genuine distilled oil smells strong of the pepper, but has very little acrimony; the remaining detoction inspissated, yields an extract confiderably pungent. A tincture made in rectified ipirit is extremely hot and fiery; a few drops of it fet the mouth as it were in a flame.

The white pepper is an ingredient in philonium and mithridate; the black, in the pulvis antilyss, electary of bayberries; confection Paulina, and theriaca: the long, in the bitter wine, aromatic tincture, powder and pills, the compound powders of bole and scordium, the confection Paulina, mithridate, and theriaca [L.]

PIPER JAMAICENSE [L. E.] Pimento, or Jamaica pepper; the amomum of many of the German writers.

This is the produce of our own plantations. It is the fruit of a large tree growing spontaneously in the mountainous parts of Jamaica, called by Sir Hans Sloane, myrtus arborea, aromatica, foliis laurinis. The fmell of this spice resembles a mixture of cinnamon, cloves, and nutmegs: its talte approaches to that of cloves, or a mixture of the three foregoing; whence it has received the name of all-spice. The shops have been for some time aceuftomed to employ this aromatic as a fuccedaneum to the more costly spices, and from them it has been introduced into our hospitals. The London college has given it a place in their dispensatory, and direct a fimple water to be diffilled from it, which possesses the flavour of the pimento in great perfection. yields a large quantity of a pleafant effential oil, which finks in water. This oil, recommended in the Pharmacopæia reformata, is now received into the Edinburgh Pharmacopæia. Rectified spirit extracts its pungency and flavour, and elevates nothing in distillation.

PIPER INDICUM: Capficum filiquis longis propendentibus Tourn.
Capficum annuum Lin. Guinea pepper, or capficum; the fruit.
This

This is an annual plant cultivated in our gardens; it ripens its red pods in September or October. The taste of capsicum is extremely pungent and acrimonious, setting the mouth as it were on fire. It is rarely made use of in medicine, being chiefly employed for culinary purposes. A species of it, called in the West-Indies bird pepper, is the basis of a powder brought us thence under the name of Cayan pepper.

PIX LIQUIDA [L. E.] Tar; a thick, black, unctuous fubstance; obtained from old pines and firtrees, by burning them with a close smothering heat. It differs from the native refinous juice of the trees (see Terebinthina) in having received a difagreeable impreffion from the fire, and containing a portion of the faline and other juices united with the refinous and oily; by the mediation of these, a part of the terebinthinate oil proves dilsoluble in aqueous liquors, which extract little or nothing from the purer turpentines. Water impregnated with the more foluble parts of tar, proves, in consequence of this hot pungent oil, warm and ftimulating. It fenfibly raifes the pulse and quickens the circulation. By these qualities, in cold languid phlegmatic habits, it strengthens the folids, attenuates viscid juices, opens obstructions of the minuter veffels, and promotes peripiration and the fluid fecretions in general; whilst in hot bilious temperaments, it disposes to inflammation, and aggravates the complaints which it has been employed to remove.

PIX ARIDA [L. E.] Dry or

stone pitch.

This is the pix liquida exficcated by heat: in this process, a part of the acid and the more volatile of are dissipated along with the aqueous moisture; and hence the product proves considerably less active. It is made use of only in external applications, as a warm adhesive, resinous substance.

PIX NAVALIS. This is generally allowed to be the same with the foregoing dry pitch or inspissated tar: hence in the Edinburgh pharmacopæia the terms pix sicca and pix navalis are made fynonymous. According to Geoffroy, it is compounded of a strange mixture of tallow, tar, palimpiffa, and an artificial black pitch; which artificial pitch is itself composed of tar and palimpissa; and this palimpissa is no other than an inspissated tar; fo that notwithstanding this show of composition, the result is only a mixture of pitch with a little tallow.

PIX BURGUNDICA [L. E.] Burgundy pitch. This is of a folid confistence, yet somewhat fost, of a reddish brown colour, and more agreeable in smell than either of the foregoing. Geoffroy relates, that it is composed of gallipot (a folid whitish refin which separates from some of the terebinthina as they run from the tree) melted with common turpentine and a little of its distilled oil. Dale informs us, from the relation of a gentleman who faw the preparation of this commodity in Saxony (whence we are chiefly supplied with it), that it is no more than the common turpentine boiled a little.

All these substances are employed in the shops only in external compositions. The dry pitch and Burgundy pitch, are ingredients in several plasters, ointments, and cerates: and tar gives name to one

of the ointments.

PLANTAGINIS LATIFOLIÆ folia, semen: Common broad-leaved plantane, called septinervia, from its having feven large nerves or ribs running along each leaf; the narrow-leaved fort has only five ribs, and hence is named quinquenervia. They are both common in fields, and by road-fides. The leaves are lightly aftringent, and the feeds faid to be fo; and hence they stand recommended in hæmorrhages, and other cases where medicines of this kind are proper. The leaves bruifed a little, are the usual application of the common people to flight flesh wounds. The Edinburgh college directs an extract to be made from the leaves.

PLUMBUM [L. E.] Lead.

This is the heaviest of the metals except gold. It melts in a moderate heat, and if kept in fusion, is soon converted partly into fume and partly into an afh-coloured calx (plumbum ustum); this exposed to a ftronger fire, in fuch a manner that the flame may play upon its furface, becomes first yellow, and afterwards of a deep red, (minium or red lead); if in this process the fire be fuddenly raifed to a confiderable height, the calx melts, assumes the appearance of oil, and on cooling forms a foft leafy substance of a yellowish or reddish colour (litharge.) The proper menitruum of this metal is aquafortis: the vegetable acids likewise diffolve it, but in very small quantity: a quart of distilled vinegar will not take up a dram; exposed to the steam of vinegar, it is by degrees corroded into a white powder (ceruffe) which is confiderably more easy of solution, The calces of lead dissolve, by heat, in expressed oils; these mixtures are the basis of several officinal plasters and unquents. Crystals of this metal made with diffilled vinegar (called, from their sweetish taste, sugar of lead) and a tincture drawn from these and green vitriol, are likewise kept in the shops.

Preparations of lead, given internally, are supposed to incrassate the fluids, abate inflammations, and restrain venereal desires. The sugar is a strong astringent, and has been used, it is said, with good success, in hæmorrhages, the fluor albus, feminal gleets, &c. The tincture is recommended for the like purpofes; and for checking immoderate sweats in phthisical cases, whence it has been usually called tinclura antiphthifica. The internal use of this metal is nevertheless full of danger, and ought never to be ventured upon unless in desperate cases, after other medicines have been employed without taking effect: it often occasions violent colics; and though it should not prove immediately hurtful, its ill consequences are fure, though flow: tremors, spaims, or lingering tabes,

too frequently follow.

" Mr. Goulard, a surgeon of Montpellier, wrote a treatife, some few years ago, professedly on the external use of lead, which has been the means of greatly extending the use of it. The basis of his preparations is what he calls the extract of lead, which is a folution of litharge in strong vinegar, by boiling it gently to the confistence of a thin fyrup, and after it has stood to fettle, the clear part is to be poured off for use. A small portion of this, diluted in a large quantity of foft water, makes his vegeto-mineral water, which is employed as a lotion or fotus, or boiled with bread to make a cataplasm. The extract is likewise combined with unguentous matters into a variety of forms. These preparations have been found of great utility in various cases of inflammation, particularly of the

eryfipelatous

eryfipelatous kind, and in those in consequence of burns and scalds. Their application has not, in the opinion of most practitioners, been observed to produce any of those affections of the nervous fystem, which characterize the poisonous effects of lead taken internally.

POLII, seu Polii montani summitates. Poley mountain; the tops

[L.E.]

Part II.

It has been disputed among botanic writers, what species of poley ought to be employed in medicine. The London college allows the promiscuous use of two, the polium maritimum erectum Monspeliacum C. B. Tucrum capitatum Lin. and the polium angustifolium Creticum C. B. Tucrum creticum Lin. The first is fometimes cultivated in our gardens, and is the fort with which the shops have been generally supplied. They have both a light aromatic fmell, and a bitterish taste; that brought from Crete is the most agreeable. They stand recommended in catarrhs, uterine disorders, &c. but at prefent are scarce otherwife made use of than as an ingredient in the mithridate and theriaca.

POLYGONATUM, vide SI-GILLUM SALOMONIS.

POLYGONUM, vide CENTI-NODIUM.

POLYPODII radix: Filicis polypodii dieta Herm. Polypody; the

root E.

Polypody is a capillary plant, growing upon old walls, the trunks of decayed trees, &c. That found upon the oak is generally preferred, though not fenfibly different from the others. The roots are long and flender, of a reddish brown colour on the outside, greenish within,

full of small tubercles, which are resembled to the feet of an insect; whence the name of the plant. The taste of these roots is sweetish and nauseous.

Polypody has been employed in medicine for many ages; nevertheless its virtues remain as yet to be determined. The ancients held it to be a powerful purger of melancholic humours; by degrees, it came to be looked upon as an evacuator of all humours in general: at length, it was supposed only to gently loofen the belly; and afterwards even this quality was denied it: fucceeding physicians declared it to be aftringent; of this number is Boerhaave, who esteems it moderately flyptic, and antifcorbutic. For our own part, we have had no direct experience of it: nor is it employed in practice. It is probable that (as Juncker supposes) the fresh root may loosen the belly, and that it has not this effect when dry.

POLYTRICHUM, vide Tri-CHOMANES,

POMPHOLYX: a calx, or flowers, of zinc, produced in the furnaces where copper is made into brass by calamine, the ore of zinc. It is found adhering to the covers of the crucibles, &c. either in form of thin crusts, or of a light downy matter, generally of a pure white colour, though fometimes yellowish. See ZINCUM.

POPULI NIGRÆ gemmæ: Populi nigræ C. B. The black pop-

lar; its buds [E.]

The black poplar is a large tree, growing wild in watery places; it is eafily raifed and very quick of growth. The young buds or rudiments of the leaves, which appear in the beginning of fpring, abound with a yellow, uncluous, odorous odorous juice. They have hitherto been employed chiefly in an ointment, which received its name from
them; though they are certainly capable of being applied to other purpofes. A tincture of them made in
rectified spirit, yields, upon being
inspissated, a fragrant resin superior
to many of those brought from
abroad.

PORRI radix: Porri communis eapitati C. B. Leeks; the root. This participates of the virtues of garlick, from which it differs chiefly in being much weaker. See ALLIUM.

PORTULACÆ semen: Portulacæ hortensis latifoliæ J. B. Purs-

lane; the feeds.

This herb is cultivated in gardens for culinary uses. The seeds are ranked among the lesser cold seeds, and have sometimes been employed in emulsions, and the like, along with the others of that class.

POTENTILLA, vide ARGEN-

PRASIUM, vide MARRUBIUM.

PRUNELLÆ, seu Brunellæ solia: Prunellæ majoris soltis non dissectis C. B. Prunellæ vulg. Lin.

Self-heal; the leaves [E.]

This plant grows wild in meadows and pasture grounds, and produces thick spikes of purplish slowers during the latter part of the summer. It has an herbaceous roughish taste: and hence stands recommended in hemorrhages and alvine sluxes: it has been principally celebrated as a vulnerary, whence its name; and in gargarisms for aphthæ, and inslammations of the sauces.

PRUNUS HORTENSIS. The

plum tree. Three forts of plums are looked upon as articles of the materia medica. They are all met with in our gardens, but the shops are supplied with the fruit moderately dried from abroad.

PRUNA BRIGNOLENSIA:

Pruna ex flavo rufescentia, mixii saporis, gratissima C. B. The Brignole plum, brought from Provence
under the name of prunelloes [E.]

PRUNA GALLICA [L. E.]: Fructus Pruni fructu parvo, dulci; atro-cæruleo Tourn. French or common prunes [L. E.] This is the plum called by our gardeners the little black damask.

PRUNA DAMASCENA: Fructus Pruni fructu magno, dulci, atrocæruleo Tourn. Damascene plums, or damsons. This is the sort called the great damask violet of Tours. It is seldom met with dry in the shops, and is generally supplied by

the common prune.

The medical effects of the damfon and common prunes are, to abate heat, and gently loofen the belly: which they perform by lubricating the passage, and softening the excrement, They are of confiderable fervice in costiveness, accompanied with heat or irritation, which the more filmulating cathartics would tend to aggravate. Where prunes are not of themselves sufficient, their effects may be promoted by joining with them a little rhubarb or the like: to which may be added fome carminative ingredient, to prevent their occasioning flatulencies. Prunelloes have scarce any laxative quality: these are mild grateful refrigerants, and by being occasionally kept in the mouth, usefully allay the thirst of hydropic perions.

PRUNA

PRUNA SYLVESTRIA: Fructus pruni sylvestris C. B. Pruni spinosæ Lin. Sloes; the fruit of the common black thorn, or sloe bush

[L. E.]

These have a very rough, austere taste, especially before they have been mellowed by frosts. The juice of the unripe fruit, inspissated to a proper consistence, is called acacia Germanica, and usually sold in the shops for the true Egyptian acacia. It is equally astringent with the Egyptian sort, but has more of a sharp or tartish taste, without any thing of the sweetish relish of the other. The inspissated juice is directed as an officinal by the Edinburgh college, and a conserve of the fruit by the London.

PSYLLI semen: Psyllii majoris erecti C. B. Plantaginis Psyllii Lin.

Fleawort; the feeds.

This is a fort of plantane, growing wild in the warmer climates, and fometimes met with in our gardens. It differs from the common plantanes in having its stalks branched, with leaves upon them; hence it is named by Ray, plantago caulifera. The feeds have been usually brought from the fouth of France; they are small, but supposed to refemble in shape a flea, whence the English name of the plant. These feeds have a naufeous, mucilaginous tafte: boiled in water, they yield a confiderable quantity of mucelage, which is fometimes made use of in emollient glysters and the like. Alpinus relates, that among the Egyptians this mucilage is given in ardent fevers, and that it generally either loofens the belly or promotes Iweat.

PTARMICÆ radix: Dracunculi pratensis, serrato folio C. B. Achillææ Ptarmicæ Lin. Sneezewort, or bastard pellitory: the root [E.] This grows wild upon heaths and in moist shady places; the slowers, which are of a white colour, come forth in June and July. The roots have an acrid smell, and a hot biting taste. Chewed they occasion a plentiful discharge of saliva; and when powdered and snussed up the nose, provoke sneezing. These are the only intentions to which they have been usually applied,

PULEGII folia: Pulegii latifolii C. B. Menthæ aquaticæ seu pulegii vulgaris Tourn. Pennyroyal; the

leaves [L. E.]

This plant grows fpontaneously in feveral parts of England upon moist commons, and in watery places; trailing upon the ground, and striking roots at the joints. Our markets have been for some time supplied with a garden fort, which is larger than the other, and grows upright: this is called by Mr. Dale

pulegium erecum.

Pennyroyal is a warm, pungent herb, of the aromatic kind, fimilar to mint, but more acrid and lefs agreeable. It has long been held in great effeem, and not undeferyedly, as an aperient, and deobitruent, particularly in hysteric complaints, and suppressions of the uterine purgations. For these purposes, the distilled water is generally made use of, or what is of equal efficacy, an infusion of the leaves. It is observable, that both water and rectified spirit extract the virtues of this herb by infusion, and likewise elevate greatest part of them, in distillation.

In the shops are kept a simple [L. E.] and spirituous [L.] water and essential oil [L. E.] of the plant; this herb is used also in the compound valerian water and troches of myrrh [E.] and its simple water for making the lac ammoniaci [L.] and the camphorated emulsion [E.]

PULEGII

PULEGII CERVINI folia: Pulegii angustifolii C. B. Menthæ cerwinæ Lin. Harts pennyroyal; the leaves.

This species is met with, though not very often, in our gardens. It is somewhat stronger, yet rather more agreeable, than the foregoing, both in taste and smell.

PULMONARIÆ MACULO-SÆ folia: Pulmonariæ Italorum ad buglossam accedentis J. B. Pulmonariæ officinalis Lin. Spotted lungwort, or sage of Jerusalem; the

leaves [E.]

This is met with in gardens: the leaves are of a green colour spotted with white; of an herbaceous somewhat mucilaginous taste, without any smell. They stand recommended against ulcers of the lungs, phthises, and similar disorders: nevertheless experience gives little countenance to these virtues, nor does the present practice expect them.

\* PULSATILLA. Pulsatilla nigricans Stærck Pb. Edinb. Pulsatilla flore minore nigricante C. B. Anemone pratensis Lin. A species of anemone, much resembling the pulsatilla vulgaris or pasque flower, but its flower is less, and of a darker hue. It is a native of the south of Germany, and other neighbouring countries.

All the anemonies have a confiderable degree of acrimony; but this feems to possess the largest share. The whole plant, when chewed, impresses the tongue with a sharp burning, durable taste; the root is milder than the other parts. On distilling the plant with water, the liquor which comes over is strongly impregnated with its virtues; and the remaining extract is also considerably active.

Dr. Stærck of Vienna, from numerous trials, celebrates its efficacy in various chronic diseases of the

eye; in venereal nodes and nocturnal pains; in foul ulcers with caries; in serpego; and suppressed menses.

The dose of the distilled water is half an ounce twice a day; of the extract, reduced to powder with sugar, five or six grains.

PYRETHRI radix: Pyrethriflore bellidis C. B. Anthemis Pyrethri Lin. Pellitory of Spain; the root

[L.E.]

This plant, though a native of the warm climates, bears the ordinary winters of this: and often flowers successively from Christmas to May; the roots also grow larger with us than those with which the shops are usually supplied from abroad.

Pellitory root has no fensible fmell; its talte is very hot and acrid, but less so than that of arum or dracunculus: the juice expressed from it has scarce any acrimony, nor is the root itself so pungent, when fresh, as after it has been dried. Water, affisted by heat, extracts some share of its taste; rectified spirit the whole: neither of them elevate any thing in diftillation. The principal use of pyrethrum in the present practice is as a masticatory, for promoting the falival flux, and evacuating viscid humours from the head and neighbouring parts. By these means it often relieves the tooth-ach, fome kinds of pains of the head, and lethargic complaints.

\* QUASSIA. Quassia Ph. Edinb. Lignum Quassia Amænit. Acad. vol. vi. Bois de Coissi Fermin Surinam. Quassy Root.

This is the root of a tree growing in Surinam, called by Linnæus Quassia amara. This root is as thick as a man's arm. Its wood is whitish, hard, solid, and tough, becoming yellowish on exposure to the air.

Quaffi

Quassi root has no sensible smell; its taste is that of a pure bitter, more intense and durable than that of almost any known substance. It communicates its bitter to watery insusions and decoctions, and its spirituous tinctures are all equally bitter, of a pale yellow hue, which is not blackened by the addition of martial vitriol.

The flowers are used by the natives, and looked upon by them as an excellent stomachic. The root was a fecret remedy used by a negro, named Quasti, in the fatal fevers of that country, from whom it was purchased by Don Rolander, a Swede, who returned in 1756. A confirmation of its medical powers appears in a letter from Mr. Farley, a practioner in Antigua, printed in the Phil. Transact. vol. LVIII. He found it remarkably efficacious in suppressing vomitings, stopping a tendency to putrefaction, and removing fevers. It may be used in infusions, or extract; the latter, made into pills, on account of the intense bitterness of the drug, is preferable for delicate stomachs.

QUERCUS cortex: Quercus cum longis pediculis C. B. Quercus roboris Lin. Oak tree; the bark [E.]

This bark is a strong astringent; and hence stands recommended in hæmorrhages, alvine sluxes, and other præternatural or immoderate secretions.

\* QUERCUS MARINA five fucus veficulosus: Fucus maritimus sive quercus maritima, vesiculas habens C. B. Fucus vesiculosus Lin. Sea Wrack or Sea Oak: a soft, very slippery, marine plant; common upon rocks that are lest dry at the ebb tide; with the leaves somewhat resembling in shape those of the oak

tree; the stalks running along the middle of the leaves, and terminated by watery bladders containsing either air or a slippery sluid. The vesicles begin in March to fill with a thin juice; and about the end of July they burst, and discharge a matter as thick as honey.

Dr. Ruffel relates, that he found this plant an useful assistant to sea water in the cure of diforders of the glands: that he gave it in powder to the quantity of a dram, and that in large doses it nauseated the stomach: that by burning in the open air it was reduced into a black faline powder \*; which feemed, as an internal medicine, greatly to excel the officinal burnt sponge; which was used with benefit, as a dentifrice, for correcting laxities of the gums: that the juice of the veficles, after standing to putrify, yields, on evaporation, an acrid pungent falt, amounting to about a scruple from two fpoonfuls; that the putrified juice, applied to the fkin, finks in immediately, excites a flight fense of pungency, and deterges like a folution of foap: that one of the best applications for difcuffing hardness, particularly in the decline of glandular swellings, is a mixture of two pounds of the juicy vesicles, gathered in July, with a quart of fea water, kept in a glass vessel for ten or twelve days, till the liquor comes near to the confiftence of very thin honey: the parts affected are to be rubbed with the firained liquor twice or thrice a day, and afterwards washed clean with fea water.

RAPHANI RUSTICANI radix: Raphani rusticani C. B. Cochleariæ folio cubitali Tourn. Gochleariæ Armoraciæ Lin. Horseradish; the root [L. E.]

<sup>\*</sup> Æthiops vegetabilis D. Ruffel-

wild about river-fides, and other moist places; for medicinal and culinary uses, it is cultivated in gardens. It flowers in June, but rarely perfects its feeds in this country. Horseradish root has a quick pungent fmell, and a penetrating acrid tafte; it nevertheless contains in certain vessels a sweet juice, which fometimes exudes upon the furface. By drying, it lofes all its acrimony, becoming first sweetish, and afterwards almost infipid. If kept in a cool place, covered with fand, it retains its qualities for a confiderable time. The medical effects of this root are to stimulate the folids, attenuate the juices, and promote the fluid fecretions. feems to extend its action through the whole habit, and effect the minutest glands. It has frequently done good fervice in some kinds of fcurvies and other chronic diforders proceeding from a viscidity of the juices, or obstructions of the excretory ducts. Sydenham recommends it likewise in dropsies, particularly those which sometimes follow intermittent fevers. Both water and rectified spirit extract the virtues of this root by infusion, and elevate them in distillation. Along with the aqueous fluid, an effential oil arises, possessing the whole taste and pungency of the horseradish. The college has given us a very elegant compound water, which takes its name from this root.

REALGAR, a fosfil composed of arfenic and fulphur. Vide AR-SENICUM.

REGINA PRATI, v. ULMARIA.

RHABARBARUM [L.E.] Rhei undulati Lin. Rhubarb; the root of a plant of the dock kind, which grows spontaneously in Chi-

This plant is sometimes found na, and endures the colds of our own climate. Two forts of rhubarb are met with in the shops. One is imported from Turkey and Russia, in roundish pieces freed from the bark, and a hole through the middle of each; they are externally of a yellow colour, and on cutting appear variegated with lively reddish streaks. The other, which is less esteemed, comes immediately from the East-Indies, in longish pieces, harder, heavier, and more compact than the foregoing. The former fort, unless kept very dry, is apt to grow mouldy and worm-eaten; the latter is less subject to these inconveniencies. Some of the more industrious artists are faid to fill up the worm holes with certain mixtures, and to colour the outfide of the damaged pieces with powder of the finer forts of rhubarb. and fometime with cheaper materials: this is often fo nicely done, as effectually to impose upon the buyer, unless he very carefully examines each piece. The marks of good rhubarb are, that it be firm and folid, and not flinty; that it be easily pulverable, and appear, when powdered, of a fine bright yellow colour: that, upon being chewed, it imparts to the spittle a faffron tinge, without proving flimy or mucilaginous in the mouth. Its tafte is subacrid, bitterish, and fomewhat astringent; the smell lightly aromatic.

Rhubarb is a mild cathartic. which operates without violence or irritation, and may be given with fafety even to pregnant women and children. Besides its purgative quality, it is celebrated for an aftringent one, by which it threngthens the tone of the flomach and intestines, and proves useful in diarrhow and diforders proceeding from a laxity of the fibers. Rhubarb in substance operates more

powerfully

powerfully as a cathartic than any of the preparations of it. Watery tinctures purge more than the spirituous ones; whilst the latter contain in greater perfection the aromatic, astringent, and corroborating virtues of the rhubarb. The dose, when intended as a purgative, is from a scruple to a dram or more.

The Turkey rhubarb is, among us, univerfally preferred to the East-India fort, though this latter is, for fome purposes at least, equal to the other. It is manifestly more aftringent, but has somewhat less of an aromatic flavour. Tinctures drawn from both with rectified spirit, have nearly the same taste. On diffilling off the menfiruum, the extract left from the tincture of the East-India rhubarb proved confiderably the stronger. They are both the produce of the same climate, and probably the roots of the same plant taken up at different featons, or cured in a different man-

The officinal preparations of this drug are, roafted rhubarb [L.] a watery infusion [E.] and vinous and spirituous tinctures [L. E.] It is an ingredient in various compositions, as the syrup of sena and rhubarb, dysenteric electary, stomachic pills [E.] ecphractic pills [L.] &c.

RHAMNUS CATHARTI-CUS, vide SPINA CERVINA.

RHAPONTICI radix: Rhabar-bari Dioscoridis et antiquorum Tourn.
Rhei Rhapontici Lin. Rhapontic; the root of a large roundish-leaved dock, growing wild on the mountain Rhodope in Thrace, whence it was brought into Europe, about the year 1610, by Alpinus: it bears the hardest winters of this climate, and is not unfrequent in our botanic gardens. The root of this plant

(which appears evidently to have been the rhubarb of the ancients) is by fome confounded with the modern rhubarb, though confiderably different both in appearance and quality. The rhapontic is of a dusky colour on the surface, of a loose spongy texture; considerably more astringent, but less purgative, than rhubarb; in this latter intention, two or three drams are required for a dose.

\* RHODODENDRON CRY-SANTHEMUM. This plant is a new species of the rhododendron of Linnæus, discovered by Professor Pallas; a shrub growing near the tops of the high mountains in Siberia.

It is called by the natives chei, or tea, from their commonly drinking a weak infusion of it, as we do of the Chinese plant of that name. A stronger preparation of it is, however, used by them as a powerful medicine in arthritic and rheu-Two drams of matic diforders. the stalks and leaves together, they infuse in nine or ten ounces of boiling water for a night, in the heat of an oven. This is drunk next morning for a dole; which occasions heat, a degree of intoxication, with a fingular uneafy kind of fenfation, and a fort of vermiculation in the affected parts. The patient is not permitted to quench the thirst this medicine occasions, as liquids would produce vomiting, and diminish the effect of the remedy. In a few hours, all disagreeable fymptoms go off, commonly with two or three flools; and the patient finds his disease greatly relieved. A repetition of the dose twice or thrice generally completes the cure.

Dr. Home has made trial of this remedy in the infirmary at Edin-burgh, and the refult of his trials, as published in his Clenical Cases

P 2

and

and Experiments, is, that it is a very powerful fedative, remarkably diminishing the frequency of the pulse; but that it was not peculiarly esticacious in removing the acute rheumatism.

RHUS OBSONIORUM, vide Sumach.

RIBESIA: fructus Ribes vulgaris fructu rubro Raii. Red currant

bush; the berries [E.]

These have a cool, acidulous, sweet taste, sufficiently agreeable both to the palate and stomach. The college of Edinburgh directs a jelly to be made from them with sugar; but at present they are rather looked upon as a dietetic than a medicinal article.

\* RICINUS Americanus major, caule virescente H. R. P. Ricinus vulgaris C. B. & Lin. Palma-christi, Mexico-seed: with the fruit triangular, the seed furnished with a little knob at one end, externally variegated with blackish and whitish streaks, resembling both in shape and colour the insect ricinus or tick.

There are four or five forts of ricinus, that grow in different parts of Africa and America, which have much the same virtues. This plant grows as tall as a little tree, very beautiful, and expanded into many branches; the leaves are large, rather roundish, parted into five, eight, or more fections, and fometimes into nine sharp-pointed or ferrated divisions, fashioned like the leaves of a fig-tree, spread or open wide like the hand of a man, and has towards the top a bunch of flowers, clustering together fomething like a bunch of grapes: thefe flowers are small and staminous, growing on the top of the falk; but on the body of the plant grow

bunches of rough triangular husks, each containing three speckled feeds, less than horse-beans (though fometimes as large); which, in their brittle shells, contain white kernels, of a fweet, oily, and fometimes nauseous taste. From these feeds are drawn, by expression, an oil, vulgarly called, in America, castor oil. This oil has been given from two to four large spoonfuls, and found to act as a sufficiently mild laxative : it is faid to be particularly useful in the dry-belly-ach, bilious, calculous, and nephritic complaints.

ROSA DAMASCENA: Rosa purpurea C. B. Rosa centifolia Lin.

The damask rose [L. E.]

This elegant flower is common in our gardens. Its fmell is very pleasant, and almost universally admired; its taste bitterish and subacrid. In distillation with water, it yields a small portion of a butyraceous oil, whose flavour exactly relembles that of the roles. oil, and the distilled water, are very useful and agreeable cordials. Hoffman strongly recommends them as of fingular efficacy for raifing the strength, chearing and recruiting the spirits, and allaying pain; which they perform without raifing any heat in the constitution, rather abating it when inordinate. Damask roses, besides their cordial aromatic virtue, which refides in their volatile parts, have a mildly purgative one, which remains entire in the decoction left after the distillation. This, with a proper quantity of fugar, forms an agreeable laxative fyrup, which has long kept its place in the shops. The other officinal preparations of this flower, are, a folutive honey, and the distilled water; which latter is an ingredient in the musk-julep, the confection of

kermes,

kermes, and faponaceous lotion, and is used also in making the simple ointment called pomatum [L.]

ROSA RUBRA: Rosa Rubra multiplex C. B. Rosa gallica Lin.

The red rose [L. E.]

This has very little of the fragrance of the foregoing pale fort; and, instead of its purgative quality, a mild, gratefully aftringent one, efpecially before the flower has opened. This is confiderably improved by halty exficcation; but both the aftringency and colour are impaired by flow drying. In the shops are prepared a conserve, honey, tincture, troches [L.] vinegar and fyrup [E.] of this flower. It is an ingredient also in the compound powder of scordium, the troches of Japan earth, mithridate, and theriaca [L.]

RORISMARINI summitates, et flores anthos dicti: Rorismarini hortensis angustiore folio C. B. Rorismarini officinalis Lin. Rosemary; the

tops and flowers [E.]

This is a native of Spain, Italy, and the southern parts of France, where it grows in great abundance upon dry gravelly grounds; in the like foils, it thrives best with us, and likewife proves stronger in fmell, than when produced in moift This observation obrich ones. tains in almost all the aromatic

plants.

Rosemary has a fragrant smell, and a warm pungent bitterish taste, approaching to those of lavender. The leaves and tender tops are strongest; next to these the cup of the flower; the flowers themselves are confiderably the weakest, but most pleasant. Aqueous liquors extract great share of the virtues of rofemary leaves by infusion, and elevate them in distillation; along with the water arises a consider-

able quantity of effential oil, of an agreeable strong penetrating imell. Pure spirit extracts in great perfection the whole aromatic flavour of the rofemary, and elevates very little of it in distillation; hence the refinous mass, left upon abstracting the spirit, proves an elegant aromatic, very rich in the peculiar qualities of the plant. The flowers of rolemary give over great part of their flavour in distillation with pure ipirit; by watery liquors, their fragrance is much injured; by beating, destroyed. The officinal preparations of rolemary are, an essential oil from the leaves [L.] or from the herb in flower [E.] a conferve of the flowers [L. E.] and a spirit, called Hungary-water, from the flowery tops [L. E.] The tops are used also in the compound spirit of lavender [L. E.] cordial confection [L.] and cephalic tincture [E.] and the effential oil in the cephalic balfam, faponaceous balfam, and nerve ointment [E.]

RUBIA TINCTORUM: radix Rubiæ tinctorum sativæ C. B.

Madder; the root [L. E.] Madder is raifed in some of our gardens for medicinal purpoles: it was formerly cultivated among us, in quantity, for the use of the dyers, who are at present supplied from Holland and Zealand. It has little or no fmell; a sweetish taste, mixed with a little bitterness. The virtues attributed to it, are those of a detergent and aperient, whence it has been usually ranked among the opening roots, and recommended in obstructions of the viscera. particularly of the kidneys, in coagulations of the blood from falls or bruifes, in the jaundice, and beginning dropfies. It is an ingredient in the icteric decoction of the Edinburgh pharmacopæia.

It is observable, that this root, taken taken internally, tinges the urine of a deep red colour; and in the Philosophical Transactions, we have an account of its producing a like effect upon the bones of animals who had it mixed with their food. All the bones, particularly the more folid ones, were changed, both externally and internally, to a deep red, but neither the fleshy or cartilaginous parts fuffered any alteration: fome of these bones macerated in water for many weeks together, and afterwards fleeped and boiled in spirit of wine, lost none of their colour, nor communicated any tinge to the liquors. This root appears therefore to be possessed of great fubtility of parts, whence its medical virtues feem to deferve inquiry.

RUBI IDÆI fructus: Rubi idæi spinosi C. B. The raspberry bush;

the fruit [L.]

This shrub is common in our gardens; and has likewise, in some parts of England, been sound wild. It slowers in May, and ripens its fruit in July. Raspberries have a pleasant sweet taste, accompanied with a peculiarly grateful slavour; on account of which they are chiefly valued. As to their virtues, they moderately quench thirst, abate heat, strengthen the viscera, and promote the natural excretions. An agreeable syrup, prepared from the juice, is directed to be kept in the shops.

RUBI VULGARIS folia, fructus: Rubi vulgaris five rubi fructu nigro C. B. The bramble, or blackberry bush; its leaves and fruit.

The shrub is frequently found wild in woods and hedges. The berries have a faint taste, without any thing of the agreeable slavour of raspberries: the leaves are somewhat astringent.

RUSCI, sive Brusci radix: Rusci myrtifolii aculeati Tourn. Butchers. broom, or knee-holly; the root

[E.]

This is a small prickly plant, sometimes found wild in woods. The root has a soft sweetish taste, which is followed by a bitterish one. It is one of the five aperient roots; and in this intention is sometimes made an ingredient in apozems and diet-drinks, for opening slight obstructions of the viscera, purifying the blood and juices, and promoting the sluid secretions.

RUTÆ folia semen: Rutæ bortensis latifoliæ C. B. Rutæ graveolentis Lin. Broad-leaved rue; the leaves [L. E.] and seeds [E.]

This is a small shrubby plant, met with in gardens, where it slowers in June, and holds its green leaves all the winter. We frequently sind in the markets a narrow-leaved fort, which is cultivated by some in preference to the other, because its leaves appear variegated during the winter, with white streaks.

Rue has a strong, ungrateful smell, and a bitterish, penetrating taste. Theleaves, when in full vigour, are extremely acrid, infomuch as to inflame and blifter the skin, if much handled. With regard to their medicinal virtues, they are powerfully stimulating, attenuating and detergent; and hence, in cold phlegmatic habits, they quicken the circulation, dissolve tenacious juices, open obstructions of the excretory glands, and promote the fluid fecretions. The writers on the materia medica in general, have entertained a very high opinion of the virtues of this plant. Boerhaave is full of its praises, particularly of the effential oil, and the distilled water cohobated or re-diffilled feveral times from fresh parcels of the

herb.

herb. After somewhat extravagantly commending other waters prepared in this manner, he adds, with regard to that of rue, that the greatest commendations he can beflow upon it, fall short of its merit: "What medicine (fays he) can be more efficacious for promoting fweat and perspiration, for the cure of the hysteric passion, and of epilepsies, and for expelling poifon?" Whatever service rue may be of in the two last cases, it undoubtedly has its use in the others: the cohobated water, however, is not the most efficacious preparation of it. (See Part iii. chap. v.) An extract made by rectified spirit, contains, in a small compass, the whole virtues of the rue; this menstruum taking up by infusion all the pungency and flavour of the plant, and elevating nothing in distillation. With water, its peculiar flavour and warmth arise; the bitterness, and a confiderable share of the pungency remaining behind.

A watery extract [E.] essential oil [L. E.] and conferve [L.] of rue are kept in the shops. This herb is used also as an ingredient in the electary of bayberries, compound powder of myrrh, and the

green oil [L.]

SABINÆ folia seu summitates: Sabinæ folio tamarisci Dioscoridis C. B. Juniperi Sabinæ Lin. Savin;

the leaves or tops [L. E.]

This is an evergreen shrub, clothed with fmall, fomewhat prickly leaves. It does not produce fruit till very old, and hence has been generally reputed barren. The leaves have a bitter, aerid, biting rafte; and a strong disagreeable smell: distilled with water, they yield an effential oil, in larger quantity (as Hoffman observes) than any other known vegetable, the turpentine-tree alone excepted.

Savin is a warm irritating aperient medicine, capable of promoting fweat, urine, and all the glandular fecretions. The distilled oil is one of the most powerful emmenagogues; and is found of good fervice in obstructions of the uterus, or other viscera, proceeding from a laxity and weakness of the vessels. or a cold fluggish indisposition of the juices.

The effential oil [L. E.] and a watery extract [L.] of favin are kept in the shops: the leaves themfelves are an ingredient in the compound valerian water [E.] the extract in the compound elixir of myrrh [L.] and the effential oil in

the troches of myrrh [E.]

SACCHARUM ALBUM. White or refined fugar [E.]

SACCHARUM PURISSIMUM. Double refined fugar [L.]

SACCHARUM RUBRUM: Brown or unrefined fugar [L. E.]

SACCHARUM CANDUM.

Sugar-candy [E.]

Sugar is the effential falt of the arundo saccharifera, a beautiful large cane growing spontaneously in the East Indies, and some of the warmer parts of the West, and cultivated in great quantity in our American plantations. The expressed juice of the cane is clarified with the addition of lime water (without which it does not affume the form of a true fugar) and boiled down to a due confistence; when, being removed from the fire, the faccharine part concretes from the groffer unctuous matter, called treacle, or melasses. This, as yet impure or brown fugar, is farther purified, in conical moulds, by spreading moift clay on the upper broad furface: the watery moisture, flowly

percolating

percolating through the mass, carries with it confiderable part of the remains of the treaely matter. This clayed fugar, imported from America, is by our refiners diffolved in water, the folution clarified by boiling with whites of eggs and defpumation, and after due evaporation poured into moulds: as foon as the fugar has concreted, and the fluid part drained off, the furface is covered with moift clay as before. The fugar, thus once refined, by a repetition of the process, becomes the double-refined fugar of the shops. The candy, or crystals, are prepared by boiling down folutions of fugar to a certain pitch, and then removing them into a hot room; with sticks set across the vessel for the fugar to shoot upon. These crystals prove of a white or brown colour, according as the fugar was pure or impure.

The uses of sugar as a sweet, are sufficiently well known. The impure forts contain an unctuous, or oily matter, in consequence of which they prove emollient and laxative. The crystals are most difficult of solution, and hence are properest where this soft lubricating sweet is wanted to dissolve

flowly in the mouth.

SAGAPENUM [L. E.] a concrete juice brought from Alexandria, either in diffinct tears, or run together in large masses. It is outwardly of a yellowish colour, internally somewhat paler, and clear like horn, grows soft upon being handled, and sticks to the singers; its taste is hot and biting; the smell disagreeable, by some resembled to that of a leek, by others to a mixture of asafetida and galbanum.

Sagapenum is an useful aperient and deobstruent; and frequently prescribed either alone, or in conjunction with ammoniacum, or gal-

banum, for opening obstructions of the viscera, and in hysterical diforders arifing from a deficiency of the menstrual purgations. It likewife deterges the pulmonary vessels, and proves of confiderable fervice in fome kinds of afthmas, where the lungs are oppressed by viscid phlegm. It is most commodiously given in the form of pills. From two or three grains to half a dram, may be given every night or oftner, and continued for some time. When fagapenum is scarce, the druggists usually supply its place with the larger and darker coloured masses of bdellium, broken into pieces; which are not eafily diftinguished

Sagapenum is an ingredient in the compound powder of myrrh, gum-pills, electary of bay-berries, mithridate and theriaca of the London pharmacopæia. The college of Edinburgh has no where employed either this gum or opoponax, giving the preference to ammoniacum and galbanum.

SAGO [E.] This is the produce of an oriental tree, called by C. Bauhine palmam referens arbor farinifera. The medullary part of the tree is beaten with water, and made into cakes, which are used by the Indians as bread: these reduced into granules, and dried, are the sago brought to us. It is moderately nutritious, though not perhaps superior to our own grain.

SAL AMMONIACUS. Salam-

moniac [L. E.]

This is an artificial faline concrete, faid to be prepared by sublimation from the soot of cow dung. It is brought to us from Egypt, in large round cakes, convex on one side, and concave on the other; and sometimes in conteal loaves. On breaking, they appear composed of needles, or strize, running

transversely. The best are almost transparent, colourless, and free from any visible impurities: those most commonly met with are of a grey yellowish colour on the outside, and sometimes black, according as the matter is more or less impure. The taste of this falt is very sharp and penetrating. It dissolves in twice its weight, or a little less, of water: and upon evaporating a part of the menstruum, concretes again into long shining spicula, or thin sibrous

plates, like feathers. Sal ammoniac appears from experiments to be composed of marine acid united with a volatile alkali. If mingled with fixt falts, or absorbent earths, and exposed to a moderate fire, a large quantity of pure volatile falt fublimes, the acid remaining united with the intermedium; if treated in the fame manner with quicklime, an exceeding penetrating volatile spirit arises, but no solid salt is obtained. Exposed alone to a considerable heat, it fublimes entire, without any alteration of its former properties : ground with certain metallic fubstances, it elevates some part of them along with itself, and concretes with the remainder into a mass, which readily flows into a liquor in a moist air. This appears in most respects similar to a saturated folution of the metal made directly in spirit of falt.

Pure sal ammoniac is a perfectly neutral salt, capable of attenuating viscid humours, and promoting a diaphoresis, or the urinary discharge, according to certain circumstances in the constitution, or as the patient is managed during the operation. If a dram of the salt be taken, dissolved in water, and the patient kept warm, it generally proves sudorisic; by moderate exercise, or walking in the open air, its action is determined to the kidneys;

a large dose gently loosens the belly, and a still larger proves emetic. This falt is recommended by many as an excellent febrifuge, and by fome has been held a great fecret in the cure of intermittents. It is undoubtedly a powerful aperient, and feems to pass into the minutest veffels; and, as fuch, may in some cases be of service, either alone, or joined with bitters, or the bark, where the latter would by itself produce dangerous obstructions, or aggravate those already formed. This falt is fometimes employed externally as an antiseptic, and in lotions and fomentations, for œdematous tumours: as also in gargarisms for inflammations of the tonfils, and for attenuating and diffolving thick viscid mucus. It is an ingredient in the discutient cataplasm of the Edinburgh pharmacopæia.

SAL CATHARTICUS AMA-RUS [L. E.] The bitter purging falt; extracted from the bitter liquor remaining after the crystallization of common falt from fea water. It was first prepared as a cheap substitute to the falt of the Epfom, and other purging mineral waters, from which it does not confiderably differ, either in fenfible qualities, or medical effects. We usually meet with it in minute crystals, of a fnowy appearance; diffolved in water, and crystallized afresh, it concretes, if properly managed, into larger ones, of a rectangular prismatic figure, refembling those of the artificial cathartic falt of Glauber, for which they are fometimes substituted in the shops.

All these salts have a penetrating bitterish taste: they dissolve in less than an equal weight of water: in a moderate heat, they melt, bubble up into blisters, and soon change

into

into a white spongy mass, with the loss of above half their weight: this calx taftes bitterer than the falts did at first, and almost totally diffolves again in water. The acid of these salts is chiefly the vitriolic: the basis of the natural is a fine abforbent earth; of the artificial, an alkaline falt, the fame with the bafis of fea falt. Hence, upon adding alkaline falts to a folution of the falts of Glauber, no change enfues: whilft the falts obtained from the purging waters, or the bittern of marine waters, grow milky upon this addition, and deposit their earth, the alkaline falt being taken

up in its place.

The fal catharticus is a mild and gentle purgative, operating with fufficient efficacy, and in general with eafe and fafety, rarely oceafioning any gripes, fickness, or the other inconveniencies with which purgatives of the refinous kind are too often accompanied. Six or eight drams may be dissolved for a dose in a proper quantity of common water; or four, five, or more, in a pint, or quart of the purging waters. These liquors may likewife be fo managed as to promote evacuation, by the other emunctories. If the patient be kept warm, they increase perspiration; by moderate exercise in a cool air, the urinary discharge.

SAL COMMUNE. Common, or alimentary falt. This is a neutral falt, differing from most others in occasioning drought when swallowed. It dissolves in somewhat less than three times its weight of water; the solution slowly evaporated, and set to shoot, affords cubical crystals, which unite together into the form of hollow truncated pyramids. Exposed to the fire, it crackles and slies about, or decrepitates, as it is called; soon after

A small quantity of this salt, added to the nitrous acid, enables it to dissolve gold, but renders it unsit for dissolving silver. If a solution of silver be poured into liquors, containing even a minute portion of common salt, the whole immediately grows turbid and white; this phænomenon is owing to the precipitation of the silver.

This falt is either found in a folid form in the bowels of the earth, or dissolved in the waters of the sea

or faline springs.

1. Sal gemmæ [L. E.] Rock falt. This is met with in feveral parts of the world, but in the greatest plenty in certain deep mines, of prodigious extent, near Cracow in Poland; fome is likewife found in England, particularly in Cheshire. It is for the most part very hard, fometimes of an opake fnowy whitenels, sometimes of red, green, blue, and other colours. When pure, it is perfectly transparent and colour. leis; the other forts are purified by folution in water and crystallization, in order to fit them for the common uses of falt.

z. Sal marinus [L. E.] The falt extracted from fea water and faline springs. Sea waters yield from one fiftieth to one-thirtieth their weight of pure falt, Several springs afford much larger quantities; the celebrated ones of our own country at Nantwich, Northwich, and Droitwich, yield (according to Dr. Brownrigg) from one-fixth to fomewhat more than one-third. There are two methods of obtaining the common falt from these natural solutions of it: the one, a hafty evaporation of the aqueous fluid till the falt begins to concrete, and fall in grains to the bottom of the evaporating pan, whence it is raked out, and fet in proper vessels to drain from the brine or bittern : the

other,

other, a more flow and gradual evaporation, continued no longer than till a faline crust forms on the top of the liquor, which, upon removing the fire, foon 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 fun. The falts obtained by them differ very confiderably: that got by a hafty evaporation is very apt to relent in a moift air, and run per deliquium ; an inconvenience to which the cryftallized falt is not subject : this latter is likewise found better for the preferving of meat, and for fundry other purpoles.

Common falt, in fmall quantities, is supposed to be warming, drying, and to promote appetite and digestion. In large doses, as half an ounce, it proves cathartic. It is sometimes used to check the operation of emetics, and make them run off by stool; and as a sti-

mulus in glysters.

\* SALIX P. E. Salix vulgaris alba arborescens C. B. Salix fragilis Lin. Common White Willow: a pretty large tree, frequent in woods and moist places; it differs from the other willows, in the oblong pointed ferrated leaves being hoary on both sides, though most so on the lower, and in the branches being brittle.

The bark of this tree has lately been found an useful medicine in agues, of which many persons have been cured by taking a dram of the powdered bark every four hours during the intermissions; though in some cases it was necessary to join to it a little Peruvian bark (see the Philosophical Transactions for the year 1763). To the taste, this bark discovers a pretty strong bitterness and astringency; with solu-

tion of chalybeate vitriol, it strikes an inky blackness.

SALVIÆ folia: Salviæ majoris C. B. Common fage (the green and red forts); the leaves [L. E.]

SALVIÆ hortensis minoris socia, summitates: Salviæ minoris auritæ et non auritæ G. B. Small sage or sage of virtue; the leaves and tops

[E.]

These plants are common in our gardens, and flower in May and lune : the green and red common fages differ no otherwise than in the colour of the leaves; the feeds of one and the fame plant produce both: the small fort is a distinct species; its leaves are narrower than the others, generally of a whitish colour, and never red; most of them have at the bottom a piece standing out on each fide in the form of ears. Both forts are moderately warm aromatics, accompanied with a light degree of aftringency and bitterness; the fmall fort is the strongest, the large

most agreeable.

The writers on the materia medica are full of the virtues of fage, and derive its name from its supposed falutary qualities, (Salvia Jalvatrix, naturæ conciliatrix-Cur moriatur bomo, cui salvia crescit in borto, &c.) Its real effects are, to moderately warm and strengthen the veffels; and hence, in cold phlegmatic habits, it excites appetite, and proves serviceable in debilities of the nervous fystem. The best preparation for these purposes is an infusion of the dry leaves, drunk as tea; or a tincture, or extract, made with rectified spirit, taken in proper dofes; thefe contain the whole virtues of the fage; the distilled water and essential oil, only its warmth and aromatic quality, without any thing of its rough-

ness or bitterishness. Aqueous infusions of the leaves, with the addition of a little lemon juice, prove an useful diluting drink in febrile disorders, of an elegant colour, and fufficiently acceptable to the pa-

SALVIÆ SYLVESTRIS folia: Scorodotidis five scordii foliis salvie J. B. Wood fage; the leaves.

This grows wild in woods and hedges. In fmell, tafte, and medical virtues, it comes nearer to scordium than sage: it is less disagreeable than the former, but more fo than the latter.

SAMBUCI folia, flores, bacea, cortex: Sambuci fructu in umbella nigro C. B. Sambuci nigræ Lin. Common black berried elder; the leaves, bark [E.] flowers, and ber-

ries [L. E.]

This is a large shrub, frequent in hedges. It flowers in May, and ripens in September. The inner green bark of its trunk is gently cathartic; an infulion of it in wine, or the expressed juice, in the dose of half an ounce, or an ounce, is faid to purge moderately, and in fmall doses to prove an efficacious deobstruent, capable of promoting all the fluid fecretions. The young buds, or rudiments of the leaves, are strongly purgative, and act with fo much violence as to be defervedly accounted unfafe. The flowers are very different in quality: these have an agreeable aromatic flavour, which they give over in diffillation with water, and impart by infufion, to vinous and spirituous liquors. The berries have a sweetish, not unpleasant taite: nevertheles, eaten in substance, they offend the ftomach: the expressed juice, inspissated to the consistence of a rob, proves an useful aperient medicine; it opens obstructions of the

vistera, promotes the natural evacuations, and if continued for a length of time, does confiderable service in fundry chronical disorders. It is observable, that this juice (which in its natural flate is of a purplish colour) tinges vinous

spirits of a deep red.

A rob prepared from the berries [L. E.] is used for making up the theriaca Edinensis and pectoral electary [E.] with the intention of which it excellently coincides. The flowers are an ingredient in the alexiterial and plague waters, the common decoction for glysters and fomentations, and the discutient cataplasm [E.] An oil of elder is prepared by boiling the flowers in oil olive [L.]; and an ointment, by boiling them in a mixture of oil and suet [L.] An ointment is made also from the leaves and bark

SAMPSUCHUS, vide Majo-RANA.

SANDARACHA, a fossil composed of arsenic and sulphur. Vide ARSENICUM.

SANGUIS DRACONIS [L. E.] Dragons blood, a refin brought from the East-Indies, either in oval drops, wrapped up in flag leaves, or in large maffes, composed of smaller tears. The writers on the materia medica in general give the preference to the former, though the latter is not unfrequently of equal goodness; the fine dragons blood of either fort breaks smooth, free from any visible impurities, of a dark red colour, which changes, upon being powdered, into an elegant bright crimfon. Several artificial compositions, coloured with the true dragons blood, or Brazil wood, are sometimes sold in the room of this commodity: some of

their

these dissolve, like gums, in water; others crackle in the fire, without proving inflammable; whilft the genuine fanguis draconis readily melts and catches flame, and is not acted on by watery liquors. It totally diffolves in pure spirit, and tinges a large quantity of the menstruum of a deep red colour : it is likewise soluble in expressed oils, and gives them a red hue, less beautiful than that communicated by anchusa. This drug, in substance, has no fensible smell or tafte; when diffolved, it discovers fome degree of warmth and pungency. It is usually looked upon as a gentle aftringent, and fometimes directed as such in extemporaneous prescription, against seminal gleets, the fluor albus, and other fluxes: in these cases, it produces the general effects of refinous bodies, lightly incraffating the fluids, and somewhat strengthening the folids. It is an ingredient in the flyptic powder [L. E.] Locatelli's balfam [E.] and strengthening plaster [L.]

SANTALUM ALBUM. White faunders; a wood brought from the East-Indies, in billets, about the thickness of a man's leg, of a pale whitish colour. Greatest part of it, as met with in the shops, has no smell or taste, or any sensible quality that can recommend it to the notice of the physician.

SANTALUM CITRINUM
[E.] Yellow faunders: a pale yellowish wood brought from the East Indies; of a pleasant smell, and a bitterish aromatic taste, accompanied with an agreeable kind of pungency. This elegant wood might undoubtedly be applied to valuable medical purposes, though at present very rarely made use of. It is scarcely ever directed in extempo-

raneous prescription, and the only officinal composition in which it is an ingredient, is the confectio al-ke mei of the Edinburgh pharmacopæia. The London college have omitted it in their catalogue of fimples. Diffilled with water, it yields a fragrant effential oil, which thickens, in the cold, into the confiftence of a balfam. Digested in pure spirit, it imparts a rich yellow tincture; which being committed to distillation, the spirit arises, without bringing over any thing confiderable of the flavour of the faunders. The refiduum contains the virtue of fix times its weight of the wood. Hoffman looks upon this extract as a medicine of fimilar virtues to ambergris; and recommends it as an excellent restorative in great debilities.

SANTALUM RUBRUM [L. E.] Pterocarpus Santolinus Lin. Red faunders; a wood brought from the East Indies, in large billets, of a compact texture, a dull red, almost blackish colour on the outside, and a deep brighter red within. This wood has no manifest smell, and little or no taste. It has been commended as a mild astringent, and a corroborant of the nervous system; but these are qualities that belong only to the yellow fort.

The principal use of red faunders is as a colouring drug; in which intention it is employed in the balfamum Locatelli [L.] and fpiritus lavendulæ compositus [L. E.] It communicates a deep red to rectified spirit, but gives no tinge to aqueous liquors: a fmall quantity of the refin, extracted by means of spirit, tinges a large one of fresh spirit, of an elegant blood red. There is scarce any oil, that of lavender excepted, to which it communicates its colour. Geoffroy, and others, take notice, that the Brazil

Brazil woods are fometimes substituted for red saunders; and the college of Brussels are in doubt whether all that is fold among them for saunders, be not really a wood of that kind. According to the account which they have given, their saunders is certainly the Brazil wood; the distinguishing character of which is, that it imparts its colour to common water.

SANTONICUM [E.] Wormfeed; the produce of a plant of the wormwood or mugwort kind,

growing in the Levant.

It is a small, light, chaffy seed, composed as it were of a number of thin membranous coats, of a yellowish colour, an unpleasant smell, and a very bitter taste. These seeds are celebrated for anthelmintic virtues (which they have in common with other bitters) and are sometimes taken in this intention, either along with melasses, or candied with sugar: their unpleasant taste renders the form of a powder or decoction inconvenient. They are not very often met with genuine in the shops.

SAPO DURUS [L.]: Sapo albus Hispanieus [E.] White Spanish foap.

SAPO MOLLIS [L.] Common foft foap.

SAPO NIGER, sen Melanos-

megma [E.] Black foft foap.

Soap is composed of expressed vegetable oils, or animal fats, united with alkaline lixivia. The first fort, or white hard soap, is made with the finer kinds of oil olive; the common soft fort, with coarser oils, fat, tallow, or a mixture of all these; and the black (as is said) with train oil.

The purer hard foap is the only

fort intended for internal use. This, triturated with oily, or refinous matters, renders them foluble in water, and hence becomes an ufeful ingredient in pills composed of refins, promoting their diffolution in the stomach, and union with the animal fluids. Boerhaave was a great admirer of foap; and in his private practice feldom prescribed any refinous pills without it; unless where an alkalescent, or putrid state of the juices forbade its use. From the fame quality, foap likewife feems well fitted for diffolving fuch oily or unctuous matters, as it may meet with in the body, attenuating viscid juices, opening obstructions of the viscera, and deterging all the vessels it passes through. It is likewife a powerful menstruum for the human calculus: a folution of it in lime water is one of the strongest diffolvents that can be taken with fafety into the stomach; the virtue of this composition is confiderably greater than the aggregate of the dissolving powers of the foap and lime water when unmixed. See the Edinburgh medical esays.

The foft foaps are more penetrating and acrimonious than the hard. The only medical use of these is for some external pur-

poses.

Hard foap gives name to an officinal platter [L. E.] liniment [L.] and balfam [E.]; it is joined to opium, to render it more readily foluble in the stomach, in the pilulæ faponaceæ [L.] and to aloes in the pilulæ aloeticæ [E.] Soft soap is an ingredient in the milder common caustic [L.] and black soap in the anodyne platter [E.]

SAPONARIÆ folia radix: Saponariæ majoris lævis C. B. Sa-10 ponariæ ponariæ officinalis Lin. Soapwort, or bruisewort; the herb and root

[E.]

This grows wild, though not very common, in low wet places, and by the fides of running waters; a double-flowered fort is frequent in our gardens. The leaves have a bitter, not agreeable tafte; agitated with water, they raife a faponaceous froth, which is faid to have nearly the fame effects with folutions of foap itself in taking out spots from cloths, and the like. The roots tafte sweetish and somewhat pungent; and have a light fmell like those of liquorice: digested in rectified spirit they yield a strong tincture, which loses nothing of its taste or flavour in being inspissated to the confistency of an extract. This elegant root has not come much into practice among us, though it promises, from its sensible qualities, to be a medicine of confiderable utility. It is greatly effeemed by the German physicians as an aperient, corroborant, and iudorific; and preferred by the college of Wirtemberg, Stahl, Neumann, and others, to farfaparilla.

SARCOCOLLA [L. E.] a concrete juice, brought from Perfia, and Arabia, in small, whitish, yellow grains, with a few of a reddish, and fometimes of a deep red colour, mixed with them; the whitest tears are preferred, as being the freshest. Its tafte is bitter, accompanied with a dull kind of sweetness. This drug diffolves in watery liquors, and appears to be chiefly of the gummy kind, with a small mixture of refinous matter. It is principally celebrated for conglutinating wounds and ulcers (whence its name σαρκόκολλα flesh glue), a quality, to which neither this, nor any other drug, has a just title. It is an ingredient in the pulvis e ceruffa compofitus [L.]

SARSAPARILLA [L.E.]: Smilax Sarsaparilla Lin. a root brought from the Spanish West Indies. It confifts of a great number of long strings hanging from one head. The long roots (the only part made use of) are about the thickness of a goose quill, or thicker, flexible, composed of fibres running their whole length, fo that they might be stript into pieces from one end to the other. They have a glutinous, bitterish, not ungrateful tafte; and no fmell. This root was first brought into Europe by the Spaniards, about the year 1563, with the character of a specific for the cure of the lues venerea, which made its appearance a little before that time, and likewife of feveral obstinate chronic diforders. Whatever good effects it might have produced in the warmer climates, it proved unfuccessful in this; infomuch that many have denied it to have any virtue at all. It appears however from experience, that though greatly unequal to the character which it bore at first, it is in some cases of considerable use as a sudorific, where more acrid medicines are improper. The best preparations are a decoction and extract made with water; a decoction of half an ounce of the root, or a dram of the extract, which is equivalent thereto, may be taken for a dole.

SASSAFRAS [L. E.]: the root of a large American tree (arbor ex Florida ficulneo folio C. B.) Laurus (fassafras) Lin. brought to us in long straight pieces, very light, and of a spongy texture, covered with a rough sungous bark; outwardly of an ash colour, inwardly of the colour of rusty iron. It has a fragrant smell, and a sweetish, aromatic, subacrid taste: the bark tastes much stronger than any other part; and the small twigs stronger than

the large pieces. As to the virtues of this root, it is a warm aperient and corroborant; and frequently employed, with good fuccess, for purifying and sweetening the blood and juices. For these purpoles, infusions made from the rasped root or bark, may be drunk as tea. In some constitutions, these liquors, by their fragrance, are apt, on first taking them, to affect the head: in fuch cases they may be advantageously freed from their flavour by boiling; a decoction of fassafras, boiled down to the confistence of an extract, proves simply bitterish and subastringent. Hoffman affures us, that he has frequently given this extract to the quantity of a scruple at a time with remarkable fuccess, for strengthening the tone of the viscera in cachexies; as also in the decline of intermittent fevers, and in hypochondriacal spasms. Sassafras yields in distillation an extremely fragrant oil, of a penetrating pungent tafte; fo ponderous (notwithstanding the lightness of the drug itself) as to fink in water. Rectified spirit extracts the whole tafte and smell of fassafras: and elevates nothing in evaporation; hence the spirituous extract proves the most elegant and efficacious preparation, as containing the virtue of the root entire.

The only officinal preparation of fassafras is the essential oil [L. E.] The sassafras itself is an ingredient in the decoction of the woods [E.] and the compound lime waters [L. E.] and the oil in the elixir

guaiacinum [E.]

SATUREIÆ folia: Satureiæ bortensis, sive cunilæ sativæ Plinii C. B. Summer savoury; the leaves

This herb is raised annually in gardens for culinary purposes. It is a very pungent warm aromatic; and affords, in distillation with water, a subtile essential oil, of a penetrating smell, and very hot, acrid taste. It yields little of its virtues by insussing to aqueous liquors: rectified spirit extracts the whole of its taste and smell, and elevates nothing in distillation.

SATYRII MARIS radix: Orchidis morionis maris foliis maculatis C. B. Orchis masculæ Lin. Orchis;

the root [E.]

This plant is frequent in shady places and moift meadows: each plant has two oval roots, of a whitish colour, a viscid sweetish taste, and a faint unpleasant smell. They abound with a glutinous flimy juice. With regard to their virtues, like other mucilaginous vegetables, they thicken the thin ferous humours and defend the folids from their acrimony: they have also been celebrated, though on no very good foundation, for analeptic and aphrodifiac virtues: and frequently made use of in these intentions. In the Edinburgh pharmacopæia, the root is directed to be candied.

SALEP [E.] a celebrated restorative among the Turks, is probably the prepared root of certain plants of the orchis kind. This drug, as fometimes brought to us, is in oval pieces, of a yellowish white colour, fomewhat clear and pellucid, very hard, and almost horny, of little or no fmell, and tafting like gum tragacanth. Satyrion root, boiled in water, freed from the fkin. and afterwards suspended in the air to dry, gains exactly the same appearance; the roots thus prepared, dissolve in boiling water into a mucilage. Geoffroy, who first communicated this preparation of orchis, recommends it in confumptions, in bilious dyfenteries, and diforders of the breast proceeding from an acrimony of the juices.

SAXI-

SAXIFRAGÆ ALBÆ folia, radix : Saxifragæ albæ radice granulosa J. B. Saxifragæ granulatæ Lin. White-flowered faxifrage; the leaves, and the roots [E.] which latter are improperly called (from their confisting of little grains) feeds.

SAXIFRAGÆ VULGARIS folia semen: Seselis pratensis nostratis Raii. Pucedani Silaci Lin. Meadow faxifrage; the leaves and feeds.

These herbs grow wild, the first in dry fandy grounds, the fecond in fields and meadows. The first is not very common, and hence its leaves and roots have been generally supplied by the leaves and feeds of the fecond. Neither of them is at prefent in much esteem, notwithstanding the aperient, diuretic and lithontriptic virtues formerly attributed to them.

SCAMMONIUM [L. E.] Scammony; a concrete juice extracted from the roots of a large climbing plant growing in the Afiatic Turkey. Convolvulus (Scammoniæ) Lin. The best comes from Aleppo, in light, spungy masses, eafily friable, of a shining ash colour verging to black; when powdered, of a light grey or whitish colour: an inferior fort is brought from Smyrna, in more compact, ponderous pieces, of a darker colour, and full of fand and other impurities. This juice is chiefly of the refinous kind : rectified ipirit dissolves five ounces out of fix, the remainder is a mucilaginous fubstance mixed with dross: proof spirit totally dissolves it, the impuririties only being left. It has a faint unpleasant smell; and a bitterish fomewhat acrimonious tafte.

strong purgative. Some have con-

demned it as unfafe, and laid many ill qualities to its charge; the principal of which is, that its operation is uncertain, a full dose proving fometimes ineffectual, whilft at other times a much fmaller one occasions dangerous hypercatharses. This difference however is owing entirely to the different circumstances of the patient, and not to any ill quality, or irregularity of operation in the medicine. Where the intestines are lined with an excessive load of mucus, the scammony passes through, without exerting itself upon them; where the natural mucus is deficient, a small dose of this or any other refinous cathartic, irritates and inflames. Many have endeavoured to abate the force of this drug, and correct its imaginary virulence, by expoling it to the fame of fulphur, dissolving it in acid juices, and the like: but this could do no more than destroy as it were a part of the medicine, without making any alteration in the rest. Scammony in fubstance, judiciously managed, stands not in need of any corrector: if triturated with fugar or with almonds, as we have formerly recommended for other refinous purgatives, it becomes fufficiently fafe and mild in operation. It may likewise be conveniently dissolved, by trituration, in a strong decoction of liquorice, and then poured off from the feces. The college of Wirtemberg affures us, that by this treatment it becomes mildly purgative, without being attended with gripes, or other inconveniencies; and that it likewise proves inoffenfive to the palate. The common dose of scammony is from three to twelve grains.

Scammony gives name to an officinal compound powder and elec-Scammony is an efficacious and tary [L.] and is an ingredient in the compound powder of sena, the

cathartic

cathartic extract, the coloquintida pills, mercurial pills [L.] and purgative deobstruent pills [E.]

SCHENANTHUS, vide Jun-CUS ODORATUS.

SCILLÆ radix: Scillæ radice alba C. B. vel Scillæ vulgaris radice rubra C. B. Scillæ maritimæ Lin. The fquill, or fea-onion; its root

E.

This is a fort of onion, growing spontaneously upon dry sandy shores in Spain and the Levant, whence the root is annually brought into Europe. It should be chosen plump, found, fresh, and full of a clammy juice; some have preferred the red fort, others the white, though neither deserves the preference to the other; the only difference perceivable betwixt them, is that of the colour; and hence the college allow both to be used promiscuously. This root is to the tafte very naufeous, intenfely bitter and acrimonious: much handled, it exulcerates the fkin. With regard to its medical virtues, it powerfully stimulates the solids, and attenuates viscid juices, and by thefe qualities, promotes expectoration, urine, and (if the patient be kept warm) fweat. If the dofe be considerable, it proves emetic, and fometimes purgative. principal use of this medicine is where the primæ viæ abound with mucous matter, and the lungs are oppressed by tenacious phlegm. Dr. Wagner (in his clinical observations) recommends it given along with nitre, in hydropical fwellings, and in the nephritis: and mentions several cures which he performed, by giving from four to ten grains of the powder for a dole, mixed with a double quantity of nitre. He fays, that thus managed, it almost always operates as a diuretic,

though fometimes it vomits or purges. The most commodious form for the taking of fquills, unless when defigned as an emetic, is that of a bolus or pill: liquid forms are to most people too offensive, tho' these may be rendered less disagreeable both to the palate and stomach, by the addition of aromatic distilled waters. This root yielda the whole of its virtues, both to aqueous and vinous menstrua, and likewise to vegetable acids. Its officinal preparations are, baked fquills [L.] and the baked fquills made into troches [L.] defigned as an ingredient in theriaca [L.]; dried fquills [L.] a fyrup, vinegar, oxymel [L. E.] and pills [E.]

SCLAREA, vide HORMINUM.

SCOLOPENDRIUM, v. LIN-GUA CERVINA:

SCORDII folia: Chamædryon palustris canescentis Tourn. Tucri Scordii Lin. Water-germander; the

leaves [L. E.]

This is a small, somewhat hairy plant, growing wild in fome parts of England, though not very common; the shops are generally supplied from gardens. It has a bitter taste, and a strong disagreeable fmell. Scordium is of no great! esteem in the present practice, notwithstanding the deobstruent, diuretic, and sudorific virtues for which it was formerly celebrated. It enters the mithridate, theriaca, and cataplasm of cummin seed [L.]; and gives name to two compound powders and an electary [L.] though not the most valuable of their ingredients.

SCORZONERÆ radix. Scorzoneræ latifoliæ sinuatæ C. B. Scorzoneræ hispanicæ Lin. Vipers grais; the root [E.]

Scorzonera is met with only in

gardens.

gardens. The roots abound with a milky juice, of a bitterish sub-acrid taste; and hence may be of some service, for strengthening the tone of the viscera, and promoting the sluid secretions. They were formerly celebrated as alexipharmics, and for throwing out the measles and small-pox; but have now almost entirely lost their character.

SCROPHULARIÆ VULGA-RIS folia, radix: Scrophulariæ nodofæ fætida C. B. Fig-wort; the

leaves and root [E.]

This herb grows wild in woods and hedges: the roots are of a white colour, full of little knobs or protuberances on the furface. This appearance gained it formerly fome repute against scrophulous disorders and the piles; and hence it received its name: but modern practitioners expect no such virtues from it. It has a faint unpleasant smell, and a somewhat disagreeable taste.

SCROPHULARIÆ AQUA-TICÆ MAJORIS, folia: Scrophulariæ maximæ radice fibrofa J. B. Great water fig-wort; the leaves

[E.]

This is a large plant, met with chiefly on the sides of rivers. The leaves have a bitter taste, and an ungrateful smell: they are principally celebrated, though on no very good grounds, as a corrector of sena. See the article Sena.

SEBESTEN: Mixa sive Sebesten J. B. A fort of plum, brought half dried from the East Indies: it is of a dark or blackish brown colour, with whitish or ash-coloured cups; the slesh sticks close to the stone, which contains sometimes one and sometimes two kernels. This fruit has a sweet, very glu-

tinous taste: and hence has been employed for softening acrimonious humours, in some kinds of hoarseness, and in coughs from thin sharp defluxions. At present it is not often met with in the shops.

SEDI MAJORIS, seu Sempervivi majoris folia: edi majoris vulgaris C. B. Sempervivi tectorum Lin. Great house-leek; the leaves [E.]

This is a low fleshy-leaved plant, growing on old walls, and on the tops of houses. It stands recommended as a cooler, though its fenfible qualities discover no great foundation for any virtue of this kind: the taste is herbaceous, with a flight degree of pungency. It is remarkable of this plant, that its juice purified by filtration (when it appears of a dilute yellowish colour) upon the admixture of an equal quantity of rectified spirit of wine, forms a beautiful white light coagulum, like the finer kinds of pomatum. This proves extremely volatile; freed from the aqueous phlegm, and exposed to the air, it in a very little time totally exhales. Hence it is concluded (in the medicor Silefiac fatyræ) that houseleek contains a volatile alkaline falt: but there are many substances besides these salts which coagulate with spirit of wine.

## SEMPERVIVUM, v. SEDUM.

SENA [L. E.] the leaves of a shrubby plant (Jena Alexandria foliis acutis C. B. Cassa (Senna) Lin.) cultivated in Persia, Syria, and Arabia; whence they are brought, dried and picked from the stalks, to Alexandria in Egypt; and thence imported into Europe. They are of an oblong sigure, sharp pointed at the ends, about a quarter of an inch broad, and not a full inch in length, of a lively yellowish green Q 2 colour,

colour, a faint not very disagreeable smell, and a subacrid, bitterish, nauseous taste. Some inferior sorts are brought from Tripoli and other places; these may easily be distinguished by their being either narrower, longer, and sharper pointed; or larger, broader, and round pointed, with small prominent veins; or large and obtase, of a fresh green colour, without

any yellow cast. Sena is a very useful cathartic, operating mildly, and yet effectually: and, if judiciously dosed and managed, rarely occasioning the ill confequences which too frequently follow the exhibition of the ftronger purges. The only inconveniencies complained of in this drug are, its being apt to gripe, and its naufeous flavour. The griping quality depends upon a refinous subitance, which, like the other bodies of this class, is naturally disposed to adhere to the coats of the intestines: the more this refin is divided by fuch matters as take off its tenacity, the less adhesive, and confequently the less irritating and griping it will prove; and the lefs it is divided, the more griping. Hence fena given by itself, or infusions made in a very fmall quantity of fluid, gripe severely and purge lefs than when diluted by a large portion of suitable menstruum, or divided by mixing the infusion with oily emulfions. The ill flavour of this drug is faid to be abated by the great water figwort : but we cannot conceive that this plant, whose fmell is manifestly fetid, and its taste nauseous and bitter, can at all improve those of sena: others recommend bohea tea, though neither has this any confiderable effect. The smell of sena relides in its more volatile parts, and may be discharged by lightly boiling infufions of it made in water: the liquor thus freed from the peculiar flavour of the sena, may be easily rendered grateful to the taste, by the addition of any proper aromatic tincture or distilled water. The colleges, both of London and Edinburgh, have given several very elegant insusions of this drug (which may be seen in Part III. chap iii.) and also spirituous tinctures [L. E.] compound powders [L. E.] and a syrup [E.] The dose of sena in substance is from a scruple to a dram; in insusion from one to three or four drams.

It has been customary to reject the pedicles of the leaves of sena as of little or no use: Geossroy however observes, that they are not much inferior in essicacy to the leaves themselves. The pods, or seed-vessels, met with among the sena brought to us, are by the college of Brussels preferred to the leaves. They are less apt to gripe, but proportionably less purgative.

SENECIO, vide ERIGERUM.

SENEKA [E.] Polygala (fenega) Lin. Senecka, rattlefnake root; the root of a species of polygala, which grows spontaneously in Virginia, and bears the winters of our own climate. This root is usually about the thickness of the little finger, variously bent and contorted, and appears as if composed of joints, whence it is fupposed to refemble the tail of the animal whose name it bears. A kind of membranous margin runs on each fide, the whole length of the root. Its taffe is at first acid, afterwards very hot and pungent.

This root is not at present much known in the shops. The Senegaro Indians are said to prevent the fatal effects which follow from the bite of the rattle-snake, by giving it internally, and applying it externally to the wound. It has of late been strongly recommended in pleurifies, peripneumonies, and other inflammatory diffempers. In these cases, Lemery, du Hamel, and Justieu, experienced its good fuccels (fee the French memoirs for the years 1738, 1739.) Its more immediate effects are those of a diuretic, diaphoretic, and cathartic; fometimes it proves emetic: the two last operations may be occafionally prevented, by giving the root in small doses, along with of cinnamon. The usual dose of the powder is thirty grains or more.

Some have likewise employed this root in hydropic cases, and not without fuccess: Bouyart (in the memoirs before mentioned, 1744) relates examples of its occasioning a plentiful evacuation by stool, urine and perspiration, and by these means removing the disease, after the common diuretics and hydragogues had failed: where this medicine operates as a cathartic, it generally proves fuccessful; if it act by liquifying the blood and juices, without occasioning a due discharge, it should either be abstained from, or assisted by proper additions.

SERICUM et folliculi bombycis. Silk and filkworms bags. Thefe are scarce ever made use of for any medicinal purpofes. In their crude state they are certainly very infignificant: though if burnt in a close vessel, after the same manner as fponge, they would probably prove a medicine of fimilar, and perhaps of superior virtue. They yield a larger quantity of . feeds called oily purging grain. volatile falt, than any other animal substance I know.

SERPENTARIA VIRGINI-

ANA [L. E.] Aristolochia serpentaria Lin. Virginian snake-root; the root of a species of aristolochia, growing in Virginia and Carolina.

It is a small, light, bushy root, confisting of a number of strings or fibres, matted together, isluing from one common head; of a brownish colour on the outfide, and paler or yellowish within. It has an aromatic fmell, like that of valerian, but more agreeable; and a warm, bitterish, pungent taste. This root is a warm diaphoretic and diuretic : it has been greatly celebrated as an alexipharmic, and effeemed one of the principal remedies in malignant fevers and epidemic-diseases. In these intentions, it is given in substance from ten to thirty grains, and in infusion to a dram or two. Both watery and spirituous menstrua extract its virtue by infusion, and elevate some share of its flavour in diffillation: along with the water a small portion of essential oil arises. A spirituous tincture L. E. and compound decoction [E.] of it are directed as officinals: it enters also the cephalic tincture, compound tincture of Peruvian bark, sudorific tincture, tinctura facra, stomachic elixir, theriaca Edinensis [E.] and cataplaim of cummin-feed [L,]

SERPILLI folia : Serpilli vulgaris minoris C. B. Thymi Serpill: Lin. Mother of thyme; the herb [E.]

This is a small creeping plant, common on heaths and dry pasture grounds. Its taste, smell, and medical virtues are fimilar to those of thyme, but weaker.

SESAMI semen: Digitalis orientalis sesam dicta Tourn.

This plant is cultivated in the eaftern countries, whence the feeds are brought to us. They very properly deferve the name of oily,

as they yield upon expression a larger quantity of oil, than almost any other known vegetable. To the appellation purging, they have no title; among the Indians, they are said to be used as food.

SESELIS VULGARIS semen: Ligustici quod seseli officinarum C. B. Laserpitium Siler Lin. Common hartwort; the seeds [L. E.]

SESELIS MASSILIENSIS semen: Seselis Massiliensis serulæ solio. C. B. Seselis tortuosi Lin. Italian hartwort; the seeds [L. E.]

These plants grow spontaneously in the warmer climates; amongst us they are met with only in the gardens of the curious. The seeds and roots of both forts have an agreeable aromatic smell and taste; and in this light might be occasionally employed, though at present they are in disuse: being scarcely otherwise regarded than as the seeds of the first fort are an ingredient in mithridate and theriaca.

SESELI PRATENSE, vide SAXIFRAGA VULGARIS.

SIGILLI SALOMONIS, seu Polygonati radix: Polygonati latifolii vulgaris C. B. Convallariæ multissoræ Lin. Solomon's seal; the

root [E.]

This grows wild in woods, but is not very common: the root has feveral joints, with some flat circular depressions, supposed to resemble the stamp of a seal. It has a sweetish mucilaginous taste. As to its virtues, practitioners do not now expect any considerable ones from it, and pay very little regard to the vulnerary qualities for which it was formerly celebrated.

SILER MONTANUM, vide SESELI VULGARE. SIMAROUBA [E.] Quassica Simarouba Lin. a bark with pieces of the wood adhering to it, brought from Guinea, in long tough pieces, of a pale yellowish colour, and a pretty strong bitter taste. It has lately come into esteem in dysenteric sluxes. A decoction of half a dram is given for a dose, and repeated at intervals of three or four hours.

SINAPIS semen: Sinapis rapi folio C. B. Sinapis nigræ Lin. Mus-

tard; the feeds [L. E.]

This plant is fometimes found wild, but for culinary and medicinal uses is cultivated in gardens. Mustard, by its acrimony and pungency, stimulates the folids, and attenuates viscid juices; and hence stands deservedly recommended for exciting appetite, promoting digeftion, increasing the fluid secretions, and for the other purpoles of the acrid plants called antifcorbutic. It imparts its tafte and imell in perfection to aqueous liquors, whilst rectified spirit extracts very little of either: the whole of the pungency arifes with water in distillation. Committed to the press, it yields a confiderable quantity of a foft infipid oil, perfectly void of acrimony: the cake left after the expresfion is more pungent than the mustard was at first. The oil is directed as an officinal [L. E.] These feeds are fometimes employed externally as a stimulant; and give name to a composition for this intention in the Edinburgh dispenfatory.

SISON, v. AMOMUM VULGARE.

SMYRNIUM, vide HIPPOSE-

SOLANI VULGARIS folia: Solani hortensis seu vulgaris J. B. Common nightshade; the leaves. SOLANI SOLANI LETHALIS, seu Belladonnæ folia: Solani melanocerasi C. B. Atropæ Belladonnæ Lin. Deadly nightshade: the leaves.

These plants grow wild; the first in cultivated grounds, the fecond in shady waste ones. They have both been supposed cooling and discutient in external applications, and poisonous when taken internally. Late experience has shewn, that an infusion of half a grain or a grain of the dried leaves of either may be taken with lafety, and that in many cases the dose may be increased by degrees to five or fix grains; that they generally occafion some considerable evacuation, and fometimes, especially in the larger of the above doses, alarming nervous fymptoms, which however cease with the operation of the medicine. It has been expected, that a cautious use of these very active plants would afford relief in fome obstinate disorders : but though in some instances they promised great benefit, the general event of these trials has not been very favourable. The Edinburgh college, who retained these plants at the revifal of their Pharmacopæia in the year 1744, rejected them both in 1756.

SOLANUM LIGNOSUM, vide

SOLDANELLA, vide BRAS-SICA MARINA.

SPERMA CETI [L. E.] improperly fo called: an unctuous flaky substance, of a snowy whiteness, a soft butyraceous taste, without any remarkable smell; said to be prepared from the fat of the brain of the whale, by boiling and purifying it with alkaline lixivia. The virtues of this concrete are those of a mild emollient: it is of

confiderable use in pains and erofions of the intestines, in coughs proceeding from thin sharp defluxions, and in general, in all cases where the solids require to be relaxed, or acrimonious humours to be softened For external purposes, it readily dissolves in oils; and for internal ones, may be united with aqueous liquors into the form of an emulfion, by the mediation of almonds, gums, or yolk of an egg. Sugar does not render it perfectly miscible with water; and alkalies, which change other oils and fats into foap, have little effect upon fperma ceti. This drug ought to be kept very closely from the air, otherwife its white colour foon changes into a yellow: and its mild unctuous tafte, into a rancid and offensive one. After it has fuffered this disagreeable alteration, both the colour and quality may be recovered again by steeping it in alkaline liquors, or in a fufficient quantity of spirit of wine.

SPICA VULGARIS, vide La-VENDULA ANGUSTIFOLIA.

SPICA NARDI vide NARDUS INDICA.

\* SPIGELIA Ph. Edinb. Anthelmia Driv. Lining. Spigelia marilandica Lin. Indian Pink: this plant has a perennial fibrous root, whence arife fingle stems, befet with opposite oval-lanceolate, entire leaves, and crowned with a spike of tubular monopetalous red slowers, with five stamina and one pistil. Each slower is succeeded by two round united bivalvular capsules, containing several small seeds. It grows spontaneously in South Carolina, and other southern provinces of North America.

The use of the root of this plant as an anthelmintic, was communi-

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cated

cated from the native Indians to the colonists, and it has fince been much employed in that country. The first account of its virtues is to be met with in a paper of Dr. Lining's, Vol. I. of the Essays Physical and Literary; and Dr. Garden has confirmed it in Vol. III. of the same publication, and has given a figure and particular description of the plant.

The root is given both in powder and infusion; but the powder is esteemed most essications. The dose is not accurately ascertained, but extends to from twelve to sixty or seventy grains of the powder. It is found to be most essications when it purges, which it does not always without some additions. The exhibition of a vomit previous to the use of the Indian pink has proved very serviceable. It sometimes produces disagreeable essess on the nervous system, such as giddiness, dimness of the sight, and convulsive motions of the muscles

SPINÆ CERVINÆ baccæ:

Rhamni cathartici C. B. Buckthorn; the berries [L. E.]

of the eye. It is faid to act power-

fully as a fedative in abating the

exacerbations of low remittent

worm-fevers.

This tree, or bush, is common in hedges: it flowers in June, and ripens its fruit in September, or the beginning of October. In our markets, the fruit of some other trees, as the frangula or black berry-bearing alder, and the cornus famina or dogberry-tiee, have of late years been frequently mixed with, or fubilituted for, those of buckthorn. This abuse may be discovered by opening the berries : those of buckthorn have almost always four feeds, the berries of the frangula two, and those of the cornus famina only one. Buckthorn berries, bruifed on white

paper, give it a green tincture, which the others do not. Those who sell the juice to the apothecaries, are said to mix with it a large

proportion of water.

Buckthorn berries have a faint difagreeable fmell, and a naufeous bitter tafte. They have long been in considerable esteem as cathartics; and celebrated in dropfies, rheumatisms, and even in the gout; though in these cases, they have no advantage over other purgatives, and are more offensive, and operate more churlishly, than many with which the shops are furnished; they generally occasion gripes, sickness, dry the mouth and throat, and leave a thirst of long duration. The dose is about twenty of the fresh berries in fubilance, and twice or thrice this number in decoction, an ounce of the expressed juice, or a dram of the dried berries. A fyrup prepared from the juice is kept in the shops. In this preparation, the nauseous flavour of the buckthorn is somewhat alleviated by the fugar, and the addition of aromatics.

SPIRITUS VINOSUS REC-TIFICATUS. Rectified spirit of wine; " a spirit distilled from wine " or other fermented liquors, pu-" rified as much as possible from its fetid smell, and the phlegm " that arises with it in the first di-" stillation." [L.] This purification is effected, by repeating the distillation in a very gentle heat, with certain additions, to keep down the phlegm and the gross oil in which the ill flavour refides (fee Part III. chap. v.) These spirits, from whatever vegetable subjects they have been produced, are, when perfectly pure, the same. They have a hot pungent tafte, without any particular flavour; they readily catch flame, and burn entirely away, without leaving any marks of an aqueous

aqueous moisture behind; distilled by a heat less than that of boiling water, they totally arise, the last runnings proving as slavourless and inflammable as the first: they disfolve essential vegetable oils and resins into an uniform transparent sluid. These spirits are the lightest of almost all known liquors: expressed oils, which swim upon water, sink in these to the bottom: a measure which contains ten ounces by weight of water, will hold little more than eight and a quarter

of pure spirit.

The uses of vinous spirits, as menstrua for the virtues of other medicines, we shall see hereafter. and in this place confider only their own. Pure spirit coagulates all the fluids of animal bodies, except urine, and hardens the folid parts. Applied externally, it strengthens the vessels, thickens the juices in them, and thus powerfully restrains hæmorrhages. It instantly contracts the extremities of the nerves it touches, and deprives them of fense and motion; by these means easing them of pain, but at the fame time destroying their use. Hence employing spirituous liquors in fomentations (notwithstanding the specious titles of vivifying, heating, restoring mobility, resolving, diffipating, and the like, ufually attributed to them) may fometimes be attended with unhappy consequences. These liquors, received undiluted into the stomach, produce the same effects, thickening the fluid, and contracting all the folid parts which they touch, and destroying, at least for a time, their use and office: if the quantity be confiderable, a palfy or apoplexy follows, which ends in death. Taken in small quantity, and duly diluted, they brace up the fibres, raife the spirits, and promote agility: if further continued, the

fenses are disordered, voluntary motion destroyed, and at length the same inconveniences brought on as before. Vinous spirits therefore, in small doses, and properly diluted, may be applied to useful purposes in the cure of diseases; whilst in larger ones, or if their use be long continued, they act as a poison of a particular kind.

SPIRITUS VINOSUS TE-NUIOR. Proof spirit: " the " fame spirit, containing an ad-" mixture of an equal quantity of " water: the best proof spirit is " that distilled from French wine; " but for common uses may be " employed the spirit drawn from " melasses, or the syrupy matter " that runs from fugar in the pu-" rification, commonly called me-" lasses spirit." [L.] The spirits ufually met with under the name of proof, are those distilled from different fermented liquors, freed from their phlegm and ill flavour only to a certain degree. Their purity with regard to flavour may be eafily judged from the tafte, especially if the spirit be first duly diluted. It were to be wished, that we had a certain standard with regard to their strength, or the quantity of water contained in them; a circumstance which greatly influences fundry medicinal preparations, particularly the tinctures: for as pure spirit dissolves the refin and volatile oil, and water only the gummy and faline parts of vegetables, it is evident that a variation in the proportions wherein these are mixed, will vary the dissolving power of the menstruum, and confequently the virtue of the preparation. The common methods of estimating the quantity of phlegm contained in thefe spirits, are liable to uncertainty: it should therefore seem necesfary for the nicer purposes, and where a persectly flavourless proof spirit is required, to make use of the pure rectified spirit, mixed with a certain determined proportion of water: equal quantities of these liquors, whether taken by weight or measure, compose a spirit somewhat weaker than what has been generally looked upon as proof: the exact proportions are, one hundred parts by weight of pure spirit, and eighty-six of water.

SPONGIA [L. E.] Sponge; a foft, light, very porous and compressible substance, readily imbibing water, and diffending thereby. It is found adhering to rocks, particularly in the Mediterranean fea, about the islands of the Archipelago. It is generally supposed to be a vegetable production: nevertheless some observations, lately made by Justieu, give room to sufpect that it is of animal origin. Chemical experiments favour this supposition; analysed, it yields the fame principles with animal fubstances in general: the volatile falt is in larger quantity than I have obtained from any animal matter, except the bags of the filkworm. On this falt, which is generated by fire, feem to depend the virtues of the officinal spongia usta [L.] (See Part III. chap. i.) Crude sponge, from its property of imbibing and diffending by moisture, is fometimes made use of as a tent for dilating wounds and ulcers.

STANNUM [L. E.] Tin is the lightest and easiest of susion of all the metals. Heated, it becomes so brittle as to fall in pieces by a blow; and by agitation (when just ready to melt) into a powder; hence the officinal method of pulverising this metal, to be described in its

place. The proper menstruum of tin is the marine acid, or aqua regis: vegetable acids likewise dissolve it in considerable quantity, though it has long been supposed not to be at all soluble in them, unless previously well calcined.

With regard to the virtues of this metal, it was formerly accounted a specific in disorders of the uterus and lungs; a calx of tin and antimony is still retained in some dispensatories, under the name of an antihectic : but thefe are virtues, to which it certainly has little claim It has of late been celebrated, on better foundation, as an anthelmintic; and faid to destroy fome kinds of worms which elude the force of many other medicines. Possibly the cause of this effect may be very different from what may be suspected, an admixture of a

portion of arfenic.

In has a strong affinity with arienic: infomuch that when once united therewith, the arienic, notwithstanding its volatility in other circumstances, cannot be totally expelled either by flow calcination, or by a vehement fire. Almost all the ores of tin contain more or less of this poilonous mineral, which is not entirely separable in the common processes by which the ores are run down, or the metal further purified. Filings of tin held in the flame of a candle, emit a thick fume, smelling of garlic; which finell is univerfally held, in mineral substances, to be a certain criterion of arfenic. Henckel has discovered a method of separating actual arienic from tin; this is effected by folution in aqua regis and crystallization: Mr. Margraff has (in a volume of the Berlin memoirs) given a farther account of this process; and relates, that from the tins usually reputed pure, he has obtained one-eighth their weight of crystals

crystals of arsenic. For the preparations of tin, see the third part of this work.

STAPHISAGRIÆ semen: Delphinii platoni folio Tourn. Delphinii Staphysagriæ Lin. Stavesacre; the

feeds [E.]

These are large rough seeds, of an irregularly triangular figure, of a blackish colour on the outside, and yellowish or whitish within. They are usually brought from Italy; the plant is not very common in this country, though it bears our leverest colds. They have a disagreeable smell, and a very nauseous, bitterish, burning tafte. Stavelacre was employed by the antients as a cathartic; but it operates with fo much violence both upwards and downwards, that its internal use has been, among the generality of practitioners, for fome time laid afide. It is chiefly employed, in external applications, for fome kinds of cutaneous eruptions, and for destroying lice and other infects; infomuch, that it has from this virtue received its name, in different languages; herba pedicularis, berbe aux poux, lausskraut, lousewort.

STIBIUM, vide ANTIMONIUM.

STECHAS, Stæchas purpurea C. B. Lavendulæ Stæchas. Arabian stechas, or French lavender slowers

[L. E.]

This is a shrubby plant, considerably smaller than the common lavender: the slowery heads are brought from Italy and the southern parts of France. They are very apt to grow mouldy in the passage, and even when they escape this inconvenience, are generally much inferior to those raised in our gardens. The best slechas which we receive from abroad, has no great

fmell or tafte. Pomet affirms, that fuch as the shops of Paris are supplied with, is entirely deftitute of both; whilst that of our own growth, either whilst fresh, or when carefully dried, has a very fragrant fmell, and a warm, aromatic, bitterish, subacrid taste; distilled with water, it yields a confiderable quantity of a fragrant essential oil; to rectified spirit it imparts a strong tincture, which inspissated proves an elegant aromatic extract. This aromatic plant is rarely met with in prescription; the only officinal compositions into which it is admitted, are the mithridate and theriaca.

There is another plant called stechas, which from the beauty and durability of its flowers has of late years had a place in our gardens, and whose aromatic qualities render it worthy of one in the shops; this is the elichrysum seu stachas citrina latiore folio C. B. golden stechas, goldilocks, or yellow caffidony: its flowers stand in umbels on the tops of the branches; they are of a deep shining yellow colour, which they retain in perfection for many years; their fmell is fragrant and agreeable, fomewhat of the musky kind; their tatte warm, pungent, and sub-aftringent; they impart their flavour to water in distillation, and by infufion to rectified spirit.

\* STRAMONIUM [E.] Solanum fætidum, pomo spinoso oblongo C. B. Datura Stramonium Lin. Thorn-Apple: an herbaceous plant, with a thick branched stalk, two or three feet high, large sinuated leaves, and long tubular white or purplish flowers, succeeded by large, prickly, green, sleshy seed-vessels, which open at the end in four divisions, and disclose numerous black feeds. It slowers in July.

This

This plant, which has been long known as a narcotic poison, has been introduced into the catalogue of medicines by Dr. Stærck. An extract made from the expressed juice of the leaves is acrid and faline to the tafte, and yields chrystals of nitre on standing. This preparation, given in dofes of from one to five grains twice or thrice a day, is faid to be a very powerful remedy in various convultive and fpafmodic disorders, epilepsy and mania. The accounts of other practitioners have confirmed it; and it has been received into some pharmacopœias. An ointment prepared from the leaves has been found to give eale in external inflammations and hæmorrhoids.

STYRAX CALAMITA [L.E.] Storax; an odoriferous refinous substance, exuding, in the warmer climates, from a tree called by C. Bauhine styrax folio mali cotonei. It has been customary to distinguish three forts of storax, though only one is usually met with in the shops.

1. Styrax calamita, or storax in the cane, so called from its having been formerly brought inclosed in reeds from Pamphylia. It is either in small distinct tears, of a whitish or reddish colour, or in larger

maffes composed of such.

2. Storax in the lumb, or red storax. This is in masses of an uniform texture and yellowish red or brownish colour, though sometimes likewise interspersed with a few whitish grains. Of this fort there has been some to be met with in the shops, under the name of storax in the tear.

3. The common florax of the shops is in large masses, considerably lighter and less compact than the foregoing. It appears upon examination to be composed of a fine resinous juice, mixed with a quantity of saw-dast. For what purpose

this addition is made, I shall not here enquire; observing only, that it can scarce be supposed to be done with any fraudulent view, fince the faw-dust appears at fight. common ftorax is much less esteemed than the two first forts; though, when freed from the woody matter, it proves superior in point of fragrancy to either of them. Rectified spirit, the common menstruum of refins, dissolves the storax, leaving the wood behind: nor does this tincture lose much of its valuable parts, in being inspissated to a folid confistence; whilst aqueous liquors elevate almost all the fragrancy of the florax.

Storax is one of the most agreeable of the odoriferous resins, and may be exhibited to great advantage in languors and debilities of the nervous system. It is not however much used in common practice, unless as an ingredient in the traumatic balsam, the compound powder and electary of scordium, the storax pill, confectio Paulina, mithridate, and theriaca [L.]

STYRAX LIQUIDA [E.] Liquid storax. What is most commonly met with under this name, is a fost refinous substance, of a grey colour, a weak imell. fimilar to that of the foregoing folid storax. It is supposed to be compounded of folid storax, refin, wine, and oil, beaten up together, into a proper confistence. The genuine liquid florax, according to Petiver's account (Phil. Transact. Nº 313.) is obtained from a tree growing in the island Cobros in the Red iea. The preparers of this commodity yearly clear off the bark of the tree, and boil it in fea water to the confiltence of bird-lime; the refinous matter which floats upon the furface, is taken off, liquided again in boiling water, and passed through a ftrainer. The purer part which

passes through, and the more impure which remains on the strainer, and contains a considerable portion of the substance of the bark, are both sent to Moco, whence they are sometimes, though very rarely, brought to us. The former is of the consistence of honey, tenacious, of a reddish or ash brown colour, an acrid unctuous taste, approaching in smell to the solid storax, but so strong as to be disagreeable: the other is full of woody matter, and much weaker in smell.

Liquid storax is among us scarce ever made use of in medicine, and not often found in the shops; hence the London college has expunged it from the catalogue of officinals: that of Edinburgh employs it as an ingredient in the mercurial plaster.

SUCCINUM [L. E.] Amber; a folid, brittle, bituminous fubstance, dug out of the earth, or found upon the fea shores. The largest quantities are met with along the coalts of Polish Prussia and Pomerania. It is of a white, yellow, or brown colour, fometimes opaque, and fometimes very clear and tranfparent: the dark coloured and opaque forts, by digettion with certain expressed oils and animal fats, become clearer, paler coloured, more pellucid, and confiderably harder. Amber boiled in water, neither foftens nor undergoes any fenfible alteration: exposed to a greater heat, without addition, it melts into a black mass like some of the more common bitumens: fet on fire, its fmell refembles that which arises from the finer kinds of pitcoal: distilled in a retort, it yields an oil and a volatile acidulous falt (fee Part III. chap. viii.)

Amber in substance has very little smell or taste; and hence it has by some been reckoned a mere inactive earthy body. It was formerly accounted an absorbent, and as fuch had a place in the compound powder of crabs claws. It certainly has no title to this class of medicines, as not being acted upon by any acid. It is supposed to be of fervice in the fluor albus, gleets, hysteric affections, &c. and in these intentions is sometimes given in the form of impalpable powder, to the quantity of a dram. A tincture of amber made in rectified spirit (to which it imparts a bitterish aromatic taste and a fragrant smell) promifes to be of real fervice in thefe Boerhaave extols this tincture as having incredible efficacy in all those distempers which proceed from weakness and relaxation, and in hypochondriacal, hysterical, and cold languid cases. If part of the spirit be abstracted by a gentle heat, the remainder proves a very elegant aromatic balfam, which is perhaps one of the most useful preparations obtainable from this concrete. Amber is levigated in the shops into an impalpable powder, which gives name to a compound powder [L.] and is an ingredient in mithridate and theriaca [L.] A tincture of it in dulcified spirit of vitriol [E.] and the distilled oil and falt [L. E.] are likewise officinals. The oil is an ingredient in the volatile aromatic spirit, powder for promoting delivery, gum pills, cephalic balfam, and cephalic plafter [E.]

SULPHUR [L. E.] Sulphur or brimstone is a yellow substance, of the mineral kingdom, fusible in a small degree of heat, totally volatile in a stronger, readily instammable, burning with a blue slame, which is accompanied with a suffocating acid sume. It dissolves in alkaline liquors and in oils, not in acids, water, or vinous spirits.

Greatest part of the sulphur met with in the shops is obtained from

certain

certain ores by a kind of distillation, or artificially composed by uniting the vitrolic acid with inflammable matters. At some of the Saxon fulphur works (whence we are chiefly supplied) certain minerals abounding with vitrolic acid, but containing little or no fulphur, being stratified with wood, and the latter fet on fire, a large quantity of fine fulphur is produced. It is usually brought to us in large irregular maffes, which are afterwards melted and cast into cylindrical rolls, with the addition of some coarfe refin, flour, or the like; whence the paler colour of the rolls. Sulphur is not also unfrequently found native in the earth, fometimes in transparent pieces of a greenish or bright yellow colour; but more commonly in opaque grey ones, with only some streaks of yellow. This last is the fort which is understood by the name Sulphur VIVUM [E.] though that met with under this name in the shops is no other than the drofs remaining after the fublimation of fulphur. All the forts of fulphur are, when perfectly pure, in no respect different from one another: notwithstanding the preference given by fome to the more uncommon fossil forts, these last are of all others the least proper for medicinal purposes, as being the most subject to an admixture of foreign matter, both of the metallic and arfenical kind.

Pure sulphur loosens the belly, and promotes insensible perspiration: it seems to pass through the whole habit, and manifestly transpires through the pores of the skin, as appears from the sulphureous smell of persons who have taken it, and silver being stained in their pockets of a blackish colour, which is the known effect of sulphureous summes. It is a celebrated remedy against cutaneous diseases, both gi-

ven internally, and externally applied. It has likewise been recommended in coughs, afthmas, and other disorders of the breast and lungs; in these cases, however, it has no very considerable effect, unless, as Hoffman observes, where the disease proceeds from the blood's being tainted by scrophulous or fcorbutic humours. Where this happens, the prudent use of sulphur is faid to do good fervice, throwing out a plentiful eruption upon the skin, and by degrees carrying off the peccant matter. The common dose of sulphur rarely exceeds a scruple, though Geoffroy goes as far as two drams. The trochisci e sulphure of the dispensatory are one of the most elegant forms for the taking of it. It enters fix officinal preparations for external ule, and gives name to one of them. Some have imagined that fulphur used externally is dangerous; that, as it throws the morbific matter outwards, when given inwardly, it must in like manner drive it into the blood, when applied externally. This opinion, which is supported by some late writers, has no just foundation. Sulphur has nearly the same effects, whether used internally or externally. In both cases, the eruptions become frequently more copious after the first use of it.

It is remarkable of this concrete, that though itself a medicine of considerable essicacy, it nevertheless restrains that of some others of the most powerful kind. Mercury is rendered, by the admixture of sulphur, inactive; and the virulent antimonial regulus, almost so. Hence, when antimonial and mercurial medicines exceed in operation, sulphur has been given for abating their violence; and sometimes restrains their farther action. Even the corrosive poison arsenic, by the addition

addition of fulphur, becomes almost innocent; and hence if a small proportion of arsenic should be contained in sulphur, it possibly may not receive thence any poisonous qualities.

SYMPHYTUM, vide Conso-

TACAMAHACA [E.]: a refin obtained from a tall tree (tacamahaca populo fimilis, fructu colore pæoniæ simili 7 B. Populus balsamifera Lin.) which grows spontaneously on the continent of America, and in a sheltered situation bears the winters of our own climate. Two forts of this refin are fometimes to be met with. The best, called (from its being collected in a kind of gourd - shells ) tacamahaca in shells, is somewhat unctuous and foftish, of a pale yellowish or greenish colour, an aromatic taste, and a fragrant delightful fmell, approaching to that of lavender and ambergris. This fort is very rare: that commonly found in the shops is in semitransparent grains or glebes, of a whitish, yellowish, brownish, or greenish colour, of a less grateful fmell than the foregoing. The former is faid to exude from the fruit of the tree, the other from incifions made in the trunk. This refin is faid to be employed among the Indians, externally, for discussing and maturating tumours, and abating pains and aches of the limbs. It is an ingredient in the anodyne. hysteric, cephalic, and stomachic plasters of the Edinburgh pharmacopœia. The fragrance of the finer fort sufficiently points out its being applicable to other purpofes.

TAMARINDUS [L. E.] Tamarind; the fruit of a tree growing in the East and West Indies,

called by C. Bauhine fliqua Arabica quæ tamarindus. Tamarindus indica Lin. It is a pod refembling a bean-cod, including feveral hard feeds, together with a dark coloured viscid pulp of a pleasant acid taste: the East-India tamarinds are longer than the West-India fort; the former containing fix or feven feeds each, the latter rarely above three or four. The pulp of these fruits, taken in the quantity of two or three drams, or an ounce or more, proves gently laxative or purgative; and at the same time, by its acidity, quenches thirst, and allays immoderate heat. It increases the action of the purgative fweets, cafia and manna, and weakens that of the refinous cathartics. Some have supposed it capable of abating the virulence of antimonial preparations; but experience shews, that it has rather a contrary effect, and that all vegetable acids augment their power. Tamarinds are an ingredient in the electary of cafia [L.] the lenitive electary [E.] and decoction of tamarinds with fena E.

TANACETI folia, flores, femen: Tanaceti vulgaris lutei C. B. Tanfy: the leaves [1..] flowers and

feeds [E.]

Tanfy grows wild by road-fides, and the borders of fields, and is frequently also cultivated in gardens, both for culinary and medicinal uses: it flowers in June and July. Confidered as a medicine, it is a moderately warm bitter, accompanied with a strong, not very difagreeable flavour. Some have had a great opinion of it in hysteric diforders, particularly those proceeding from a deficiency, or fuppression of the uterine purgations. The leaves and feeds have been of confiderable effeem as anthelmintics; the feeds are less bitter, and more

more acrid and aromatic than those of rue, to which they are reckoned similar; or of santonicum, for which they have been frequently substituted.

TAPSI BARBATI, seu Verbasci solia, stores: Verbasci maris latisolii lutei C. B. Mullein; the leaves and slowers.

This is met with by road-sides, and under hedges: it is clothed all over with soft downy leaves, and produces long spikes of yellow slowers in July. The taste discovers in it a glutinous quality; and hence it stands recommended as an emollient, and is in some places held in great esteem in consumptions. The slowers of mullein have an agreeable, honey-like sweetness; an extract prepared from them by rectified spirit of wine tastes extremely pleasant.

TARAXACUM, v. DENS LEO-

TARTARUM [L. E.] Tartar is a faline substance, thrown off from wines, after fermentation, to the fides and bottom of the cask. It proves of a red or white colour, and more or less foul or droffy, according to the colour and quality of the wine; the white is generally looked upon as the pureft: of either fort, fuch as is clean, folid, fomewhat transparent, and has its outfide covered over with small shining chrystals, is preferable to such as appears porous, droffy, opaque, and less bright. This substance, though truly faline, is fcarce acted upon by cold water; the purest fort, or fuch as has been purified by art, requires four and twenty times its weight of boiling water to dissolve in: the folutions of both the tartars pass the filter colourless, and shoot, in the cold, into fmall, white, fe-

mitransparent chrystals. All such earths as are foluble in vinegar, and alkaline falts, render tartar more eafily foluble in water: hence the refiners at Montpelier are faid to employ a certain earth for promoting its folutions, with fome particular managements for making it shoot into large crystals. This addition may occasion a considerable alteration in the falt, infomuch that the finer forts of white tartar are perhaps preferable, on many occasions, to the common chrystals. The virtues of tartar are those of a mild, cooling, aperient, laxative medicine. Taken from half an ounce to an ounce, it proves a gentle, though effectual purgative. Angelus Sala relates, that he was cured of an habitual colic, by purging himself a few times with fix drams of the crude falt, after many other medicines had been tried to no purpole. For the preparations of tartar, see Part III. chap. iii. sect. 7. This falt is likewife an ingredient in the common infusion of sena, compound powder of fena [L.] and is used for dissolving or corroding fome metallic bodies, particularly antimony, from which it receives a strong emetic impregnation.

TELEPHIUM, vide CRAS-SULA.

TEREBINTHINE. Turpentines; refinous juices extracted from certain trees. There are four kinds of turpentine diftinguished in the shops.

TEREBINTHINA CHIA, five CYPRIA [L. E.] Chio, or Cy-

prus turpentine.

This is generally about the confiftence of thick honey, very tenacious, clear and almost transparent, of a white colour, with a cast of yellow, and frequently of blue. It has a warm, pungent, bitterish

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taste; and a fragrant smell, more agreeable than any of the other

turpentines.

This juice is the produce of the terebinthus vulgaris C. B. common terebinth, an evergreen tree or fhrub, which grows spontaneously in the warmer climates, and endures the colds of our own. The turpentine brought to us, is extracted in the islands whose names it bears; by wounding the trunk and branches a little after the buds have come forth. The juice iffues limpid, and clear as water, and by degrees thickens into the confistence in which we meet with it. A like juice exuding from this tree in the eastern countries, inspissated by a flow fire, is of frequent use, as a masticatory, among the Perfian ladies, who (as Keempfer informs us) are continually chewing it, in order to fasten and whiten the teeth, sweeten the breath, and promote appetite.

TEREBINTHINA VENETA

[E.] Venice turpentine.

This is usually thinner than any of the other forts, of a clear, whitish, or pale yellowish colour, a hot, pungent, bitterish, disagreeable taste, and a strong smell, without any thing of the sine aromatic

flavour of the Chian kind.

The true Venice turpentine is obtained from the larix folio deciduo conifera J. B. larch, a large tree growing in great abundance upon the Alps and Pyrenean mountains, and not uncommon in the English gardens. What is usually met with in the shops, under the name of Venice turpentine, comes from New England. Of what tree it is the produce, we have no certain account: the siner kinds of it are in appearance and quality not considerably different from the true sort above described.

TEREBINTHINA ARGEN-TORATENSIS [ L. E. ] Straf-

burgh turpentine.

This, as we generally meet with it, is of a middle confistence betwixt the two foregoing, more transparent, and less tenacious than either; its colour a yellowish brown. Its smell is very fragrant, and more agreeable than that of any of the other turpentines, except the Chian; in taste it is the bitterest, yet the least acrid.

This refin is obtained from the two forts of fir trees mentioned before, which are the most plentiful, and perhaps the only ones that grow fpontaneously in Europe. There is another whose refin is much fuperior to the common turpentine; and has fometimes been brought to us from abroad under the name of BALSAMUM CANADENSE. This species is the abies minor, pectinatis foliis, Virginiana conis parvis Subrotundis Pluk. Virginian, or Canada fir-tree; which, though not a native of this climate, has been found to endure its fevereff colds.

TEREBINTHINA COMMU-NIS [L. E.] Common turpentine is the coarfest, and heaviest, in taste and smell the most disagreeable, of all the forts: it is about the consistence of honey, of an opaque

brownish white colour.

This is obtained from the pinus fylvestris G. B. wild pine, a low unhandsome tree, common in different parts of Europe; this tree is extremely refinous, and remarkably subject to a disease from a redundance and extravasation of its resin, insomuch that, without due evacuation, it swells and bursts. The juice as it issues from the tree is received in trenches made in the earth, and afterwards freed from the grosser impurities by colature through wicker baskets:

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All these juices yield in distillation with water, an highly penetrating effential oil, a brittle infipid refin remaining behind. With regard to their medical virtues, they promote urine, cleanfe the parts concerned in the evacuation thereof, and deterge internal ulcers in general; and at the fame time, like other bitter hot substances, strengthen the tone of the vessels: they have an advantage above most other acrid diuretics, that they gently loofen the belly. They are principally recommended in gleets, the fluor albus, and the like; and by some in calculous complaints: where these last proceed from fand or gravel, formed into a mass by viscid mucous matter, the turpentines, by dissolving the mucus, promote the expulsion of the fand; but where a calculus is formed, they can do no service, and only ineffectually irritate or inflame the parts. In all cases accompanied with inflammation, these juices ought to be abstained from, as this symptom is encreased, and not unfrequently occasioned by them. It is observable, that the turpentines impart, foon after taking them, a violet fmell to the urine; and have this effect, though applied only externally to remote parts; particularly the Venice fort. This is accounted the most powerful as a diuretic and detergent; and the Chian and Strasburgh as corroborants: the Straiburgh is an ingredient in the mercurial pills and Locatellus's balfam, and the Chian in mithridate and theriaca [L.] The common turpentine, as being the most offensive, is rarely given inzernally; its principal use is in platters and ointments among farriers, and for the distillation of the oil, or spirit, as it is called. The dole of these juices is from a scruple to a dram and a half. They are

most commodiously taken in the form of a bolus, or dissolved in watery liquors by the mediation of the yolk of an egg or mucilage. Of the distilled oil, a few drops are a sufficient dose. This is a most potent, stimulating, detergent diuretic, often greatly heats the constitution, and requires the utmost caution in its exhibition.

TERRA JAPONICA, vide Ja-

TERRA LEMNIA et SILESI-ACA, vide Bolus.

THEÆ folia [E.] Tea; the leaves of a shrub (thea frutex, folie cerass, store rosa sylvestris, &c. Kampf.) cultivated in China.

The feveral forts of tea met with among us, are the leaves of the iame plant, collected at different times, and cured in a somewhat different manner. The small young leaves very carefully dried, are the finer green. The older afford the ordinary green and bohea. two first have a sensible flavour of violets; the other of roles. The former is the natural odour of the plant; the latter, as Neumann obferves, is probably introduced by Some of the dealers in this commodity in Europe, are not ignorant that bohea tea is imitable by the leaves of certain common plants, artificially tinctured and impregnated with the rose flavour. The tafte of both forts is lightly bitterish, subastringent, and somewhat aromatic. The medical virtues attributed to these leaves, are lufficiently numerous, though few of them have any just foundation : little more can be expected from the common infusions, than that of a diluent, acceptable to the palate and stomach: the diuretic, diaphoretic, and other virtues which they

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have been celebrated for, depend more on the quantity of warm fluid, than any particular qualities which it gains from the tea. Nothing arises in distillation from either fort of tea with rectified spirit; water elevates the whole of their flavour.

THLASPIS, femen. Treacle, or mithridate, mustard; the seeds [L.]

Two forts of thlapsi are used promiscuously, thlapsi arvense siliquis latis C. B. and the thlapsi arvense vaccariæ incano folio majus C. B. they both grow wild, the latter most plentifully. These seeds have an acrid biting taste like common mustard, with which they agree in medical qualities. Their principal use is as ingredients in the compositions whose name they bear.

THUS MASCULUM, vide

THUS VULGARE [L. E.] Common frankincense; a solid, brittle resin, brought to us in little glebes or masses, of a brownish, or yellowish colour on the outside, internally whitish, or variegated with whitish specks; of a bitterish, acrid, not agreeable taste, without any considerable smell. It is supposed to be the produce of the pine tree which yields the terebinthina communis; and to concrete on the surface of the terebinthinate juice soon after it has issued from the plant.

It is an ingredient in mithridate, the gum plaster, strengthening plaster, and stomach plaster [L.]

THYMI folia: Thymi vulgaris folio tenuiore C. B. Common thyme; the leaves [E.]

This plant is frequent in our gardens, and flowers in June and July. It has an agreeable aromatic smell, and a warm pungent taste; which it imparts by infusion to rectified spirit, and sends over in distillation with water. Along with the water arises an essential oil, extremely hot and pungent.

THYMI CITRATI folia: Serpylli foliis citri odore C. B. Lemonthyme; the leaves [L.]

This is found wild in dry mountainous places, but the shops are supplied from gardens. In taste and smell it is less acrid and more grateful than the common thyme. Its smell, in particular, is remarkably different, approaching to that of lemons. It gives over its slavour in distillation both with water and spirit. With the former an elegant essential oil arises. The distilled spirit is an agreeable aromatic condial liquor, not inferior to any thing of this kind.

TILIAE flores: Tiliae faminae folio majore C. B. Tiliae Europeae Lin. The lime or linden tree; its flowers [L. E.]

The lime tree has been much valued on account of its quick growth and pleasant shade; it flowers in July, and loses its leaves foon after. The flowers are made use of chiefly on account of their agreeable flavour, which water extracts from them by infusion, and elevates in distillation. Among the writers on the materia medica, they have the character of an antiepileptic, and a specific in all kind of spalms and pains. Frederick Hoffman relates, that he knew a chronical epilepsy cured by the use of an infusion of these flowers drunk as tea.

THYMELÆÆ baceæ: Thymelææ foliis lini C. B. Daphnes Gnidii Lin. Spurge flax; its berries, called grana enidia. TITHYMALI radix. Euphorbiæ Paraliadis Lin. Spurge; the root.

Several forts of spurge are mentioned in catalogues of the materia medica. The Edinburgh college, in a former edition, retained two (Esula Major, tithymalus palustris fruticosus C. B. German spurge; and Esula Minor, tithymalus foliis pini C. B. pine-spurge): both the Edinburgh and London colleges have now rejected them all.

The spurges and grana cnidia are extremely acrid, irritating cathartics, and operate with so much violence as to be altogether unsit for in-

ternal use.

TINCAR, vide BORAX.

TORMENTILLÆ radix: Tormentillæ sylvestris C. B. Tormentillæ eredæ Lin. Tormentil, or septsoil;

the root [L. E.]

Tormentil is found wild in woods and on commons. It has long flender stalks, with usually seven long narrow leaves at a joint; the root is for the most part crooked and knotty, of a blackish colour on the outfide, and reddish within. This root has an austere styptic taste, accompanied with a flight kind of aromatic flavour. It is one of the most agreeable and efficacious of the vegetable astringents, and is employed with good fuccess in all cases where medicines of this class are proper. It is more used, both in extemporaneous prescription and in officinal composition, than any of the other ftrong vegetable aftringents. It is an ingredient in the two compound powders of bole [L.] the two powders and electary of fcordium [L.] the compound white decoction [E.] and Japonic confection [E.] A tincture made from it with rectified spirit possesses the whole aftringency and flavour of

the root, and loses nothing of either in inspissation.

TRAGACANTHA, vide Gummi Tragacanthæ.

TRICHOMANIS folia: Trichomanis sive polytrichi officinarum C.B. Asplenii Trichomanis Lin. English maidenhair; the leaves [L. E.]

This is one of the herbs called, from the smallness of their stalks, capillary. It is found wild in different parts of England, upon old walls, and in shady places. The leaves have a mucilaginous, fweetish, subastringent taste, without any particular flavour; they are esteemed useful in disorders of the breast proceeding from a thickness and acrimony of the juices; and are likewise supposed to promote the expectoration of tough phlegm, and to open obstructions of the vifcera. They are usually directed in infusion or decoction, with the addition of a little liquorice. A fyrup prepared from them has frequently supplied the place of that made from the adianthum verum: some have substituted a still cheaper ingredient, and perhaps much to the disadvantage of the medicine; both the maiden-hairs yielding little more than a mucilaginous juice, greatly resembling the substitute made use of. The syrup brought from abroad has an admixture of orange flower water.

TRIFOLII PALUDOSI folia: Trifolii palustris C. B. Menyanthis trifoliata Lin. Marsh trefoil, or buck beans; the leaves [L.E.]

This plant grows wild in moist marshy places; it has three oval leaves, standing together upon one pedicle which issues from the root; their taste is very bitter, and somewhat nauseous. Marsh trefoil is

an efficacious aperient and deobstruent, promotes the fluid secretions, and, if liberally taken, gently loosens the belly. It has gained great reputation in scorbutic and scrophulous disorders: and its good effects in these cases have been warranted by experience. Inveterate cutaneous diseases have, been removed by an infusion of the leaves, drunk to the quantity of a pint a day, at proper intervals, and continued some weeks. Boerhaave relates, that he was relieved of the gout by drinking the juice mixed with whey.

TRISSAGO, v. CHAMEDRYS.

TRITICI farina, amylum, furfur: Tritici vulgaris glumas triturando deponentis f. B. Wheat; the meal or flour, and starch [L. E.] (prepared from the meal by maceration in fresh quantities of water)

and bran [E.]

Wheat, a common article of our food, is more glutinous and nutritious than most other kinds of grain. The flour, or the starch, prepared from it, forms with water a fost viscid substance, which has been taken with good success in diarrheas and dysenteries. Starch is an ingredient in the compound powder of gum tragacanth and the white pectoral troches [L.] and gives name to a lohoch [E.]

Bran contains, besides the husks, or shells of the wheat, a portion of its farinaceous matter. This is less glutinous than the finer shour, and is supposed to have a detergent quality. Insusions of bran are not unfrequently employed in this intention externally, and sometimes

likewife taken inwardly.

BREAD, carefully toasted, and infused, or lightly boiled in water, imparts a deep colour, and a sufficiently agreeable restringent taste.

This liquor, taken as common drink, has done good service in a weak lax state of the stomach and intestines: and in bilious vomiting and purging, or the cholera morbus: examples are related in the Edinburgh essays of several cases of this kind cured by it, without the use of any other medicine.

TUNICA, vide CARYOPHYL-LUS HORTENSIS.

TURPETHUM, five Turbith [E.] Turbith; the cortical part of the root of an Indian convolvulus. brought to us in oblong pieces, of a brown or aih colour on the outfide, and whitish within. The best is ponderous, not wrinkled, easy to break, and discovers a large quantity of refinous matter to the eye. Its tafte is at first fweetish; chewed for a little time, it becomes acrid, pungent, and nauseous. This root is a cathartic, not of the fafest or most certain kind. The refinous matter, in which its virtue refides, appears to be very unequally diffributed, infomuch that fome pieces. taken from a scruple to a dram, purge violently; while others, in larger doses, have scarce any effect at all. An extract made from the root is more uniform in strength, though not fuperior, or equal to purgatives more common in the shops.

TUSSILAGINIS sive farfaræ folia, stores: Tussilaginis vulgaris C. B. Coltsfoot: the leaves and

flowers [E.]

This grows wild in watery places, producing yellow flowers in February and March. These soon fall off, and are succeeded by large roundish leaves, hairy underneath. Their taste is herbaceous, somewhat glutinous and subacrid. Tussilago stands recommended in coughs, and

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other disorders of the breast and lungs; the flowers are an ingredient in the pectoral decoction of the Edinburgh pharmacopæia.

TUTIA [L. E.] Tutty; an impure fublimate of zinc, or an argillaceous fubstance impregnated therewith, formed into tubulous pieces like the bark of a tree. It is moderately hard and ponderous, of a brownish colour, and full of fmall protuberances on the outfide, Imooth and yellowish within. Some pieces have a blueish cast, from minute globules of zinc being thrown up by the heat in its me-tallic form. Tutty is celebrated as an ophthalmic, and frequently employed as fuch in unquents and collyria. It gives name to an officinal ophthalmic ointment [L. E.] See ZINCUM.

VALERIANÆ HORTENSIS MAJORIS radix: Valerianæ majoris odorata radice J. B. The great garden valerian; its roots [E.]

This is an oblong wrinkled root, with several fibres at the bottom, of a brownish or ash colour on the outside, and whitish within; of an aromatic smell and taste, approaching to nard. It is deemed less efficacious as a medicine than the following.

VALERIANÆ SILVESTRIS
radix: Valerianæ sylvestris majoris
montanæ C. B. Valerianæ sylvestris
majoris foliis angustioribus. Morison. plant umbelliss. Wild valerian
(the narrow-leaved sort, growing on
open, dry, mountainous places) its
root [L. E.]

This root confists of a number of strings or fibres matted together, issuing from one common head; of a whitish or pale brownish colour: its smell is strong, like a mixture of aromatics with settids; the taste un-

pleasantly warm, bitterish, and subacrid. There is another wild valerian, with broader leaves, of a deeper and shining green colour, met with in watery places. Both forts have hitherto been used indiscriminately, and Linnaus has joined them into one species, under the name of waleriana foliis omnibus pinnatis. Our college have restrained the shops to the former, which is confiderably the stronger, and loses much of its quality if transplanted into fuch foils as the other naturally delights in. The roots produced in low watery grounds, have a remarkably faint smell in comparison of the others, and sometimes scarce any at all. Wild valerian is a medicine of great use in nervous disorders, and is particularly ferviceable in epilepsies proceeding from a debility of the nervous system. It was first brought into esteem in these cases by Fabius Columna, who by taking the powdered root, in the dose of half a spoonful, was cured of an inveterate epilepfy after many other medicines had been tried in vain. Repeated experience has fince confirmed its efficacy in this diforder; and the present practice lays considerable ftress upon it. The common dose is from a scruple to a dram; in infusion from one to two drams. Its unpleasant flavour is most effectually concealed by a fuitable addition of mace.

A tincture of valerian in proof fpirit and in volatile spirit are kept in the shops [L.] This root gives name also to a compound water [E.] and is an ingredient in the cephalic tincture [E.] epileptic powder [E.] mithridate and theriaca [L.]

VERATRUM, vide HELLEBO-RUS ALBUS.

VERBASCUM, vide TAPSUS BARBATUS.

VERONICA FŒMINA, vide ELATINE.

VERONICÆ MARIS, seu Be-20nica Pauli folia: Veronica maris supinæ et vulgatissimæ C. B. Male

speedwell; the leaves [E.] This is one of the veronicæ which produce their flowers in clusters at the joints of the stalks. It is a rough procumbent plant, not unfrequently met with on dry commons, and in fandy grounds. In taste, smell, and medical virtues, it is fimilar to the betonica: though the veronica is commonly supposed to have more of an aperient and pectoral virtue, and betony to be rather nervine and cephalic. Hoffman and Joh. Francus have written express treatises on this plant, recommending infusions of it, drunk in the form of tea, as very falubrious in many diforders, particularly those of the breaft.

VINCETOXICI, Asclepiadis, Seu Hirundinariæ radix: Asclepiadis flore albo C. B. Swallow-wort, or tame poison; the root [E.]

This is a native of the warmer climates: it is fometimes met with in our gardens, but rarely perfects its feeds. It is reckoned by botanists, a species of apocynum, or dogsbane; from all the poisonous forts of which it may be distinguished, by yielding a limpid juice, whilft that of the others is milky. The root has a strong smell, especially when fresh, approaching to that of valerian, or nard; the tafte is at first sweetish and aromatic, but soon becomes bitterish, subacrid, and nauseous. This root is esteemed fudorific, diuretic, and emmenagogue, and frequently employed by the French and German Physicians as an alexipharmic, fometimes as a fuc-

cedaneum to contrayerva; whence it has received the name of contrayerva Germanorum. Among us it is very rarely made use of: it appears, from its fensible qualities, to be a medicine of much the same kind with valerian, which is indifputably preferable to it.

VINUM. Wine; the fermented juice of the grape. Among the great variety of wines in common use among us, five are employed in the shops as menstrua for medicinal fimples.

Vinum album [L.] vinum album

Hispanicum [E.] Mountain.

Vinum album Gallicum

French white wine.

Vinum Canarinum [L. E.] Canary or fack.

Vinum Rhenanum [L. E.] Rhe-

Vinum rubrum [L.] Red port.

The uses of these liquors as menstrua and vehicles of the virtues of other medicines, will be given hereafter; in this place we shall consider only their effects on the human body. These are, to chear the spirits, warm the habit, promote perspiration, render the vesfels full and turgid, raise the pulse, and quicken the circulation. The effects of the full-bodied wines, are much more durable than those of the thinner; all fweet wines, as Canary, abound with a glutinous nutritious fubstance; whilst the others are not nutrimental, or only accidentally fo, by strengthening the organs employed in digestion. Sweet wines in general do not pais off freely by urine, and heat the constitution more than an equal quantity of any other, though containing full as much spirit; red port, and most of the red wines, have an aftringent quality, by which they strengthen the tone of the stomach and intestines, and thus prove

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prove ferviceable for reftraining immoderate fecretions: those which are of an acid nature, as Rhenish, pass freely by the kidneys, and gently loosen the belly: it is supposed that these last exasperate or occasion gouty and calculous disorders; and that new wines of every kind have this effect.

VIOLÆ folia, flores: Violæ martiæ purpureæ flore simplici odoro G. B. Violæ odoratæ Lin. The fingle March violet; its flowers [L.E.]

and leaves [E.]

This is often found wild in hedges and flady places, and flowers in March; the shops are generally supplied from gardens. In our markets, we meet with the flowers of a different species, named by botanists viola martia major birsuta, inodora: these may be distinguished from the foregoing by their being larger, of a pale colour, and of no fmell. The officinal flowers have a very pleasant smell, and a deep purplish blue colour, denominated from them violet. They impart their colour and flavour to aqueous liquors: a fyrup made from the infusion has long maintained a place in the shops, and proves an agreeable and ufeful laxative for children.

\* VIOLA Tricoloris folia Lin. Pansies or heartsease: This plant has been lately recommended by Dr. Strack, a German physician, as a specific in the erusta lastea of children. He directs a handful of the fresh, or half a dram of the dried leaves to be boiled in half a pint of milk, which is to be strained for use. This dose is repeated morning and evening. He observes, that when it has been administered eight days, the eruption ufually increases considerably, and the patient's urine acquires a smell like that of cats. When the medicine has been taken a fortnight, the fourf begins to fall off in large scales, leaving the skin clean. The remedy is to be persisted in, till the skin has resumed its natural appearance, and the urine ceases to have any particular smell.

VIPERA [L. E.] The viper. or adder, is one of the viviparous reptiles, without feet, about an inch in thickness, and twenty or thirty in length. The poison of this serpent is confined to its mouth. At the basis of the fangs, or long teeth with which it wounds, is lodged a little bag containing the poisonous liquid; a very minute portion of which, mixed immediately with the blood, proves fatal. Our viper-catchers are faid to prevent the mischiefs otherwise following from the bite, by rubbing oil olive warm on the part. The flesh of the viper is perfectly innocent; and strongly recommended as a medicine of extraordinary fervice in fcrophulous, leprous, and other obstinate chronical diforders: its virtues however, in these cases, are probably too much exaggerated. The viper is doubtless an high nutritious food; and hence in some kinds of weaknesses, and emaciated habits, is not undefervedly looked upon as a good restorative. To answer any valuable purposes, fresh vigorous vipers (not fuch as have been long kept alive after they are caught) should be liberally used as food. The wines and tinctures of them can scarce be supposed to receive any confiderable virtue from the animal; the dry fiesh brought us from abroad, is entirely infignificant.

In the shops, a broth is directed to be prepared from fresh vipers, and a vinous tincture from dried ones [L.]: the dried slesh is also an ingredient in theriaca, and the sat in the ointment of tutty [L.] this sat being supposed peculiarly use-

ful

ful in diforders of the eyes, for which that ointment is defigned.

VIRGÆ AUREÆ folia: Virgæ aureæ angustifoliæ, minus serratæ C. B. Solidaginis Virgæ aureæ Lin. Golden rod; the leaves [E.]

This is found wild on heaths and in woods, producing spikes of yellow flowers in August. The leaves have a moderately astringent bitter taste, and hence prove serviceable in debility and laxity of the viscera, and disorders proceeding from that cause.

VISCI QUERNI lignum folia: Visci baccis albis C. B. Visci albi Lin. Misseltoe; the wood and

leaves [E.]

This is a bushy plant, growing on the trunk and branches of different trees. That met with on the oak is generally preferred, perhaps on account of its being the most rare. It may, however, be propagated by art on any trees, by rubbing the berries against the bark. This office has hitherto been performed by the thrush (who feeds on the berries in the winter) in clearing his bill from the feeds that stick about it. This plant was held in veneration by the superstition of former ages: it was hung about the neck to prevent witchcraft, and taken internally to expel poisons. Of late it has been celebrated as a specific in epilepsies, palsies, &c. virtues, to which it were greatly to be wished that experience gave any countenance.

VITEX, vide AGNUS CASTUS.

VITIS VINIFERA. The vine tree. The leaves of this tree were formerly celebrated as aftringents, but have for a long time been entirely difregarded: their tafte is herbaceous, with only a flight

roughness. The trunk of the tree. wounded in the spring, yields a clear, limpid, watery juice : this tear of the vine has been accounted excellent for fore eyes; and by fome recommended likewise in ardent and malignant fevers, and as a diuretic. The flowers have a pleafant fmell, which water elevates from them in distillation; along with the water, a fmall portion of an elegant effential oil is faid to arife, possessing in great perfection the fragrance of the flowers. The unripe fruit is of a very harsh. rough, four tafte: its expressed juice, called verjuice, omphacium, agresta [E.] was of great esteem among the ancients, and ftill continues so in some places, as a cooling altringent medicine. A rob and lyrup were formerly prepared from it. The ripe fruit or grapes, of which there are feveral kinds, properly cured and dried, are the raifins and currants of the shops: the juice by fermentation affords wine, vinegar, and tartar; of all which in their places.

VITRIOLUM. Vitriol is a faline crystalline concrete, composed of metal, and an acid similar to those of sulphur and alum. There are but three metallic bodies, which this acid is capable of perfectly disfolving or being united with into a crystalline appearance, zinc, copper, and iron. With the first it forms a white, with the second a blue, and with the third a green salt.

VITRIOLUM ALBUM
[L. E.] White vitriol, or vitriol of zinc; found in the mines of Goslar, fometimes in transparent pieces, but more commonly in form of white efflorescences, which are dissolved in water, and afterwards reduced by evaporation and crystallization into

into large masses. We rarely meet with this fort of vitriol pure; after the zinc, which is its proper basis, has been revived by inflammable fluxes, there remains a substance which is attracted by the magnet, and discovers itself, on other trials also, to be iron: a folution of the vitriol deposits, on standing, an ochery fediment, which generally gives a blue tincture to volatile alkalies, and hence appears to contain copper. White vitriol is fometimes given from five or fix grains to half a dram, as an emetic; it operates very quickly, and if pure, without violence. Externally, it is employed as an ophthalmic, and often made the basis of collyria, both in extemporaneous prefcription, and in dispensatories. A solution of it is directed in this intention both by the Edinburgh and London colleges.

VITRIOLUM CERULEUM [L. E.] Blue vitriol, or vitriol of copper, falfely called Roman vitriol. Greatest part of the blue vitriol at present met with in the shops, is faid to he artificially prepared by uniting copper with the vitriolic acid. This falt has a highly zustere, acrid, and very nauseous taste. It is a firong emetic, too violent to be exhibited with any tolerable degree of fafety. Its principal use is externally as an escharotic; and for flopping hæmorrhages, which it effects by coagulating the blood, and contracting the mouths of the veffels. It gives name to an officinal water for this intention.

VITRIOLUM VIRIDE [L.E.]
Green vitriol, or vitriol of iron,
commonly called copperas; the Roman vitriol of the Italian and other
foreign writers. This is prepared
in large quantity at Deptford, by
diffolving iron in the acid liquor,

which runs from certain fulphureous pyritæ, exposed for a length of time to the air. When pure, it is similar in quality to the officinal fal martis.

The green and blue vitriols (as well as the white) are in many places found native in the earth; though usually in this state, neither fort is free from an admixture of the other: hence vitriols are met with of all the intermediate colours betwixt the grass green of the one, and the fapphire blue of the other. The acid of these salts has the greatest affinity with zinc, next to this with iron, and with copper the least of all. Hence, solutions of white vitriol deposit, on standing, greatest part of the irony and cupreous matter which they contain, and if some fresh zinc be added, the whole. In like manner, upon adding bright polished iron to folutions of green vitriol, if it hold any cupreous matter, this will be thrown down. By these means the white and green vitriols may be purified from other metallic bodies.

ULMARIÆ, seu Reginæ prati folia, slores: Ulmariæ barbæ cupri sloribus compactis C. B. Spirææ Ulmariæ Lin. Meadow-sweet, or queen of the meadows; the leaves and slowers [E.]

This herb is frequent in moist meadows, and about the fides of rivers. It flowers in the beginning of June, and continues in flower a considerable time. The flowers have a very pleasant flavour, which water extracts from them by infufion, and elevates in distillation. The leaves are herbaceous.

URTICÆ MAJORIS VUL-GARIS folia, femen: Urticæ racemiferæ majoris perennis Raii. Stinging nettle; the leaves and feeds [E.]

UVÆ

UVÆ PASSÆ [L.] majores [E.] Raisins of the sun; the dried grapes of the vitis Damascena.

UVÆ PASSÆ minores [E.] Currants; the dried grapes of the vitis Corinthiaca.

The principal use of these is as an agreeable sweet; they impart a very pleasant slavour both to aqueous and spirituous menstrua. The seeds or stones are supposed to give a disagreeable relish, and hence are generally directed to be taken out; but I have not sound that they give any taste at all. The raisins of the sun are an ingredient in the pectoral decoction, tincture of sena, and stomachic tincture [L.]

WINTERANUS CORTEX [E.] Winter's bark; the produce of a tree growing in Jamaica, Barbadoes, &c. called by Sir Hans Sloane periclymenum rectum, foliis laurinis, cortice acri aromatico. was first discovered on the coast of Magellan, by Capt. Winter, in the year 1567. The failors then employed the bark as a spice, and afterwards found it serviceable in the fcurvy; for which purpose it is, at prefent also, sometimes made use of in diet-drinks. The true Winter's bark is not often met with in the shops, canella alba being generally substituted for it, and by many reckoned to be the fame. There is nevertheless a considerable difference betwixt them in appearance, and a greater in quality: the Winter's bark is in larger pieces, of a more cinnamon-colour, than the canella; and taftes much warmer and more pungent.

ZEDOARIA [L. E.] Zedoary; the root of an Indian plant, brought over in oblong pieces about the thickness of the finger, or in roundish ones about an inch in diameter. Both forts have an agreeeble fragrant smell, and a warm, bitterish aromatic taste.

In distillation with water, it yields an effential oil, possessing the smell and flavour of the zedoary in an eminent degree; the remaining decoction is almost fimply bitter. Spirit likewise brings over some small share of its flavour; nevertheless the spirituous extract is confiderably more grateful than the An extract made zedoary itielf. from it with proof spirit (which is inferior to that prepared with rectified spirit) is an ingredient in the confectio cardiaca [L.] the root in fubstance enters the confectio Paulina, mithridate, and theriaca [L.]

ZIBETHUM [E.] Civet; a foft unctuous substance, of a white, brown, or blackish colour, brought from the Brazils, the coast of Guinea, and the East Indies. It is met with in certain bags, situated in the lower part of the belly of an animal said to be of the cat kind. The chiefuse of this drug is in persumes. It is rarely, if ever, employed for any medicinal purposes.

ZINCUM. Zinc; a metal, differing from all the other bodies of that class, in being inflammable per se, sublimable into flowers which afterwards remain fixed in the strongeft fire, foluble in every acid, not miscible in fusion with sulphur, changing copper into a yellow metal, brass. Several productions of this metal, though not generally known to be fuch, are kept in the shops; as its rich ore calamine, the white vitriol, the pure white flowers of zinc called pompholyx, and the more impure compound tutty. The preparations of zinc are employed principally in external applications as ophthalmics. The flowers levigated into an impalpable powder, form form with oily substances an useful unguent, and with rose-water, and the like, elegant collyria, for defluxions of thin sharp humours upon the eyes: they are moderately astringent; and act, if the levigation have been duly performed, without acrimony or irritation. Taken internally, they prove emetic.

ZINGIBER [L. E.] Amomum Zingiber Lin. Ginger; a root brought from China and the East and West Indies; of a fragrant smell, and a hot, biting, aromatic taste. Rectified spirit extracts its virtues by insusion, in much greater perfection than aqueous liquors. The latter elevate its whole slavour in distillation, the former little or nothing. Ginger is a very useful spice, in cold staulent cholics, and in laxity and debility of the intestines. It does not heat so much as those of the pepper kind, but its essects are more durable. It gives name to an officinal syrup [L. E.] and enters a great number of the compositions.

### General titles including several simples.

The five opening roots ;

Smallage,
Afparagus,
Fennel,
Parfley,
Butchers broom

The five emollient herbs :

Marshmallows,
Mallows,
Mercury,
Pellitory of the wall,
Violets.

The four cordial flowers:

Borage, Bugloss, Roses, Violets.

The four greater hot feeds :

Anise, Caraway, Cummin, Fennel.

The four leffer hot feeds :

Bishopsweed, Stone parsley, Smallage, Wild carrot.

The four greater cold feeds :

Water melons, Cucumbers, Gourds, Melons. The four leffer cold feeds ;

Succory, Endive, Lettuce, Purslane.

The four capillary herbs :

Maidenhair, English maidenhair, Wall rue, Ceterach.

The four carminative flowers:

Camomile, Feverfew, Dill, Melilot.

The simples of each of the above classes have been often employed together, under the respective general appellations. This practice has entirely ceased among us; and accordingly these denominations are now expunged both from the London and Edinburgh pharmacopæias, though still retained in foreign ones.

## General rules for the collection and preservation of simples.

### ROOTS.

Annual roots are to be taken up before they shoot out stalks or flowers: biennial ones, chiefly in the autumn of the same year in which the feeds were fown: the perennial, when the leaves fall off, and therefore generally in the autumn. Being washed clean from dirt, and freed from the rotten and decayed fibres, they are to be hung up in a [warm] fhady, airy place, till fufficiently dried. The thicker roots require to be flit longitudinally, or cut transversely into thin flices. Such roots as lofe their virtues by exficcation [or are defired to be preferved in a fresh state, for the greater conveniency of their use in certain forms are to be kept buried in dry fand [E.]

THERE are two seasons, in which the biennial and perennial roots are reckoned the most vigorous, the autumn and spring; or rather the time when the stalks or leaves have fallen off, and that in which the vegetation is just going to begin again, or soon after it has begun; which times are found to differ considerably in different plants,

The college of Edinburgh, in the two first editions of their pharmacopæia, directed them to be dug in the spring, after the leaves were formed; in the third edition, the autumn is preferred, and this rule is continued in the succeeding ones. The generality of roots appear indeed to be most essications in the spring: but as at this time they are also the most juicy, and consequently shrivel much in drying, and are rather more dissicultly preserved, it is commonly thought most advisable

ble to take them up in autumn. No rule however can be given, that shall obtain universally. Arum root is taken even in the middle of summer, without suspicion of its being less active than at other seafons; while angelica root is inert during the summer, in comparison of what it was in the autumn, spring, or winter.

### HERBS and LEAVES.

Herbs are to be gathered when the leaves have come to their full growth, before the flowers unfold; but of some plants the flowery tops are preferred. They are to be dried in the same manner as roots [E.]

For the gathering of leaves, there cannot perhaps be any univerfal rule, any more than for roots; for though most herbs appear to be in their greatest vigour about the time of their slowering, or a little before, there are some in which the medicinal parts are more abundant

at an earlier period.

Thus mallow and marshmallow leaves are most mucilaginous when young, and by the time of slowering approach more to a woody nature. A difference of the same kind is more remarkable in the leaves of certain trees and shrubs: the young buds, or rudiments of the leaves, of the black poplar tree, have a strong fragrant smell, approaching to that of storax, but by the time that the leaves have come to their full growth, their fragrance is exhausted.

Herbs are directed by most of the pharmaceutic writers to be dried in the shade; a rule which appears to be very just, though it has sometimes been misunderstood. They are not to be excluded from the sun's beat, but from the Brong action of the folar light, by which last their colours are very liable to be altered or destroyed, much more fo than those of roots. Slow drying of them in a cool place is far from being of any advantage. Both their colours and virtues are preferved in greatest perfection, when they are dried haftily, by a heat of common fire as great as that which the fun can impart: the juicy ones in particular require to be dried by heat, being otherwise subject to turn black. Odoriferous herbs, dried by fire till they become friable, discover indeed, in this arid flate, very little fmell; not that the odorous matter is diffipated; but on account of its not being communicated from the perfectly dry subject, to dry air; for as foon as a watery vehicle is supplied, whether by infusing the plant in water, or by exposing it for a little time to a moist air, the odorous parts begin to be extracted by virtue of the aqueous moisture, and discover themselves in their full force.

Of the use of heat in the drying of plants, we have an instance in the curation of tea among the Chinefe. According to the accounts of travellers, the leaves, as foon as gathered, are brought into an apartment furnished with a number of little furnaces or stoves, each of which is covered with a clean fmooth iron plate. The leaves are fpread upon the plates, and kept rolling with the hands till they begin to curl up about the edges; they are then immediately fwept off on tables, on which one person continues to roll them, while another fans them that they may cool haftily: this process is repeated two or three times, or oftener, according as the leaves are disposed to unbend on standing.

FLOWERS.

#### FLOWERS.

Flowers are to be gathered when moderately expanded, on a clear dry day, before noon. Red roses are taken before they open, and the white heels clipt off and thrown away [E.]

THE quick drying, before recommended for the leaves of plants, is more particularly proper for flowers; in most of which both the colour and smell are more perishable than in leaves, and more subject to be impaired by flow exficcation. Of the flowers which come fresh into the apothecaries' hands, the only ones employed dry in the London pharmacopœia, are red roses; and these, in all the compositions in which they are used in a dry state, are expressly ordered to be dried hastily, (celeriter arefacte.) One of the most valuable aromatics of European growth, faffron, is a part of a flower, dried on paper on a kind of kiln, with a heat sufficient to make it fweat, with care only not to endanger the scorching of it,

It may here be observed, that the virtues of flowers are confined to different parts of the flower in different plants. Saffron is a fingular production, growing at the end of the stile or pistil: the active part of camomile flowers is the yellow disk, or button in the middle; that of lilies, roses, clove-july-flowers, violets, and many others, the petala or flower-leaves; while rosemary has little virtue in any of these parts, the fragrance admired in the flowers of this plant residing chiefly in the cups.

### SEEDS and FRUITS.

SEEDS should be collected when ripe and beginning to grow dry,

before they fall off fpontageoufly. Fruits also are to be gathered when ripe, unless they are ordered to be otherwise [E.]

Or the fruits whose collection comes under the notice of the apothecary, there are few which are used in an unripe state : the principal is the floe, whose virtue as a mild aftringent, is greatly diminished by maturation. The fruit of the orange, tree raised in our gardens or green-houses, is sometimes gathered in a state of much greater immaturity, foon after it is formed on the tree, before it has acquired its acid juice; at this time it proves an elegant aromatic bitter, greatly refembling what are called Curaffao oranges, which appear to be no other than the fame fruit gathered at the same period. in a warmer climate.

The rule for collecting feeds is more general than any of the others, all the officinal feeds being in their greatest perfection at the time of their maturity. feeds contain little watery moisture, they require no other warmth for drying them than that of the temperate air in autumn. Such as abound with a gross expressible oil. as those commonly called the cold feeds, should never be exposed to any confiderable heat; for this would haften the rancidity, which, however carefully kept, they are very liable to contract. Seeds are best preserved in their natural husks, or coverings, which should be separated only at the time of ufing; the hufk, or cortical part ferving to defend the feed from being injured by the air.

### Woods and BARKS.

THE most proper season for the felling of woods, or shaving off

their barks, is generally the winter [E.]

The only woods of our own growth, retained in the catalogues of fimples in our pharmacopæias, are the juniper and box; the former of which is rarely or never kept in the shops, or employed in practice; the other is procured from the turner, and it is indifferent at what season it has been cut down, being at all times sufficiently fit for the only use it is applied to, the yielding of an empyreumatic oil by

distillation in a strong fire. Of the barks of our own growth, the London college has not retained one: in the Edinburgh pharmacopoeia there are several, viz. those of the ash tree, birch tree, oak, elm, floe, wild fervice, black alder, and elder, which, however, have been so rarely used in medicine, that the feafons of their greatest perfection cannot be afcertained from experience. It may be doubted, whether barks be not generally more replete with medicinal matter in the fummer and spring than in winter. The barks of many trees are, in fummer, fo much loaded with refin and gum, as to burst spontaneously, and discharge the redundant quantity. It is said that the bark of the oak answers best for the tanners, at the time of the rising of the sap in spring; and as its use in tanning depends on the same astringent quality for which it is used in medicine, it should seem to be sittest for medicinal purposes also in the spring. It may be observed, likewise, that it is in this last season that barks in general are most conveniently peeled off.

### ANIMALS and MINERALS.

Animals and minerals are to be chosen in their most perfect state, unless they are ordered otherwise [E.]

The animals of the London Pharmacopæia are only millepedes and the viper; to which the Edinburgh adds snails, earthworms, and bees. Whatever virtues these bodies may have, they are supposed to be best when they have attained to their common full growth. As there are no distinctions of maturity or immaturity in the mineral kingdom, the only rule for directing our choice here must be, the purity of the subjects from any mixture of other bodies. None of them are ever to be used in an impure state.

# PART III.

# Pharmaceutical Preparations.

### CHAPTER I.

### THE MORE SIMPLE PREPARATIONS.

TERREORUM, aliorumque quæ aqua non dissolvuntur corporum præparatio. The preparation of EARTHY and such other pulverable bodies as will not dissolve in water.

THE SE substances are first to be pulverised in a mortar, and then levigated with a little water, upon a hard and smooth marble, into an impalpable powder: this is to be dried upon a chalk stone, and afterwards set by for a few days, in a warm, or, at least, very dry place. L.

After this manner are to be prepared,

Ærugo, werdegris. L.
Antimonium, antimony. L. E.
Chelæ cancrorum, crabs claws. L. E.
Corallium, coral. L. E.
Creta, chalk. L. E.
Lapis bezoar: bezoar flone; which is to be moistened in the lewigation, with spirit of wine instead of

water. L.

Lapis calaminaris, calamine stone, previously calcined for the use of those who make brass. L. Where this is not to be had, the mineral may be calcined by heating three times red-hot, and quenching it as often in water. E.

Lapis hamatites, blood-flone. L. E.

Lapis lazuli. E.

Margaritæ, pearls. L. E. Oculi cancrorum, crabs eyes, so call-

ed. L. E.

Ostreorum testa, oyster shells, washed clean from dirt. L. Thefe may also be prepared by exposing them for some days to the fun, and then rubbing them in a marble mortar till they come into a kind of paste; this is to be again dried in the sun, and afterwards rubbed into an impalpable powder: the bollow shells are preferred [E.] on account of their containing more of the fine white earth, in proportion to the outward rough coat, than the thinner flat ones: the rough matter appears to be largely impregnated with marine Ovorum testa, egg shells, freed by boiling, from the skin that adheres to them. L.

Succinum, amber. L. E. Tutia, tutty. L. E.

In preparing antimony, calamine and tutty, particular care ought to be taken to reduce them into the most subtile powder possible. L.

WHERE large quantities of the foregoing powders are to be prepared, it is customary, instead of the stone and muller, to employ hand-mills made for this use, consisting of two stones, the uppermost of which turns horizontally upon the lower, and has an aperture in the middle, for the conveniency of supplying fresh matter, or of returning that which has already passed, till it is reduced to a proper degree of sineness.

For the levigation of hard bodies, particular care should be taken, whatever kind of instruments is made use of, that they be of sufficient hardness, otherwise they will be abraded by the powders. The hæmatites, a hard iron ore, is most conveniently levigated betwixt two iron planes; for if the common levigating stones be made use of, the preparation, when sinished, will contain almost as much of foreign matter from the instrument as of the hæmatites.

It has been customary to moisten several powders in levigation, with rose, balm, and other distilled waters. These nevertheless have no advantage over common water, since in the subsequent exsiccation they must necessarily exhale, leaving the medicine possessed of no other virtue than what might be equally expected from it when prepared with the cheaper element.

Some few substances indeed are more advantageously levigated with

fpirit of wine than with water-Thus bezoar has the green colour, ufually expected in this costly preparation, confiderably improved thereby. A little spirit may be added to the other animal substances, if the weather be very hot, and large quantities of them are prepared at once, to prevent their running into putrefaction; an accident which, in those circumstances, fometimes happens when they are levigated with water only. Crabs eyes, which abound with animal gelatinous matter, are particularly liable to this inconvenience.

The caution given before for reducing antimony, calamine and tutty, to the greatest subtilty posfible, demands particular attention-The tenderness of the parts to which the two last are usually applied, requires them to be perfectly free from any admixture of gross irritating particles. The first, when not thoroughly comminuted, might not only, by its sharp needlelike spicula, wound the stomach, but likewife answers little valuable purpole as a medicine, proving either an useless load upon the vifcera, or at belt passing off without any other sentible effect than an increase of the grosser evacuations: whilft, if reduced to a great degree of fineness, it turns out a medicine of considerable efficacy.

The most successful method of obtaining these powders of the requisite tenuity, is, to wash off the finer parts by means of water, and continue levigating the remainder till the whole becomes fine enough to remain, for some time, suspended in the fluid; a process received in the Edinburgh pharmacopæia, and there directed as follows.

Edinb.

A quantity of water is to be poured upon the levigated powder, in a large vessel, and the vessel repeatedly peatedly shaken, that the siner parts of the powder may be diffused through the water: the liquor is then to be poured off, and set by till the powder settles. The gross part, which the water would not take up, is to be further levigated, and treated in the same manner.

After this method are prepared antimony, calamine, tutty, bloodstone, chalk, and lapis lazuli.

By this method, which is that commonly practifed in the preparation of colours for the painter, powders may be obtained of any required degree of tenuity; and without the least mixture of the gross parts, which are always found to remain in them after long continued levigation. All the coarier matter fettles at first, and the finer powder continues suspended in the water, longer and longer, in proportion to the degree of its fineness. The fame process may likewise be advantageously applied to other hard pulverable bodies of the mineral kingdom, or artificial preparations of them; provided they be not foluble in, or specifically lighter than water. The animal and abforbent powders, crabs claws, crabs eyes, oyster shells, egg shells, chalk, pearl, coral and bezoar, are not well adapted to this treatment; nor indeed do they require it. Thefe Substances are readily soluble in acid juices without much comminution. If no acid be contained in the first passages, they are apt to concrete, with the mucous matter usually lodged there, into hard indissoluble masses; the greater degree of fineness they are reduced to, the more are they disposed to form fuch concretions, and enabled to obstruct the orifices of small vesiels. See page 62.

AXUNGIÆ PORCINÆ, SEVIque OVILLI purificatio.

The purification or trying of hogs lard and mutton suet.

Lond.

Chop them into small pieces, and melt them by a gentle heat, with the addition of a little water; then strain them from the membranes.

The use of the water is to prevent the sat from burning and turning black; which it does very effectually, though it somewhat prolongs the process, and is likewise apt to be in part imbibed by the sat. The Edinburgh dispensatory directs the sat to be first freed from the skins, blood vessels, and sibres, then washed in fresh quantities of water till it no longer give the liquor any bloody tinge, afterwards melted, strained, and kept close from the injuries of the air. The shops are usually supplied with these sats ready prepared.

AXUNGIÆ VIPERINÆ curatio.

The purification of viper's fat.

Lond.

Let the fat, separated from the intestines, be melted by a gentle fire, and then pressed through a thin linen cloth.

THE quantity of this fat usually purified at a time, is so small, that the heat may be easily regulated so as to prevent burning, without the addition of any water.

It is not necessary, as Dr. Pemberton observes, to be very curious in picking out the fat. It is sufficient if the heart, liver, and other bloody parts be taken away; for S 2

the rest of the membranes crisp up while the fat melts, so as to be easily separated by straining.

### MELLIS DESPUMATIO.

The despumation or clarifying of honey.

Lond. and Edinb.

Let the honey be liquefied in a water-bath (that is, by fetting the vessel containing the honey in a vessel of hot water) and the foum which arises, taken off.

THE intention of this process is to purify the honey from wax, or other drossy matters that have been united with it by the violence of the press in its separation from the comb; and from meal and such like substances, which are sometimes fraudulently mingled with it. When the honey is rendered liquid and thin by the heat, these lighter matters rise freely to the surface.

### SCII.LÆ COCTIO.

The baking of Squills.

Lond.

Let the squill (freed from the outer skin, and the hard part to which the little fibres adhere) be inclosed in a paste, made of wheat-flour and water, and baked in an oven, till the paste become dry, and the squill soft and tender throughout.

This preparation is as old as the theriaca, and is continued in our dispensatory, for no other use than making the troches of squills, which are one of its principal ingredients. The Edinburgh dispensatory having now dropt the theriaca, has dropt also the baked squills and the troches, and admitted them formerly only in compliance with cus-

tom, giving expressly the preference to squills moderately dried. The intention of baking the root is to abate its acrimony.

### SCILLÆ EXSICCATIO.

The drying of squills.

Lond.

Let the squill, cleared from its outer skin, be cut transversely into thin slices, and dried with a very gentle heat.

By this method, the squill dries much fooner than when only its feveral coats are separated, as has been usually directed; the internal part being here laid bare, which, in each of the entire coats, is covered with a thin skin, that impedes the exhalation of the moisture. The root loses, in this process, four-fifths of its original weight; the parts which exhale, appear to be merely watery : hence fix grains of the dry root are equivalent to half a dram of it when fresh; a circumstance to be particularly regarded in the exhibition of this medicine. In the preceding editions of our dispensatory, a particular caution was given, not to use an iron knife for cutting squills, but one of wood, ivory, or other bone: the foundation of this caution is faid to be not fo much that the fquill would receive any ill qualities from the iron; as, that its acrid juice, adhering to the knife, might render a wound received by it extremely painful, or even dangerous.

### RHABARBARI et NUCIS MOSCHATÆ torrefactio.

The roafting of rhubarb and nutmeg.

Lond.

Roaft them with a gentle heat, until they become easily friable.

NUTMEGS,

5

Chap. I. NUTMEGS, in their natural flate, are fo foft and unctuous, as scarce to be reducible into powder, a form in which they are occasionally wanted; and rhubarb is very difficultly fo, unless it be thoroughly dry. The torrefaction renders them easily pulverable, and as foon as this point is obtained, should be immediately discontinued, otherwise the drugs will be confiderably injured. This treatment is supposed by some to increase the astringency of the subjects, perhaps on no very good foundation: it undoubtedly renders the rhubarb less purgative, and the nutmegs less aromatic. Both drugs may be reduced into fufficiently fine parts for most purposes, by means of a grater, without any alteration being made in their native quality.

## SPONGIÆ USTIO. The burning of sponge.

Burn the sponge in a close earthern vessel, until it becomes black, and eafily friable: then powder it in a glass or marble mortar.

THIS medicine, now first received in the dispensatory, has been in use for a confiderable time; and employed against scrophulous disorders, and cutaneous foulnesses, in doses of a scruple and upwards. Its virtues feem to depend upon a volatile falt, just formed, and combined with its own oil: if the fponge be distilled with a stronger heat, it yields a large proportion of that falt in its proper form. The falt is in this preparation fo far extricated, that if the burnt sponge be ground in a brais mortar, it corrodes the metal, fo as to contract a difagreeable taint, and fometimes an emetic quality.

Bees, earthworms, and other ani-

mal fubstances, have by some been prepared in the fame manner, and recommended in different diseases; but as thefe substances fall greatly fhort of sponge in the quantity of volatile falt producible from them by fire, they are probably inferior also in medicinal efficacy. Of all the animal matters that have been tried, raw filk is the only one which exceeds, or equals sponge, in the

produce of falt.

A good deal of address is requifite for managing this process in perfection. The sponge should be cut small, and beaten for some time in a mortar, that all the stony matters may be got out, which compared with the weight of the sponge when prepared, will fometimes amount to a confiderable quantity. The burning should be discontinued as foon as ever the matter is become thoroughly black. quantity put into the vessel at once be large, the outfide will be fufficiently burnt before the infide is affected; and the volatile falt of the former will in part escape, before that in the latter is begun to be formed. The best method of avoiding this inconvenience, feems to be, to keep the sponge continually ftirring, in fuch a machine as is used for the roasting of coffee.

# CORNU CERVI CALCINA-

The calcination of bartshorn.

Burn pieces of hartshorn in a potter's furnace, till they become perfectly white; then powder and levigate them after the same manner as the other earthy bodies.

The intention here is, totally to burn out and expel the oil, falt, and other volatile parts; fo as to leave only a white infipid animal earth. For

For this purpole, a strong fire, and the free admission of air, are neceffary. The potter's furnace is directed merely for the fake of convenience; where this is not to be had, any common furnace or flove may be made to ferve: on the bottom of the grate spread some lighted charcoal, and above this lay the horns. The whole will burn vehemently: the vegetable matter is reduced to afthes; and the horns are burnt to whiteness, still retaining their original form, by which they are easily distinguished from the other: they ought to be separated as soon as grown cold, to prevent their imbibing any fixed falt from the vegetable ashes moistened by the air. The horns left after the distillation of the volatile falt and oil of hartshorn, are as proper for this use as any other; that process only collecting fuch parts as are here diffipated in the air.

Calcined hartshorn is the purest of the animal absorbent powders; as being perfectly free from any glutinous or oily matter, with which most of the others abound. It appears nevertheless to be one of the weakest in absorbent power, or the most difficult of solution in acids.

### PULPARUM EXTRACTIO.

The extraction of pulps.

Lond.

Unripe pulpy fruits, and ripe ones if dry, are to be boiled in a small quantity of water until they become soft: then press out the pulp through a strong hair sieve, and afterwards boil it down to due consistence, in an earthen vessel, over a gentle sire; taking care to keep the matter continually stirring, to prevent its burning.

The pulp of cassia fistularis is in like manner to be boiled out

from the bruifed pod, and reduced afterwards to a proper confisience, by evaporating the water.

The pulps of fruits that are both ripe and fresh, are to be pressed out through the sieve, without any previous boiling.

### STYRACIS COLATIO.

The straining of storax.

Lond.

Soften storax calamita in hot water; then press it out betwixt warm iron plates; and separate the storax, now purified, from the water.

THE storax commonly met with, stands greatly in need of purification. It contains a large quantity of woody matter, from which this process effectually frees it, though in other respects liable to some inconveniencies. The woody fubstance in some measure defends the storax from the action of the prefs, and retains part of it; at the fame time that the storax is apt to suffer a considerable diffipation of its volatile parts, in which its fragrance and principal virtue confift. To prevent as much as possible this inconvenience, the operator ought carefully to avoid using a greater heat than is absolutely necessary; and as foon as the florax is sufficiently softened, to be expeditious in the straining of it. It has been queried whether this refin do not communicate fomewhat to the water it is boiled in; as benzoine, with which it agrees in its other pharmaceutical characters, imparts to water a faline matter fimilar to the sublimed flowers. On trial it could not be observed that any faline matter was thus feparated from florax, though it impregnated the water confiderably with its fragrance.

Storax

Storax may be excellently purified by means of spirit of wine, in which this resin totally dissolves, so as to pass through a siltre, the impurities alone being left. If the storax be afterwards wanted in a solid form, it may be recovered from this solution by gently distilling off the spirit, which will elevate very little of its slavour, or by pouring to it a quantity of water. See chap. vi. sect. 3.

### OPIUM COLATUM, vel EX-TRACTUM THEBAICUM.

Strained opium, or the thebaic extract.

#### Lond.

Take of opium, cat into flices, one pound: dissolve it into the consistence of a pulp, in a pint of boiling water, with care to prevent its burning: and whilst it remains quite hot, strongly press it from the seces through a linen cloth: the strained opium is then to be reduced, by a water-bath or other gentle heat, to its original consistence.

Opium thus fostened by a small quantity of water, passes the strainer entire, the seces only being left behind. If it were dissolved in a large quantity of water, its resinous and gummy parts would be separated from one another.

WHERE large quantities of opium are purified at once, the infpissation is most commodiously performed in a water-bath: but small quantities may be very safely inspissated, by placing the vessel immediately over a gentle sire, the matter being kept stirring, and the vessel occasionally removed from the sire, whenever there is any sufpicion of its becoming too hot. The grosser impurities of the opium are by this process effectually separated; but some of its heterogeneous admixtures, consisting chiefly of dust and farinaceous matters, are so sine, as partly to pass along with it through the pores of the strainer when dilated by the press; this manifestly appears upon boiling the strained opium in water, and afterwards in spirit; when a considerable quantity of earthy matter will be left, which is not soluble in either of those mensional.

THE OTHER GUMS, as ammoniacum, galbanum, asasætida, and the like, are purified after the same manner, only here a larger quantity of water may be made use of without injury. If the resinous part happen to subside, take it out, and reserve it to be added again towards the end of the inspissation, that it may unite with the rest into one uniform mass.

Any gum that melts easily, as galbanum, may likewise be purished by including it in a bladder, and keeping it in boiling water, until the gum becomes soft enough to be pressed from its impurities through a canvas strainer. [L.]

In the straining of all the gums, care should be taken, that the heat be neither too great, nor too long continued; otherwise a considerable portion of their more active volatile matter will be loft; an inconvenience which cannot, by any care, be wholly avoided: hence, as the faculty of Paris observes, the purer tears, unstrained, are preferable, for internal use, to the strained gums. The method of foftening the gum in a bladder by external heat, without the addition of water, appears to be the most eligible for all those that will admit of being thus thus liquefied fufficiently; both as exhalation is prevented during the liquefaction; and the strained gum returns in cooling to its original confistence, without the further heat which is requifite in the other method for evaporating the water. Opium is perhaps less injured by heat than the rest of the gums, the virtues of this drug feeming to refide more in its fixed than in the volatile parts: it is nevertheless expedient, that the fmell of the opium, which affords an useful mark of its genuineness be as much as possible preserved; this, if the quantity of water were large, would be destroyed by the long evaporation which would then become necesfary.

In the Edinburgh dispensatory, opium, and the souler kinds of aloes, are directed to be purified, by dissolving them in a sufficient quantity of water with a gentle heat, straining the solutions, and evaporating them to the consistence of honey. The other gums are not required to be purished.

It were to be wished that the confistence, to which the strained solutions are to be reduced, was determined with more precision, particularly in regard to opium, that there might be as little uncertainty as possible in its dose.

### MILLEPEDARUM PRÆPA-RATIO.

Preparation of millepedes.

The millepedes are to be inclosed in a thin canvas cloth, and sufpended over hot spirit of wine, in a close vessel, till they are killed by the steam, and rendered friable.

### Edinb.

Let them be included in a proper vessel, and dried with a very gentle heat.

BOTH these are convenient ways of rendering millepedes pulverable, without endangering any loss of such virtues as they may possess.

### CHAPTER

Substances extracted from vegetables by expression.

#### SECT. 1.

## fuices.

fucculent parts of plants, by including them, after being properly cut, bruised, &c in a hair bag, and preffing them, betwixt wooden cheeks, in the common fcrew prefs, as long as any liquor drops from them.

THE harder fruits require to be previously well beaten or ground; but herbs are to be only moderately bruised; for if these be over bruised, a large quantity of the herbaceous matter will be forced out along with the juice. Hempen or woollen bags are apt to communicate a disagreeable flavour; the threads of these likewise swell in proportion as they imbibe moisture, fo as in great measure to prevent the free percolation of the juice.

The fluids thus extracted from fucculent fruits, both of the acid and fweet kind, from most of the acrid herbs, as scurvy-grass and water creffes, from the acid herbs, as forrel and wood-forrel, from the aperient lactescent plants, as dandelion and hawkweed, and from fundry other vegetables, contain great part of the peculiar tafte and virtues of the respective subjects. The juices, on the other hand, extracted from most of the aromatic herbs, as those of mint and the fragrant Turkey balm, commonly

UICES are obtained from the called balm of Gilead, have scarcely any thing of the flavour of the plants, and feem to differ little from decoctions of them, made in water, boiled till the volatile odorous parts have been dissipated. Many of the odoriferous flowers, as the lily, violet, hyacinth, not only impart nothing of their fragrance to their juice, but have it totally destroyed by the previous bruifing. From want of sufficient attention to these particulars, practitioners have been frequently deceived in the effects of preparations of this class: juice of mint has been often prescribed as a stomachic, though it wants those qualities, by which mint itself, and its other preparations, operate in that intention.

The juices, thus forcibly pressed out from plants, differ from those which flow spontaneously or from incifions; these last consisting chiefly of fuch fluids as are not diffused through the whole substance of the vegetable subject, but elaborated in diffinct veffels, or fecreted into particular receptacles. From poppy heads, flightly wounded, there issues a thick milky liquor, which dries by a moderate warmth, into opium; whilft the juice obtained from them by pressure is of a dark green colour, and far weaker virtue.

luices, newly expressed, are generally

nerally thick, viscid, and very impure: by colature, a quantity of gross matter is separated, the juice becomes thinner, limpid, and better sitted for medicinal purposes, though as yet not entirely pure. On standing, it becomes again turbid, and apt to run into a fermentative or putrefactive state. Clarification with whites of eggs renders the juices more perfectly sine; but there are few that will bear this treatment without a manifest injury to their slavour, taste, and virtue.

The most effectual method of purifying and preferving these liquors, is, to let the strained juices stand in a cool place, till they have depofited their groffer feces, and then gently pass them several times through a fine strainer till perfectly clear; when about one-fortieth part their weight of good spirit of wine may be added, and the whole fuffered to stand as before: a fresh sediment will now be deposited, from which the liquor is to be poured off, strained again, and put into small bottles that have been washed with spirit and dried. A little oil is to be poured on the furface, fo as very nearly to fill the bottles, and the mouths closed with leather, paper, or stopt with straw, as the flasks in which Florence wine is brought to us: this ferves to keep out dust, and fuffers the air, which in process of time arifes from all vegetable liquors, to escape; which air would otherwise endanger the burfting of the glaffes, or, being imbibed afresh, render their contents vapid and foul. The bottles are to be kept on the bottom of a good cellar or vault, placed up to the necks in fand. By this method, juices may be preferved for a year or two; and some for a much longer time.

It has already been observed, that there are great differences in juices, in regard to their being accompanied, in the expression, with the virtues of the subjects: there are equal differences in regard to their preferving those virtues, and this independently of the volatility of the active matter, or its disposition to exhale. Even the volatile virtue of fcurvy-grass may, by the above method, be preferved almost intire in its juice for a confiderable time; while the active parts of the juice of the wild cucumper quickly separate and settle to the bottom, leaving the fluid inert. Juices of arum root, iris root, bryony root, and fundry other vegetables, throw off in like manner their medicinal parts to the bottom.

# SUCCI SCORBUTICI. The scorbutic juices.

Lond.

Take the juice of

Garden scurvy-grass, two pints; Brooklime,

Water cresses, each one pint; Seville oranges, a pint and quar-

Mix them together, let them stand till the seces have subsided, and then either pour the liquor off clear, or pass it through a strainer. Edinb.

Take the juice of

Garden scurvy-grafs,

Water creffes, expressed from fresh gathered herbs,

Seville oranges, of each two pounds:

Spirituous nutmeg water half a pound.

Mix them together; let them fland till the feces have subsided, and pour off the clear liquor.

BOTH these compositions are of considerable use for the purposes expressed expressed in the title; the orange juice is an excellent assistant to the scurvy-grass and other acrid and antiscorbutics, which, when thus mixed, have been found from experience to produce much better effects than when employed by themselves. These juices may be taken, from an ounce or two to a quarter

of a pint, two or three times a day: they generally increase the urinary secretion, and sometimes introduce a laxative habit. Preserved with the cautions above mentioned, they will keep good for a considerable time; though, whatever care be taken, they are found to answer better when fresh.

### SECT. II.

## Expressed oils.

chiefly from certain feeds and kernels of fruits, by thoroughly pounding them in a stone mortar, or, where the quantities are large, grinding them in mills, and then including them in a canvas bag, which is wrapt in a hair cloth, and strongly pressed betwixt iron plates. The canvas, if employed alone, would be squeezed so close to the plates of the press, as to prevent the oil from running down: by the interposition of the hair cloth, a free passage is allowed it.

SUNDRY machines have been contrived, both for grinding the fubject, and preffing out the oil, in the way of business. To facilitate the expression, it is customary to warm either the plates of the press; or the subject itself after the grinding, by keeping it ftirring, in a proper veifel over the fire ; the oil, liquefied by the heat, feparates more freely and more plentifully. When the oil is defigned for medicinal purposes, this practice is not to be allowed; for heat, especially if its degree be sufficient to be of any confiderable advantage for promoting the feparation, renders the oil less foft and palatable, impresses a disagreeable slavour, and increases its disposition to grow rancid. Hence the colleges both of London and Edinburgh expressly require the operation to be performed without heat.

Nor are the oils to be kept in a warm place after their expression. Exposed but for a few days to a heat no greater than that of the human body, they lose their emollient quality, and become highly rancid and acrimonious. Too much care cannot be taken for preventing any tendency to this acrid irritating state, in medicines so often used for abating immoderate irritation.

So much are these oils disposed to this injurious alteration, that they frequently contract an acrimony and rancidity while contained in the original subjects. Hence great care is requisite in the choice of the unctuous seeds and kernels, which are often met with very rancid; almonds are particularly liable to inconveniencies of this kind.

Expressed oils are prepared for mechanic uses from sundry different subjects, as nuts, poppy-seed, hemp-seed, rape-seed, and others. Those directed for medicinal purposes in the London and Edinburgh pharmacopæias, are,

OLEUM

OLEUM AMYGDALINUM.
Oil of almonds.

OLEUM SEMINUM LINI.
Oil of linseed.

OLEUM SEMINUM RICINI.
Oil of ricinus.

OLEUM SEMINUM SINAPI.
Oil of mustard seed.

THE oil of almonds is prepared from the fweet and bitter almonds indifferently; the oils obtained from both forts being altogether the fame. Nor are the differences of the other oils very considerable, the discriminating qualities of the fubjects not refiding in the oils that are thus obtained by expreffion: the oil of mustard-seed is as foft, infipid, and void of pungency, as that of fweet almonds, the pungency of the mustard remaining entire in the cake left after the expression. The several oils differ in some of their properties from one another; but in medicinal qualities they appear to be all nearly alike, and agree in one common emollient virtue. They fosten and relax the folids, and obtund acrimonious humours: and thus become serviceable, internally, in pains, inflammations, heat of urine, hoarfenefs, tickling coughs, &c. in glysters, for lubricating the intestines, and promoting the ejection of indurated feces; and in external applications, for tenfion and rigidity of particular parts. Their common dole is half an ounce: in some cases, they are given to the quantity of three or four ounces. The most commodious forms for their exhibition, we shall see hereafer, in the chapter of Emulfions.

The oils expressed from aromatic substances, differ from the foregoing, in retaining, for the most part, an admixture of the aromatic matter of the subject. Thus nutmegs and mace yield, upon expression, an oil impregnated with the slavour of the spices; and an oil expressed from aniseeds, has a great share of the peculiar smell of the seeds. A purgative oil also is extracted in America from the purgative seeds of the ricinus. It does not appear that other qualities of vegetables are communicated to their expressed in the same communicated to the same com

THE rinds of the several varieties of oranges, lemons and citrons, yield by a kind of expression their effential oils almost pure, and nearly fimilar to those which are obtained from them by distillation. The effential oils, in which the fragrance and aromatic warmth of these fruits reside, are contained in numerous little vesicles, which may be diffinguished by the naked eye, fpread all over the furface of the peel. If the rind be cut in flices, and the flices separately doubled or bent in different parts, and fqueezed between the fingers, the vesicles burst at the bending, and discharge the oil in a number of fine slender jets. A glass plate being fet upright in a glass or porcelain veffel, and the flices squeezed against the plate, the little jets unite into drops upon the plate, and trickle down into the veffel beneath. But though this process affords the true native oil, in the fame state wherein it existed in the subject, unaltered by fire or other agents, it is not practicable to advantage, unless where the fruit is very plentiful; as only a small part of the oil it contains can thus be extracted or collected.

The oil is more perfectly separated by rubbing the rind upon a lump lump of fugar. The fugar, by the inequality of its furface, produces the effect of a rasp, in tearing open the oily vesicles: and in proportion as the vesicles are opened, the fugar imbibes the oil. When the outward part of the lump is sufficiently moistened, it is scraped off, and the operation continued

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on the fresh surface. The oil thus combined with the sugar, is fit for most of the uses, to which it is applied in a stuid state. Indeed the pure essential oils, obtained by distillation, are often purposely mixed with sugar, to render their use the more commodious.

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# CHAPTER III.

Infusions in different menstrua.

## SECT. I.

Infusions and decoctions in water.

7 A TER, the direct menstruum of gums and salts, extracts readily the gummy and faline parts of vegetables. Its action, however, is not limited to these; the refinous and oily principles being, in most vegetables, fo intimately blended with the gummy and faline, as to be in great part taken up along with them: fome of the refinous cathartics, and most of the aromatic herbs, as well as bitters and aftringents, yield to water greatest part of their smell, tafte, and medicinal virtue. Even of the pure effential oils and odoyous refins of vegetables, separated from the other principles, water imbibes a part of the flavour; and by the artificial admixture of gummy or faline matter, the whole fubstance of the oil or refin is made diffoluble in water.

Of pure falts, water disfolves only certain determinate quantities (see page 39.) By applying heat, it is generally enabled to take up more than it can do in the cold, and this in proportion to the degree of heat; but as the liquor cools, this additional quantity separates, and the water retains no more than it would have dissolved without heat. With gummy substances, on the other hand, it unites unlimitedly, dissolving more and more of them till it loses its sluidity: heat expedites the action of the water,

but cannot enable it to take up more than it would do, by allowing it longer time, in the cold. The active parts extracted from most vegetables by water, and oils and resins made soluble in water by the artificial admixture of gum, partake of this property of pure gums, being dissoluble without saturation.

It has been imagined that vegetables in a fresh state, while their oily, refinous, and other active parts, are already blended with a watery fluid, would yield their virtues to water more freely and more plentifully, than when their native moisture has been dissipated by drying. Experience however shews, that dry vegetables, in general, give out more than fresh ones, water feeming to have little action upon them in their recent state. If, of two equal quantities of mint, one be infused fresh in water, and the other dried, and then infused in the like quantity of water for the same length of time, the infusion of the dry herb will be remarkably the stronger: and the case appears to be the fame in all the vegetables that have been tried.

In all the preparations described in this chapter, it is to be understood that the subjects must be moderately and newly dried; unless when they are expressly ordered to be taken fresh; in which case it is to be judged that their virtues are de-Aroyed or impaired by drying.

The native colours of many vegetables are communicated to water along with their medicinal matter; many impart a colour different from their own; and others, though of a beautiful and deep colour themselves, give scarcely any to the menstruum. Of the first kind are the yellow and red flowers; of the fecond, the leaves of most plants; of the third, some of the blue flowers, as those of cyanus and larkspur. Acid liquors change the infusions of most flowers, the

yellow ones excepted, to a red; and alkalies, both fixt and volatile, to a green.

From animal substances, water extracts the gelatinous and nutritious parts, whence glues, jellies, broths, &c. and, along with these, it takes up principles of more activity, as the acrid matter of cantharides. It dissolves also some portion of calcined calcareous earths, both of the animal and of the mineral kingdom, but has no action on any other kind of

# ARTICLE I. Infusions in cold water.

earthy matter.

INFUSUM CARDUI.

Infusion of carduus. Take an ounce of the dried leaves of carduus benedictus, and a pint of common water. Let them steep for fix hours, without heat, and then filter the liquor through paper.

By this management, only the finer parts of the carduus are extracted, and the infusion proves an agreeable light bitter; it fits easier on the stomach than any other medicine I know of the bitter kind; whereas, by long continued maceration, or by the application of heat, the groffer and more ungrate. ful parts are taken up, and the liquor becomes nauseous, so as to provoke vomiting. I have often given the light infusion, with great benefit, in weaknesses of the stomach, where the common bitters did not agree. It may be flavoured at pleafure with aromatic materials; instead of pure water, a mixture thereof, with some grateful distilled spirituous water, as twelve ounces of common water, and four of the spirituous water of orange peel, may

be used for the menstruum. The little quantity of spirit contained in this compound will not confiderably vary the diffolving power of the water.

MANY other vegetables may be advantageously treated in the same manner. From those which are weak in virtue, rich infusions may be obtained, by returning the liquor upon fresh quantities of the fubject; the water loading itself more and more with the active parts. These loaded infusions are doubtless applicable to valuable purposes in medicine, as they contain, in a fmall compass, the finer, more subtile, and active principles of vegetables, in a form readily miscible with the fluids of the human body.

## TINCTURA MENTHA. Tincture of mint. Edinb.

Take half an ounce of the dry leaves of spearmint, and a pint of fimple mint water. Steep them in a close vessel, in a warm place, for four hours, and then strain out the tincture.

THE

intermitting fevers, and in other THE distilled water of mint is diforders where the corroborating virtues of bark are required.

impregnated with as much of the volatile parts of the herb, as water can be made to retain by distillation. By infusion, however, it ftill takes up more, being equally effectual as a menstruum with fresh water; hence the tincture proves very rich in the virtue of the mint. This is another useful method of obtaining strong infusions from vegetables, and it may be varied at discretion: the distilled water of one plant may be employed as a menstruum for another.

INFUSUM CORTICIS PERUVIANI. Infusion of Peruvian bark.

Take an ounce of Peruvian bark, reduced into fine powder, and twelve ounces of water. Macerate without heat for twenty-four hours, occasionally shaking the vessel; then pour off the clear liquor, and pass it through a fine strainer.

THE extraction of the virtues of Peruvian bark, with aqueous liquors, has hitherto been attempted by strong coction. But this drug, contrary to most other vegetables, has lately been observed to give out more to cold than to boiling water. In boiling, a refinous matter, containing the aftringency of the bark, is hastily melted out by the heat, but not truly dissolved by the water, and hence, in cooling, it begins to separate, renders the liquor turbid, and at length fettles to the bottom; whereas, by maceration in cold water, the aftringent and bitter parts are gradually extracted together, and the former, as well as the latter, are retained by the water in a state of perfect folution. The infusion appears to be one of the best preparations of the bark for weak stomachs, and may be given in dofes of two or three ounces, in AQUA PICEA. Tar water.

Take of Tar, two pounds; Water, one gallon.

Stir them ftrongly together with a wooden rod; and after standing to fettle for two days, pour off the water for use.

TAR water has been recommended to the world as a certain and fafe medicine in almost all diseases; a flow yet effectual alterative in cachexies, fcurvies, chlorotic, hysterical, hypochondriacal, and other chronical complaints; and a fudden remedy in acute distempers which demand immediate relief, as pleurifies, peripneumonies, the fmall pox, and all kinds of fevers in general. The medicine, though certainly far inferior to the character that has been given of it, is doubtless in many cases of considerable utility: it fensibly raises the pulse; and occasions some considerable evacuations, generally by perspiration or urine, though fometimes by flool or vomit : hence it is supposed to act by increasing the vis vitæ, and enabling nature to expel the morbific humours.

I shall here insert, from the first public recommender of this liquor (bishop Berkley) some observations on the manner of using it. "Tar " water, when right, is not paler " than French, nor deeper coloured than Spanish white wine, and full as clear; if there be not a spirit very sensibly perceived in drinking, you may conclude the tar water is not good. It may be drank either " cold or warm: in cholics, I take it to be best warm. As to " the quantity, in common chro-" nical indispositions, a pint a day " may fuffice, taken on an empty " flomach, at two or four times, " to wit, night and morning, and " about two hours after dinner and " breakfast : more may be taken " by strong stomachs. But those " who labour under great and in-" veterate maladies, must drink a " greater quantity, at least a quart " every twenty-four hours : all of this class must have much pa-"tience and perseverance in the " use of this, as well as of all " other medicines, which, though " fure, must yet in the nature of " things be flow in the cure of in-" veterate chronical diforders. In " acute cases, fevers of all kinds, " it must be drank in bed, warm, " and in great quantity (the fever " still enabling the patient to " drink) perhaps a pint every " hour, which I have known to " work furprifing cures. But it " works to quick, and gives fuch " fpirits, that the patients often " think themselves cured before " the fever hath quite left them."

# AQUA CALCIS SIMPLEX. Simple lime water. Lond.

Take a pound of quicklime, and a gallon and a half of water. Pour the water gradually upon the lime, and when the ebullition is over, let the whole stand to settle: then filter the liquor through paper.

Edinb.

Take half a pound of fresh unslacked lime, put it into an earthen vessel, and sprinkle upon it four ounces of water; keep the vessel close stopped till the effervescence ceases, and the lime is thoroughly slacked; when pour upon it twelve pounds of water, and mix them well together. As foon as the lime is fettled, shake it again; observing to keep the vessel still close shut, to exclude the air. This is to be repeated nine or ten times; and when the lime is perfectly settled, silter it through paper.

A lime water may be prepared in the fame manner from calcined oyster shells.

THE reason of adding the water by degrees to the lime is, that when poured on at once, it reduces the external part to a kind of muddy substance, or fost paste, which in some measure defends the internal part from being acted upon by the water. It does not appear that the different proportions of water, in the two above prescriptions, occasion any sensible difference in the ftrength of the product; the quicklime is far from yielding all its foluble parts to either proportion; the remainder giving a strong impregnation to many fresh quantities of water, though not fo strong as to the first. The caution of keeping the water in close-stopt vessels ought to be firitly attended to; for in open ones, the calcareous matter, dissolved in the liquor, foon begins to separate, and forms a white crust upon the surface. This crust is not of a faline nature, as fome have imagined; but an infipid earth, no longer miscible with watery liquors.

Lime water has been found of great fervice in scrophulous and scorbutic complaints, in some kinds of alvine fluxes, female weaknesses, and other disorders, proceeding from a laxity and debility of the solids: particularly in corpulent and phlegmatic habits. It appears likewise to be possessed of a lithontriptic power, and in sundry calculous cases has procured considerable re-

lief;

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lief: the lime water prepared from calcined oyster shells, is found to be, in this intention, more efficacious than that of the common ftone or chalk lime. It is given internally, in the dose of a quarter of a pint, three or four times a day; and likewise used externally for washing foul ulcers.

### AQUA CALCIS. COMPOSITA.

Compound lime water. Edinb.

Take of

Saffafras, root and bark, shaved,

two ounces ;

Nutmegs, well bruised, three

drams;

Liquorice fliced, one ounce; Lime water, fresh prepared, four

pints.

Digest them together for two days, in a very close vessel; and then strain the liquor.

### AQUA CALCIS MINUS COMPOSITA.

Lime water less compounded.

Take of

Liquorice, one ounce; Sassafras bark, half an ounce; Simple lime water, fix pints. Macerate without heat for two days, and then strain off the liquor.

### AQUA CALCIS MAGIS COMPOSITA.

Lime water more compounded. Lond.

Guaiacum wood, shaved, half a pound;

Liquorice, one ounce; Saffafras bark, half an ounce; Coriander feeds, three drams; Simple lime water, fix pints.

Macerate without heat for two days, and then strain off the liquor.

THIS last water has been used for fome time in our hospitals under the title of AQUA LIBERANS. As the guaiacum wood difficultly communicates its virtues to the cold liquor, some have proposed boiling it in the lime water before the other ingredients are added; but though this treatment more perfectly extracts the virtues of the wood, it very much injures those of the lime water, the greatest part of the matter it had taken up from the lime being separated and thrown off in the boiling. Nor indeed is there any occasion to have recourse to expedients of this kind; the quantity of the wood in the above prescription being so large, that the liquor receives a fufficient impregnation from it by maceration in the cold. If however, on this or other occasions, it should be thought expedient to increase the dissolving power of lime water by boiling, we may do it, without any injury to the lime water, by the method directed by the London college for obtaining a folution of fulphur in this menftruum, viz. by adding some quicklime in substance, which will continue to give a fresh impregnation to the water, after the lime at first dissolved in it has been separated

by the boiling. In all these compositions, the additional articles take off the ill flavour of the lime water, render it more grateful both to the palate and stomach, and at the same time confiderably promote its medicinal efficacy, especially when intended against cutaneous diforders, and foulness of the blood and juices. They may be taken in the fame quantities as the simple lime water, and continued for fome time; the patient keeping moderately warm

during their ufe.

# ARTICLE II. Infusions in boiling Water.

INFUSUM AMARUM.

Bitter infusion.

Edinb.

Take of

Gentian root, half an ounce; Seville orange peel, dried, one dram;

Coriander feed, half a dram; Proof spirit, four ounces; Water, one pound.

Pour on the spirit first, and let it stand three hours, and then the water; macerate without heat twelve hours, and strain it.

SIMPLEX. - Simple bitter infusion.

Lond.

Take of

Gentian root,

Fresh yellow rind of lemon peel, carefully freed from the inner white part, each half an ounce; Dry yellow rind of Seville orange

peel, freed in like manner from the white, one dram and a half;

Boiling water, three quarters of

Macerate for an hour or two; then filter the liquor through paper, or pass it through a strainer, without pressure.

Born these liquors are very elegant and useful bitters; the latter in particular is as agreeable as can well be contrived, the peels communicating a fine flavour, which is the only addition of which the gentian stands in need. The committee of the London college observe, that "most of the ingredients, which usually enter the composition of bitter infusions, being prepared by them separately, amongst all the strong bitters, gentian gave the most

" unexceptionable colour, but it " wants the affifiance of fome in-" gredient to furnish an accepta-" ble flavour; scarce any of the " bitters accompanied with flavour, " fuch as zedoary, calamus aro-" maticus, and the like, appear-" ed to be truly grateful, except " orange peel and cardamom " feeds: but cardamom feeds are " mucilaginous, and render the " liquor cloudy; and orange peel " is accompanied with a hot oil, " that requires it to be but ipar-" ingly used. Lemon peel, in its " outer rind, to which all its fla-" vour is confined, is not a bitter, " but supplies the gentian most " fuccessfully with what is wanted; " though the composition, by a " moderate addition of orange " peel, becomes yet more perfect."

INFUSUM AMARUM
PURGANS.
Purging hitter infusion.

Purging bitter infusion.

Lond.

Take of

Sena,

Yellow rind of lemon peel, fresh, each three drams;

Gentian root,

Yellow rind of Seville orange peel, dry,

Lesser cardamom seeds, freed from the husks, each half a dram;

Boiling water, five ounces by measure.

Macerate them together, and when cold firain off the liquor.

INFUSUM AMARUM cum SENA.
Bitter infusion with sena.
Edinb.

Take of Sena, one dram;

Gentian

Gentian root,

Sweet fennel feeds, each half a dram;

Boiling water, a quarter of a

Infuse them for four hours, and then

ftrain the liquor.

This infusion may likewise be prepared with two, three, or more times the quantity of sena.

BOTH these are useful purging bitters. The quantities here prescribed are intended for one dose: the first is the larger, and the other the smaller dose, that sena is usually given in.

### INFUSUM SENÆ COMMUNE.

Common infusion of Sena.

Take of

Sena, an ounce and a half;
Crystals of tartar, three drams;
Lesser cardamom seeds, freed
from the husks, two drams;

Water, one pint.

Boil the crystals of tartar in the water, until they are dissolved; then pour the water, whilst it continues boiling, upon the other ingredients; and when cold, strain off the liquor for use.

In our former pharmacopceia, an alkaline falt was used in the infusion of sena, instead of the acid one here directed. The first was fupposed to promote the operation of the medicine, by superadding a degree of purgative virtue of its own, and by enabling the water to extract somewhat more from the capital ingredient, than it would be capable of doing by itself; whilst acids have rather a contrary effect. Experience however has fufficiently thewn (as the committee affure us) " that this infusion, and the " following one with lemon juice,

do not fail in their intention: " and in a medicine, very naufecous to many, it is of principal " consequence to prepare it so, that er the lightest and least disgustful " parts may be extracted." Alkaline falts increase the offensiveness of the sena; whilst crystals of tartar confiderably improve the colour of the infusion, and likewise render the tafte to some persons less disagreeable. Soluble tartar should feem a good ingredient in these kinds of compositions, as it not only improves the tafte, but promotes the purgative virtue of the medicine; this addition also renders the infusion less apt to gripe, or occasion flatulencies.

### INFUSUM SENÆ LIMONIATUM.

Infusion of Sena with lemon.

Lond.

Take of

Sena, an ounce and a half; Yellow rind of lemon peel, fresh, one ounce;

Lemon juice, one ounce, by measure;

Boiling water, one pint.

Macerate them together, and when cold, strain off the infusion.

This is a very pleafant and sufficiently efficacious purge: the committee observe, that it is the most agreeable form they have been able to contrive for the exhibition of sena to such as are more than ordinarily offended with its slavour. The dose is from two ounces to four.

INFUSI SENÆ UNCIÆ
QUATUOR.
A four ounce infusion of sena:

Edinb.

Take of Sena, three drams;

Ginger,

Ginger, one scruple;
Boiling water, four ounces.
Infuse for four hours, and then
strain off the liquor.

This infusion is tolerably grateful, the ill flavour of the fena being in good measure covered by the ginger; the quantity of which is here increased to double of that in former editions of the pharmacopæia. Formerly two drams of the greater water-figwort were added. water-figwort has been discovered to be the Brazilian herb iquetaia, celebrated as a specific corrector of the flavour of fena. That plant, however, has not been found from experience to answer this purpose so effectually as it was supposed to do before it was commonly known.

# INFUSUM RHABARBARI,

Infusion of rhubarb.

Edinb.

Take of
Rhubarb, fliced, half an ounce;
Boiling water, one pint;
Infuse them for a night, and to the
strained liquor add two ounces of
spirituous cinnamon water.

This appears to be one of the best preparations of rhubarb when designed as a purgative; water extracting its virtue more effectually than either vinous or spirituous menstrua: in this respect rhubarb differs from most of the other vegetable cathartics.

# TINCTURA ROSARUM.

Tincture of roses.

Lond.

Take of

Red rose buds, freed from the

white heels, half an ounce;

Strong spirit (called oil) of vi
triol, one scruple;

Boiling water, two pints and a half;

Double refined fugar, one ounce and a half.

First mingle the spirit of vitriol with the water, in a glass or glazed earthen vessel, and in this mixture macerate the roses; when the liquor is grown cold, strain it, and add the sugar.

### Edinb.

Take of
Red roses, cleared from the heels,
and dried, one ounce;
Spirit of vitriol, one dram;
Boiling water, sive pounds;
White sugar, two ounces.
Min the said spirit with the water.

Mix the acid spirit with the water, and insuse the roses therein for four hours; than filter the tincture, and add to it the sugar.

Some have directed the oil of vitriol to be dropt upon the roles before the water is put to them : but this method is certainly faulty, for fuch of the rofes as this caustic liquor falls upon undiluted, will be burnt up by it, and have their texture destroyed. Others have made an infusion of the roles in water first, and then added the acid, from an apprehension, that if this acid be added to the water, it would weaken its powers as a menstruum; but, as the committee observe, whatever the acid spirit will hinder the water from extracting, it must precipitate, if added afterwards; though in this preparation, the oil of vitriol bears fo fmall a proportion to the water, that its effect, in this respect, will be very little. The infusion should be made in a glass or stone-ware vessel, rather than a glazed earthen one; for the acid will be apt to corrode the glazing of the latter.

This tincture is of an elegant red colour, and makes a very grateful addition to juleps in hæmorrhages, and all cases that require mild coolers and subastringents. It is sometimes taken with boluses or electaries of the bark; and likewise makes a good gargle.

INFUSUM LINI.
Infusion of linseed.

Take of

Linseed, whole, two spoonfuls; Liquorice, sliced, half an ounce; Boiling water, four pints.

Let them fland in infusion by the fire for some hours, and then strain off the liquor.

An ounce of coltsfoot leaves is fometimes added to these ingredients; which addition procures this medicine the title of Infusion. Both infusions are soft, emollient, mucilaginous liquors; and as such they are directed in defluxions of thin, acrid rheums, and erosions of the vessels. They are given to the quantity of a pint a day.

INFUSUM ANTISCORBUTICUM.

Antiscorbutic infusion.

Take of

Buckbean leaves, two ounces; Curassao oranges, half an ounce; Compound horseradish water, four ounces;

Common water, four pints.

Let the common water, boiling, be poured on the buckbean and orange, and fuffered to stand in a close vessel for a night; then strain out the liquor, and add to it the horseradish water.

This infusion is a very useful, and not inelegant, antiscorbutic: buckbean appears from experience

to be a very efficacious herb in this intention; the aromatic material, here joined to it, alleviates its ill flavour, and at the same time promotes its virtue. A quarter of a pint of the liquor may be taken three or four times a day.

INFUSUM CEPHALICUM.
Cephalic infusion.

Take of

Wild valerian root, two ounces; Rosemary, or sage, half an ounce; Aromatic water, four ounces; Common water, four pints.

Let the common water be poured, boiling, on the herb and root, and suffered to stand for a night in a close vessel; then strain out the infusion, and add to it the aromatic water.

This infusion is calculated against epileptic disorders, and other like affections of the nervous system. The dose is a quarter of a pint, to be taken twice a day.

INFUSUM ALCALINUM.
Alkaline infusion.

Take of

Salt of tartar, half an ounce; Saffron, half a dram; Liquorice root, two ounces; Boiling water, three pints.

Let them stand together in a warm place for eight or ten hours, and then strain out the liquor for use.

This infusion is of service in a lentor or viscidity of the blood and juices, the consequence of an obstructed perspiration, and oftentimes the origin of inflammatory distempers. It attenuates thick humours, and promotes the natural secretions. It is to be taken warm, in little quantities at a time, but frequently repeated.

INFUSUM

INFUSUM DIURETICUM. Diuretic infusion.

Take of

Wormwood leaves, dried, half

Salt of tartar, two scruples; Compound juniper water, two ounces;

Common water, twelve ounces. Pour the common water, boiling, on the wormwood and falt of tartar, and, when grown cold, ftrain off the liquor, and mix with it the juniper water.

This infusion is much of the fame nature with the foregoing. It is directed in the obstructions of the viscera, which frequently fucceed a long continuance of bilious fevers, or frequent relapses into them; and which generally end in a dropfy, jaundice, or irregular intermittent. The quantity here prescribed is to be taken every day, at three doses, and a purgative occasionally interposed. If intermittent fevers return after the cure of the other diforders, they are then fuccefsfully treated by the bark.

Preparations of this kind are likewise of considerable use in maniacal disorders; in which, as Dr. Mead observes, evacuations by the kidneys are of greater confequence than is generally supposed; especially if the mania be of the furious kind, and accompanied with febrile heat. Alkaline falts, given in large doses, are here the most effectual diuretics.

> INFUSUM PARALYTICUM. Paralytic infusion.

Take of Horseradish root, shaved, Mustard seed, bruised, each four ounces;

Boiling water, four pints. Let them steep together, in a close veffel, for twenty-four hours.

THIS infusion is strongly impregnated with the pungency of the mustard seed and horseradish, which by this simple process give out the whole of their virtues. Though the medicine is deligned chiefly (as its title expresses) for a stimulant in paralytic complaints. there are feveral other diforders in which it may be employed to good advantage; in scorbutic cases, in particular, it promifes to be a remedy of great utility: it generally promotes the urinary discharge; and, if the patient be kept warm, perspiration. It is taken sometimes to half a pint, twice a day.

> THEA ANTIPHTHISICA. Antiphthifical tea.

Take of

Avens root, two ounces; Male speedwell, Ground-ivy, each one ounce and a half; Liquorice, one ounce; Sweet fennel feeds, three drams.

THESE ingredients are to be cut, bruised, and well mixed together; and half an ounce of the compolition infuled for a few minutes in five or fix tea-cups full of boiling water. In confumptive cases and disorders of the breast, one cup of the infusion, with a tea-spoonfull of honey, may be drank every hour or two. After the fame manner, medicated teas may be prepared from other vegetable fubstances, as camomile flowers, linfeed, orange peel, fumitory, &c.

> INFUSUM CINNAMOMI. Infusion of cinnamon.

Take two ounces of powdered cinnamon, and two pints of boiling water. Infuse them in a close vessel, in a moderate heat, for half an hour; and then filter the liquor.

T 4

pregnated with the flavour and warmth of the spice, and may,

This infusion is agreeably im- on many occasions, supply the place of the fimple cinnamon water.

#### ARTICLE III. Decoctions.

THE effect of boiling differs from that of infusion in some material particulars. One of the most obvious differences is, that as the effential oils of vegetables, in which their specific odours refide, are volatile in the heat of boiling water, they exhale in the boiling along with the watery iteam, and thus are loft to the remaining decoction; whereas both in cold and hot infufions they are preserved. Odorous fubstances, and those in general whose virtues depend on their volatile parts, are therefore unfit for this treatment. The foluble parts of these may, nevertheless, be united in this form with those bodies of a more fixed nature; by boiling the latter till their virtues are fufficiently extracted, and then infusing the former in this decoc-

The extraction of the virtue of the subject is usually promoted or accelerated by a boiling heat; but this rule is less general than it is commonly supposed to be. We have already observed, that Peruvian bark gives out its virtue more perfectly by cold infusion than by coction. In some cases, boiling occasions a manifest disunion of the principles of the subject. Thus, when almonds are triturated with cold water, their oil, blended with the mucilaginous or other foluble matter of the almond, unites with the water into a milky liquor called an emulfion: but on boiling them in water, the oil separates and rises to the furface; and if the most perfect emuliion be made to boil, a like separation happens.

DECOCTUM ALBUM. The white decoction. Lond.

Take of Calcined hartshorn, prepared two ounces; Gum Arabic, two drams; Water, three pints.

Boil them till only two pints remain, and then firain off the liquor.

Edinb.

Take of Calcined hartshorn, prepared, one ounce; Gum Arabic, two drams; Common water, three pints; Cinnamon, bruifed, one dram White fugar, two drams.

Boil the calcined hartshorn and gum in the water till only two pints remain, adding the cinnamon towards the end: in this decoction, unstrained, dissolve the lugar.

THESE decoctions are used as common drink in acute diseases attended with a looseness, and where acrimonious humours abound in the primæ viæ. The gum is added in order to render the liquor lightly glutinous, and thus enable it to fustain more of the calx; which is the ingredient that the colour, but probably not the virtue, of the medicine depends upon. Calcined hartshorn has no quality from which it feems capable either of constringing and firengthening the veffels, giving a greater degree of confiftency to thin fluids, or obtunding acrimonious humours. It blunts and abforbs acid juices; but acrimony and acidity are very different: there are few (perhaps none of the acute) diforders of adults attended with the latter; and few of infants are unaccompanied therewith. Some have proposed starch as an ingredient in these kinds of decoctions; a small quantity of this loft, gelatinous, farinaceous substance should seem to be greatly preferable to the earthy calx. It may be observed that the water is not enabled by the boiling to diffolve any part of the calx; and that in the decoction, the earth is only diffused in fubstance through the water, as it would be by agitation.

DECOCTUM ALTHÆÆ.

Decoction of marshmallow root,

Edinb.

Take of

Marshmallow root, dried, four ounces;

Raisins of the sun, stoned, two ounces;

Water, feven pounds.

Boil to five pounds; strain the liquor, and when the fæces have fettled, pour it off.

# DECOCTUM CRETACEUM. Chalk decoction. Edinb.

Take of

White chalk, prepared, one ounce;

Nutmeg, bruised, one dram; Gum Arabic, two drams; White sugar, half an ounce; Common water, three pints.

Boil the water with the chalk and gum till it is reduced to a quart, adding the nutmeg towards the end; and, in the turbid decoction, dissolve the sugar.

HERE, as in the white decoction, the absorbent earth is only mixed in substance with the water, and the use of the gum is to prevent its

fubfiding. As a medicine, chalk is more effectual than calcined hartshorn, in all the intentions for which these kinds of earths are given.

# DECOCTUM JAPONICUM, faponic decoction, Edinb.

Take of

The confectio japonica (described hereafter among the electaries) one ounce;

Common water, a pint and a half;

Spirituous cinnamon water,

Syrup of meconium, each one ounce.

Boil the confection in the common water, till the liquor, after straining, will amount to a pint; to which, while turbid, add the cinnamon water and the syrup.

This decoction is used, both in draughts and in glysters, as an anodyne and restringent in sluxes. The quantity here prescribed contains two grains and a half of opium, exclusive of the syrup.

# DECOCTUM ad ICTERICOS. Decoction for the jaundice. Edinb.

Take of

Celandine, roots and leaves, Turmeric, Madder, each one ounce;

Millepedes, two hundred; Water, three pints.

Boil the celandine, turmeric, and madder, in the water, till only a quart of liquor remains after ftraining: then, having preffed out the juice of the millepedes, add this to the decoction when grown cold.

THE ingredients of which this decoction is composed, have been long held by many as specifics for the

the cure of the disease expressed in its title. The medicine, though not a little unpleasant, is well calculated to answer many useful purposes, if well managed and properly affifted. A quarter of a pint may be taken twice a day, or oftener.

### DECOCTUM LIGNORUM. Decoction of the woods. Edinb.

Take of

Guaiacum shavings, three ounces; Raifins of the sun, stoned, two

Sassafras wood, shaved, ounce ;

Liquorice, fliced, half an ounce;

Water, one gallon.

Boil the guaiacum and raisins with the water, over a gentle fire, to the confumption of one half: adding, towards the end, the fassafras and liquorice. Strain out the liquor, and having fuffered it to rest for some time, pour off the clear from the fæces.

This decoction is very well contrived, and if its use be duly continued, will do great service in some cutaneous diseases, foulness of the blood and juices, and fome diforders of the breaft; particularly in cold phlegmatic habits. It may be taken by itself, in the quantity of a quarter of a pint, two or three times a day, or used as an assistant in a course of mercurial or antimonial alteratives; the patient in either case keeping warm, in order to promote the operation of the medicine.

#### DECOCTUM ad NEPHRITI-COS.

Nephritic decoction. Edinb.

Take of

Marshmallow roots, one ounce and a half;

Liquorice, Linfeed, each half an ounce; Pellitory of the wall, one ounce; Raisins of the sun, stoned, two

Water, fix pints.

Boil the water with the marshmallow root and raisins to four pints, adding the other ingredients towards the end. Strain out the liquor, and let it fettle till fine.

THIS decoction is intended chiefly as an emollient, to be liberally drunk in nephritic paroxysms; in which cases, by softening and relaxing the parts, it frequently relieves the pain, and procures an easy passage for the sabulous matter. The medicine is now made more fimple, without any diminution of its virtue, by the rejection of wild carrot feed, reitharrow root, and figs, the place of which is abundantly supplied by an increase of the marshmallow root, linseed, and liquorice. The carrot feeds were indeed unfit for this form, as they give out little of their virtue to watery liquors.

### DECOCTUM NITROSUM. Nitrous decoction. Edinb.

Take of

Pure nitre, half an ounce; White fugar, two ounces; Cochineal, one scruple; Water, two pints and a half. Boil to two pints, then fuffer the whole to rest for some time, and

pour off the clear decoction.

THIS is an elegant way of difguifing nitre, and rendering it agreeable to the patient, both which intentions are fully answered by the cochineal and fugar. There does not feem to be any occalion for fo long boiling; for

tha

the water will dissolve a much larger quantity of the nitre and sugar than is directed above, without any heat, and it easily extracts a fine colour from cochineal.

The virtues of nitre have been already mentioned in the preceding part. This, or other similar forms, are the most commodious for the exhibition of it; for when given in a solid form, it often occasions great uneasiness about the stomach. Two or three ounces of this decoction may be taken for a dose.

#### DECOCTUM PECTORALE.

Pectoral decoction.

Lond.

Take of

Common barley, Stoned raisins, Figs, each two ounces; Liquorice, half an ounce; Water, four pints.

First boil the water with the barley, then add the raisins, and lastly (just before the end of the process) the sign and liquorice; the boiling is to be continued so long, that the liquor, when strained, may be no more than two pints.

Edinb.

Take of
Stoned raisins of the sun,
Barley, each one ounce;
Fat sigs, in number four;
Florentine orris root,
Liquorice,
Coltssoot slowers, each half an

Water, fix pints.

Boil the water with the raisins, barley, and figs, till only four pints remain; adding, towards the end, the other ingredients; then strain out the liquor for use.

BOTH these decoctions are useful soft pectorals; and very agreeable to the palate, particularly the first. They are good auxiliaries in sharp defluxions on the breast and lungs, and have sometimes done service by themselves. They may be drunk at pleasure.

PECOCTUM SERPENTA-

Compound decoction of Inakeroot. Edinb.

Take of

Virginian snakeroot, six drams; Edinburgh theriaca (described hereaster among the electaries) half an ounce;

Cochineal, one scruple; Water, two pints.

Boil the water with the snakeroot to one half, adding the theriaca and cochineal towards the end: then strain out the liquor for use.

This preparation is an useful fudorific and alexipharmac, containing nearly all the virtue of the snakeroot, and great part of that of the theriaca. The quantity of theriaca here prescribed holds nearly three grains and a half of opium; so that about a fifth of a grain of opium, or somewhat more, goes to an ounce measure of the decoction.

DECOCTUM TAMARINDORUM cum SENA.

Decoction of tamarinds with sena.

Edinb.

Take of

Tamarinds, fix drams;
Crystals of tartar, two drams;
Sena, one dram;
Syrup of violets, one ounce;
Simple cinnamon water, half an ounce;

Common water, a pint and a

Boil the common water with the tamarinds and crystals of tartar,

fo long that there may be a pint of strained liquor: in which, whilst hot, infuse the sena for four hours: afterwards strain off the liquor, and add to it the syrup of violets and cinnamon water.

This decoction may likewise be prepared with two, three, or more times the quantity of sena,

This is a fufficiently efficacious, and not disagreeable, cooling purge. The quantity here prescribed, is intended for a dose, which may be divided into three or four parts, to be taken at short intervals, as the stomach will bear it.

# AQUA HORDEATA, Barley water. Lond.

Take of

Pearl barley, two ounces;

Water, four pints.

First wash the barley from the mealy matter that adheres to it, with some cold water; then boil it a little with about half a pint of fresh water, which will acquire a considerable tinge from it. Throw away this tinged water; put the barley into the water preferibed, made first to boil; and continue the boiling till half the water is wasted.

This liquor is to be drunk freely, as a diluter, in fevers and other disorders. Hence it is of consequence that it should be prepared so as to be as elegant and agreeable as possible; for this reason, it was inserted in the pharmacopoeia, and the several circumstances which contribute to its elegance set down; if any one of them be omitted, the beverage will be less grateful. However trivial medicines of this class may appear to be, they are of greater importance,

fo long that there may be a pint in the cure of acute diseases, than of strained liquor: in which, many more laborious preparations.

# MUCILAGO SEMINUM CYDONIORUM. Mucilage of quince feeds. Lond.

Take of

Quince feeds, one dram;
Water, fix ounces by measure.
Boil them, over a fost fire, till the water grows slimy, almost like the white of an egg; then pass it through a linen cloth.

This is a pleasant soft mucilage, of a somewhat sweetish taste, and a light agreeable smell: in these respects, and in its easy solubility in water, it differs from the mucilage of gum tragacanth, to which some have supposed it similar. It has another difference, to its disadvantage, being apt to grow mouldy in keeping.

# GELATINA CORNU CERVI, Jelly of hartshorn. Edinb.

Take of
Hartshorn shavings, half a pound;
Water, three quarts;
White sugar, six ounces;
Mountain wine, a quarter of a pint;
Orange (or lemon) juice, one ounce.

Boil the hartshorn with the water by a gentle heat in a glazed earthen vessel, till two parts are wasted; strain out the remaining liquor, add to it the other ingredients, and boil the whole over a gentle fire, to the consistence of a soft jelly.

# JUS VIPERINUM. Viper broth. Lond.

Take the middle-fized viper, freed from the head, skin, and inteftines; tines; and two pints of water. Boil them to a pint and a half; then remove the veffel from the fire; and when the liquor is grown cold, let the fat, which congeals upon the furface, if the viper were fresh, be taken off. Into this broth, whilst warm, put a pullet of a moderate fize, drawn and freed from the fkin, and all the fat, but with the flesh intire. Set the veffel on the fire again, that the liquor may boil; then remove it from the fire, take out the chicken, and immediately chop its flesh into little pieces: put these into the liquor again, let it over the fire, and as foon as it boils up, pour out the broth, first carefully taking off the fcum.

HERE, all the circumstances subfervient to the perfection of the broth, are carefully set down: and even plain chicken broth, for the use of the sick, ought to be made in a similar manner.

This feems to be one of the best preparations of the viper; all the benefit that can be expected from that animal being by this means there obtained. It is very nutritious and restorative food: continued for a length of time, it has sometimes done good service in leprous and other obstinate cutaneous diseases. The dried flesh of the vipers, brought from abroad, is not at all superior to the fresh vipers of our own country. The wines and tincture of the animal, probably, have little virtue. The volatile falt, however strongly recommended by some, does not appear to differ from that producible from every animal substance. See chap, viii. fect. 2.

DECOCTUM ANTIHECTICUM.

Antihectic decoction.

Take of Comfry root,

Eryngo root, each half an ounce; Conferve of rofes, two ounces; Dulcified spirit of vitriol, forty drops;

Water, three pints.

Boil the water with the roots and the conserve, till one pint is wasted; then strain off the remaining liquor, and add to it the dulcified spirit.

This decoction is usefully given in hectic cases, where thin acrimonious humours abound, and in beginning consumptions. The dose is a quarter of a pint, to be taken two or three times a day.

DECOCTUM VULNERARIUM.
Vulnerary decoction.

Take of

The herb ground-ivy, Plantane leaves,

White fugar, each half an ounce;

Water, three pints.

Boil the herbs in the water, so long that there may be only two pints of strained liquor; in which difsolve the sugar.

THE herbs which give virtue to this decoction, have long been celebrated as specifics for the cure of internal contusions and ulcerations, of coughs and pulmonary phthises proceeding either from bruises, or an erosion of the viscera from a spontaneous acrimony of the humours. Though the real virtues of these plants fall short of the character which has been usually given of them, yet experience has shewn that they are superior to numerous others which have been very strongly recommended.

Decoctum antifebrile.

Antifebrile decoction.

Take of Virginian fnake-root, bruifed, Peruvian three drams ;

Water, one pint.

Boil them to half a pint; and having strained off the liquor, mix with it, of

Spirituous cinnamon water, an ounce and a half;

Syrup of clove july-flowers, two

In the putrid malignant fever, arifing from foul air in crowded hospitals and jails, this medicine has been given with remarkable fuccess. In the low state of this dangerous disease, when the pulse, before quick, begins to fink, the stupor to increase, and petechiæ to appear; it promifes to be a very useful remedy for supporting the vis vita, promoting a critical diaphoresis, and correcting the putrid humours. Four spoonfuls of the decoction are to be taken every four or fix hours; and moderate quantities of wine or cordial boluses, with volatile falts interposed, at proper intervals.

DECOCTUM FEBRIFUGUM. A febrifuge decoction.

Take of Camomile flowers, dried,

ounces; Salt of tartar, two drams;

Water, three pints.

Boil the water with the camomile flowers, till one pint of the liquor be wasted; then strain out the remaining decoction, and dissolve in it the alkaline salt.

In a thick viscid state of the blood and juices, and obstructions of the abdominal viscera, a quarter of a pint of the decoction, taken three or four times a day, has fometimes removed intermittent fevers, after the Peruvian bark had been tried in vain. It is nearly fimilar to the al-

Peruvian bark, in powder, each kaline and diuretic infusions defcribed above.

> APOZEMA APERIENS. Aperient apozem.

Take of Rhubarb,

Madder, each three drams; Salt of tartar, two drams;

Water three pints.

Boil them together for an hour, and having strained out the decoction, add to it three ounces of fyrup of ginger.

This promifes to be a very powerful aperient and attenuating medicine, of great service in icterical and hydropic cases. The dose is three ounces, which may be repeated thrice a day.

> DECOCTUM ASTRINGENS. Astringent decoction.

Take of

Tomentil root, one ounce; Pomegranate peel, Plantane leaves, each half an

Syrup of dry roses, one ounce;

Water, three pints.

Boil the water with the tormentil, granate peel, and plantane, till one pint be wasted, adding the cinnamon towards the end : then strain off the decoction, and mix with it the fyrup.

THE title of this preparation fufficiently expresses its virtues. The dole, in fluxes where the morbid matter has been evacuated, and aftringency is the only indication, is from one to four ounces, three or four times a day.

> DECOCTUM BARDANÆ. Decoction of burdock.

Take of

Burdock roots, two ounces; Vitriolated tartar, one dram; Water, three pints. Boil Boil the water with the roots, fo pellitory, and raifins, fo long, long, that the liquor, when strained, may amount only to a quart; to which add the vitriolated tartar.

This decoction is drunk to the quantity of a pint a day, as a mild aperient, diuretic, and sweetner, in fcorbutic and rheumatic complaints.

DECOCTUM CAMPECHENSE. Decoction of logwood.

Take of

three Shavings of logwood, ounces;

Cinnamon, two drams; Water, four pints.

Boil the water with the logwood till half the liquor be wasted, adding the cinnamon towards the end of the boiling; then strain out the decoction for use.

This is an agreeable mild restringent, in diarrhoeas and other fluxes, where stronger astringents would be improper or unfafe. It is given in the hospitals in doses of a quarter of a pint, three or four times a day. It generally tinges the stools red, which has occasioned some to be alarmed, as if the colour proceeded from a discharge of blood. The patient therefore is to be cautioned against any furprize on that account.

DECOCTUM DIURETICUM. Diuretic decoction.

Take of

Parsley, or fennel roots, one ounce:

Wild carrot feeds, three drams; Pellitory of the wall, half an ounce:

Raifins, two ounces; Nitre one dram; Water, three pints:

Boil the water with the roots, feeds,

that there may be only two pints of liquor after straining; in which dissolve the nitre.

Take of

Grass roots, two ounces;

Sorrel, or wood forrel leaves, one handful;

Tamarinds, an ounce and a half;

Nitre, two drams;

Barley water, three pints.

Boil the roots in the barley water. till one pint of the liquor be wasted, adding towards the end the forrel, tamarinds, and nitre: then strain out the apozem for

Take of

Marshmallow roots, fresh, one

pound &

Fennel roots, half a pound;

Nitre, half an ounce; Water, one gallon.

Boil the water with the roots, till one-fourth of the liquor be wafted; then strain off the remaining decoction, and dissolve in it the nitre.

THESE cooling aperient liquors are used, like the nephritic decoction already described, as common drink for promoting urine in nephritic difeases. They may be taken with fafety, and often with good effect, in inflammatory cases, where the hot stimulating diure. tics would be manifestly prejudicial.

DECOCTUM PERUVIANUM. Peruvian decoction.

Take of

Peruvian bark, in powder, two

Water, three pints.

Boil them together till one pint of the liquor be wasted, and then ftrain

strain off the remaining decoc-

This decoction should be passed only through a coarse strainer, and drunk whilst turbid: if suffered to stand till clear, the more essicatious parts of the bark will subside. We have formerly observed, that the virtues of this drug consist chiesly in its resinous substance, which, though it may be totally melted out by the heat of boiling water, remain only partially suspended in that menstruum: see page 272.

Decoctum SENERE.

Decoction of Seneka.

Take of

Seneka, rattle-fnake root, one ounce;

Water, a pint and a half. Boil to one pint, and strain.

The virtues of this decoction will be easily understood by those of the root from which it is prepared. See page 227. The dose, in hydropic cases, and rheumatic or arthritic complaints, is two ounces, to be repeated three or four times a day, according to its effect.

DECOCTUM TERRÆ JAPONICÆ.

Decoction of Japan earth.

Take of

Japan earth, two drams; Spirituous cinnamon water; Syrup of quinces, each two ounces;

Common water, one pint.

Boil the common water with the Japan earth, till about one-fourth of the liquor be wasted; then suffer the decoction to settle, and having poured off the clear part, add to it the spirituous water and the syrup.

This decoction is a very agreeable and useful medicine in fluxes,

that are not critical or fymptomatic, and in a weak lax state of the intestines. A spoonful or two may be taken every hour or oftener: thus managed, it produces much better effects than if larger doses be given at once.

FOTUS COMMUNIS.

The common fomentation.

Lond.

Take of

Abrotanum leaves, dried,
Sea wormwood tops, dried,
Camomile flowers, dried, each
one ounce;
Paralesses dried half an cuncer

Bay leaves, dried, half an ounce; Water, fix pints.

Lightly boil them, and strain out

IT is left to the choice of the apothecary to take either the male or female abrotanum, that is fouthernwood, or lavender - cotton: which, though differing from one another in some respects, may be looked upon as fimilar with regard to the purposes for which this composition is intended: nor indeed can either of them give much aifistance to camomile flowers and wormwood. The use of this decoction is expressed in its title. Spirit of wine, which is commonly added in fomentations, is left to be directed by the prescriber, in such quantity as particular cases may require.

### DECOCTUM COMMUNE pro CLYSTRE.

The common decoction for glysters.

Lond.

Take of

Mallow leaves dried, one ounce; Camomile flowers, dried, Sweet fennel feeds, each half an ounce;

Water, one pint.

Boil

Boil them together, and strain out the decoction for use.

THE title of this decoction sufficiently expresses its use, as the basis of glysters. The ingredients should be very lightly boiled, at least the camomile flowers and sennel seeds not put in till towards the end, a part of the virtue of these being soon lost by boiling.

# The common decoction. Edinb.

Take of

Camomile flowers, one ounce; Coriander feed half an ounce;

Water, two quarts.

Make them just boil, and then strain out the liquor. The virtues of the ingredients may be sufficiently extracted also, by infusing them for some hours in the boiling water.

This decoction is intended to anfwer the purposes of both the foregoing. It is less loaded with the ingredients than either, but not perhaps for that reason the less useful.

# Fotus anodynus. Anodyne fomentation.

Take of

Garden poppy heads, one ounce; Elder flowers, half an ounce;

Water, three pints.

Boil them till one pint be wasted, and then strain out the liquor for use.

This fomentation is prescribed for tumefied and inflamed parts, to abate the inflammation and pain. Whether the opiate matter in the poppy heads contribute much to this intention, may be questioned;

as the effects of the composition may be attributed perhaps more to the warm fluid softening and relaxing the skin, than to the particular qualities of the matters with which it is impregnated.

Forus AROMATICUS.

Aromatic fomentation.

Take of
Cloves,
Mace, each one dram;
Red wine, one pint.
Boil them a little, and strain off the liquor.

This preparation is intended not only as a mere topical application for external complaints, but likewise for relieving the internal parts. The pains of the bowels which accompany dysenteries and diarrheas, statulent colics, uneasiness at the stomach, and reachings to vomit, are frequently abated by somenting the abdomen and region of the stomach with the warm liquor.

Fotus Roborans.
Strengthening fomentation.

Takeof

Oak bark, one ounce; Granate peel, half an ounce; Alum, two drams; Smith's forge water (that is, water in which red hot iron has been feveral times quenched) three pints.

Boil the water, with the oak bark and granate peel, to the confumption of one-third; then strain the remaining decoction, and dissolve in it the alum.

This is a strong astringent liquor, in which intention it is directed both as a fomentation for strengthening relaxed parts, and as an injection in the stuor albus.

# SECT. II.

Wheys.

SERUM SOLUTIVUM

Laxative whey.

Take of

Damask rose buds, fresh, one ounce;

Whey, two pints.

Steep them together for a night, and then strain out the whey for use.

WHEY, thus impregnated with the virtues of the damask rose, operates very gently by stool, and for this purpose is held by some in great esteem. Its action may be quickened, and its taste rendered more agreeable, by the addition of a suitable proportion of crystals of tartar.

SERUM SINAPINUM.

Mustard whey.

Take of

Mustard seed, bruised, three spoonfuls;

Cows milk, two pints.

Set the milk over the fire to boil, and add to it the mustard seed, that a curd may be formed, from which the whey is to be carefully separated.

This is not an inelegant form for the exhibition of mustard seed; its pungency, and medicinal virtues depending thereon, being in great measure communicated to the whey. SERUM ALUMINOSUM.

Alum whey. Lond.

Take of

Cows milk, one pint;
Alum, in powder, two drams.
Boil them till the milk be curdled,
and then carefully separate the
whey.

This medicine is a strong, though not very grateful, astringent. It is given in immoderate uterine sluxes, and sometimes in the diabetes, in which last intention it is recommended by Dr. Mead. The dose is a quarter of a pint three or four times a day. It has been recommended also in intermittent severs, the quantity above prescribed to be taken before the approach of a sit, divided into different doses: but, in this disorder, great caution is requisite in the use of so strong an astringent.

SERUM SCORBUTICUM.

Scorbutic whey.

Take of

Cows milk, one pint;

Scorbutic juices, a quarter of a

pint.

Boil them till the milk is curdled, and then carefully separate the whey.

This whey may be used as common drink in scorbutic cases: the quantity above directed, at least, ought to be taken every day, if any considerable effect be expected from it.

# SECT. III.

Vinegars.

7 INEGAR extracts the virtues of several medicinal substances in tolerable perfection; but at the fame time its acidity makes a notable alteration in them, or superadds virtue of a different kind; and hence it is more rarely employed in this intention, than purely aqueous, or spirituous menstrua. Some drugs, however, vinegar, for particular purpofes, excellently affifts, or coincides with, as squills, garlick, ammoniacum, and others: and, in many cases where this acid is itself principally depended on, it may be advantageously impregnated with the flavour of certain vegetables; most of the odoriferous flowers impart to it their fragrance, together with a fine purplish, or red colour; violets, for instance, if fresh parcels of them be infused in vinegar in the cold for a little time, communicate to the liquor a pleafant flavour, and deep purplish red colour. Vinegar, like other acids, added to watery infusions or decoctions, generally precipitates a part of what the water had diffolved.

ACETUM ROSACEUM.
Vinegar of Roses.
Edinb.

Take of
Red roses dried, one pound;
Strong vinegar, one gallon.
Expose them to the sun in a close vessel, for forty days, and then strain off the liquor.

This is scarce otherwise made use of than for embrocating the head and temples in some kinds of head-ach, &c. in which it has now and then been of service. Vinegar of Squills.

Lond.

Take of

Dried fquills, one pound;

Vinegar, fix pints.

Macerate the squills in the vinegar with a gentle heat; then press out the liquor, and set it by till the sæces have subsided. The vinegar being afterwards poured off, add to it about one-twelfth of its quantity of proof spirit, that it may keep the longer from growing mothery.

Ir should seem most convenient to add the spirit before the vinegar is decanted; for by these means, the purisication is accelerated and rendered more perfect; and the liquor prevented from growing soul a second time, which it is apt to do upon the essuant upon the fusion of the spirit, however carefully it may have been depurated before,

Edinb.

Take of

The root of dried squills, two ounces;

Distilled vinegar, two pounds and an half;

Rectified spirit of wine, three ounces.

Macerate the squills with the vinegar eight days, and express the vinegar, to which add the spirit, and, when the fæces are subsided, pour off the liquor.

VINEGAR of squills is a medicine of great antiquity. We find in a treatise attributed to Galen, an account of its preparation, and U 2

of many particular virtues then ascribed to it. It is a very powerful stimulant, aperient, and attenuant of tenacious juices: and hence is frequently used, with good success, in disorders of the breast occasioned by a load of thick viscid phlegm, for promoting urine in hydropic cases, &c. See the section of acrids, page 69. The dose of this medicine is from a dram to half an ounce: where crudities abound in the first passages, it may be given at first in a larger dose, to evacuate them by vomit. It is most conveniently exhibited along with cinnamon, or other agreeable aromatic waters, which prevent the nausea it would otherwise, even in fmall doses, be apt to occasion.

ACETUM PROPHYLACTICUM.

Prophylactic vinegar.

Paris.

Take of

Fresh tops of common wormwood,

Roman wormwood,

Rosemary,

Sage, Mint,

Rue, each one ounce and a half;

Lavender flowers, dried, two ounces;

Garlick,

Calamus aromaticus,

Cinnamon,

Cloves,

Nutmegs, each two drams; Strong vinegar, eight pints.

Digest them, by the heat of the sun or a sand-bath, in a matrass closely stopt, for twelve days; then strongly press out and strain the liquor, and having afterwards siltered it, add half an ounce of camphor dissolved in spirit of wine.

This composition is designed, as its title expresses, for an antipestilential. It is said that during the

plague at Marfeilles, four perfons, by the use of this preservative, attended, unhurt, multitudes of those who were infected; that under colour of those services, they robbed both the fick and the dead; and that one of them being afterwards apprehended, faved himfelf from the gallows by discovering the remedy. The preparation is hence called Vinaigre des quatre voleurs, the vinegar of the four thieves. It is not to be doubted, that vinegar impregnated with antiseptic vegetables, will contribute greatly to prevent the effects of contagious air.

# ACETUM THERIACALE. Treacle vinegar. Edinb.

Take of

Edinburgh theriaca, described hereafter among the electaries, one pound;

Strong vinegar, four pints.

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

This medicine has been greatly celebrated in acute and contagious diseases, as a sudorific and alexipharmic. Some have chosen to employ the vinegar as a vehicle, rather than as a menstruum, for the theriaca; in either case, it is indisputably, for sundry purposes, an useful addition. To half an ounce by measure of the composition here prescribed, there goes somewhat more than half a grain of opium; tho' it does not appear that the medicine has all the effect which might be expected from that article.

# ACETUM LITHARGYRITES Vinegar of letharge. Edinb.

Take of
Litharge, four ounces;
Strong vinegar, one pint.

Digest in a fand-heat, for three days, frequently shaking them; then filter the liquor for use.

This liquor is of the fame nature with folutions of facebarum faturni, of which hereafter. It is only used externally, as a cosmetic, against cutaneous eruptions, redness, inflammations, &c. But even here, it is not void of danger; there are examples of its continued use having occasioned sundry ill consequences.

# SECT. IV.

Wines.

HE original intention of medicated wines was, that medicines, which were to be continued for a length of time, might be taken in the most familiar and agreeable form; by these means, a course of remedies was complied with, notwithstanding the repugnance and aversion which the sick often manifest to those directly furnished from the shops: and hence the inferior fort of people had their medicated ales. Nevertheless, as vinous liquors excellently extract the virtues of feveral fimples, and are not ill fitted for keeping, they have been employed as officinal menstrua also, and substances of the greatest estieacy are trufted in this form. compounds of water and inflammable spirit, they take up such parts of vegetables and animals as are foluble in those liquors; though most of them abound at the same time with a mucilaginous or viscous substance, which renders them less effectual menstrua than purer mixtures of water and ipirit. They contain likewise a subtile acid, which fomewhat further obstructs their action on certain vegetable and animal matters, but enables them, in proportion to its quantity, to dissolve some bodies of the metallic kind, and thus impregnate themselves with the corroborating virtues of steel, the alterative and

emetic powers of antimony, and the noxious qualities of lead.

NOTE.

To all the medicated wines, after they have been strained, you may add about one-twentieth of their quantity of proof spirit, to preserve them from sermentation. They may be conveniently kept in the same kind of glass bottles that wines generally are for common uses, which should likewise be corked with the same care [L.]

### VINUM ALOETICUM ALKA-LINUM.

Alkaline aloetic wine.

Take of
Any fixt alkaline salt, eight ounces;
Socotorine aloes,
Saffron,
Myrrh, each one ounce;
Salammoniac purified, six drams;
Mountain wine, two pints.
Macerate without heat for a week or longer; then filter the wine through paper.

THIS is the ELIXIR PROPRIE-TATIS HELMONTII, with some little variations, which affect the compounder rather than the composition. It is observable, that the U 2 fal ammoniac is decompounded in this process, after the same manner as in the distillation of the spiritus salis ammoniaci (see chap. viii. sect. 2.) its acid being absorbed by, and neutralizing a part of, the fixt alkali, and its volatile alkaline salt being set at liberty; so that the result is the same as if as much pure volatile salt were added as the sal ammoniac is capable of affording, viz. near half an ounce, with about fix drams of marine salt.

Helmont's elixir, in a preceding pharmacopæia, is thus directed:

Take of
Red tartar,
Nitre, each twelve ounces;
White wine, two pints;
Aloes,
Saffron, each an ounce and a half.

Let the nitre and tartar be reduced into powder, and the mixture thrown by degrees into an hot crucible: when sufficiently calcined, pour the matter into a glass mortar, and add the wine, so as to make a ley thereof; with which ley, a tincture is to be drawn from the aloes and saffron.

Take of

Sal ammoniae, eight ounces; Spring water, twenty ounces; White wine, one pint; Myrrh, an ounce and a half.

Dissolve the sal ammoniac in the water, strain the solution, and evaporate it to dryness. One ounce of this dry salt is to be dissolved in the wine; and with this solution, draw a tincture from the myrrh.

Mix both tinctures together, in a close veffel, so as to make them into an elixir.

THE preparation made after this

troublesome method, is not different from the foregoing. The nitre and tartar, when calcined together, form an alkaline salt, similar to those which the shops are supplied with at a cheaper rate.

Helmont and others have entertained a very high opinion of this medicine, and looked upon it as " a vivifying and preferving bal-" fam, capable of continuing health " and prolonging life to the utmost " possible limits." The medicine is doubtless a very efficacious and useful one for many purposes: it may be so managed as to attenuate viscid juices, and open obstructions in the remoter parts, and promote evacuation by almost all the emunctories. In doses of one, two, or three drams, it increases the urinary fecretion; and if the patient be kept moderately warm, generally proves diaphoretic or sudorific; in larger doses, it gently loosens the belly.

## VINUM AMARUM.

Bitter wine.

Lond.

Take of
Gentian root,
Yellow rind of lemon peel, fresh,
each one ounce;
Long pepper, two drams;
Mountain wine, two pints.
Macerate without heat, and strain
out the wine for use.

This is a very elegant bitter, which the addition of the long pepper renders confiderably warmer than the watery infusion. Gentian and lemon peel, as we have already seen, make a bitter of a very grateful flavour: "the spice here addited was selected after the trial of many other materials."

VINUM ANTIMONIALE.

Antimonial Wine.

Lond.

Take of
Crocus of antimony, washed, one
ounce;

Mountain wine, a pint and a half.

Digest without heat, filter the wine through paper.

#### Edinb.

Take of

Crocus metallorum, one ounce;
Mountain wine, fifteen ounces.
Stir them well together; then let
the mixture stand till it has perfectly fettled, and carefully pour
off the wine.

However carefully the fettling and decantation be performed, the filtration of the wine through paper appears to be necessary, lest fome of the finer parts of the crocus should chance to remain sufpended in substance. It is not here, as in most other wines and tinctures, where the matter left undissolved by the menstruum is of little confequence: the antimonial crocus, after the action of the wine, continues as virulent as ever, and capable of impregnating fresh parcels of the liquor as strongly as the first, and this, in appearance, inexhauftibly; yet, after thirty repeated infusions, it has been found scarce sensibly diminished in weight.

The antimonial wine possesses the whole virtues of that mineral, and may be so dosed and managed, as to perform all that can be effected by any antimonial preparation: with this advantage, that as the active part of the antimony is here already dissolved and rendered miscible with the animal sluids, its operation is more certain. Given from ten to sifty or sixty drops, it acts generally as an alterative and

diaphoretic; in larger doses, as a diuretic and cathartic; whilft three or foul drams prove for the most part violently emetic. It has been chiefly used in this last intention, in some maniacal and apoplectic cases; and hence gained the name of emetic wine.

#### \* VINUM E TARTARO ANTI-MONIALI.

Emetic tartar wine.

This is made by diffolving twenty-four grains of emetic tartar in one pound of white wine.

### VINUM CHALYBEATUM. Steel wine.

Lond.

Take of

Iron filings, four ounces; Cinnamon, Mace, each half an ounce; Rhenish wine, four pints.

Macerate without heat for a month, frequently shaking the vessel, and strain off the wine for use.

### Edinb.

Take of

Iron filings, three ounces; Cochineal, half a dram: Rhenish wine, two pints.

Digest them together for twenty days, frequently shaking the vefsel, and then pass the wine through a filter.

BOTH these wines are sufficiently elegant ones. Rhenish is an excellent menstruum for steel, and dissolves a considerable quantity of it; the cochineal, in the second, imparts a fine colour; and the spices, in the sirst, give the liquor an agreeable slavour, make it sit easier on the stomach, and likewise promote its medicinal efficacy. In a preceding edition of the Edinburgh pharma-

pharmacopæia, the digestion was ordered to be performed in a fandheat, continued for ten days. Some have objected to the use of heat, that it impregnated the wine more strongly with the metal, and thus rendered it more unpleasant to the talte: but if this were the only inconvenience, the remedy would be easy, of diluting it with more wine. Heat has another effect, much less desirable, which art cannot remedy; making a difagreeable alteration in the

quality of the wine itielf.

Steel wine is a very uleful preparation of this metal, and frequently exhibited in chlorotic and other indispositions where chalybeates are proper. Boerhaave recommends it as one of the noblest medicines he was acquainted with, for promoting that power in the body by which blood is made, when weakened by a bare debility of the over-relaxed folids, and an indolent, cold, aqueous indisposition of the juices: for in this case, says he, no virtue of any vegetable or animal substance, no diet nor regimen can effect that, which is effected by iron: but it proves hurtful, where the vital powers are already too firong, whether this proceed from the fluids or the folids. The dose is from a dram to half an ounce; which may be repeated two or three times a day.

Some direct folutions of iron, made in wine or other vegetable acids, to be evaporated to the confiftence of an extract, under the title of EXTRACTUM MARTIS. These preparations have no advantage, in point of virtue, above the common chalybeates; though in some form, that of pills in particular, they may be rather more commodioully exhibited, than most of the officinal chalybeates of equal efficacy. They may be made into

pills by themselves, and are tenacious enough to reduce other fubstances into that form.

### VINUM CROCEUM.

Saffron wine.

Lond.

Take of Saffron, one ounce: Canary, one pint. Macerate without heat, and strain

off the wine. CANARY has been objected to by

some, as an improper menstruum for medicinal fimples, fince it contains a large quantity of uncluous matter, which impedes its diffolving power; a pint of this fort of wine left, upon evaporation, two ounces of a mellaginous substance, not unlike honey boiled hard. It is nevertheless, for faffron, a very well adapted mensiruum, as not only sufficiently loading itself with its virtues, but likewise coinciding in the general intention of the medicine, that of a cordial. The preparation made with Canary is also better fitted for keeping, than when wines that have had any tendency to acidity are employed; for tinctures of faffron drawn with these last, soon lose their fine colour; whilft those made with the first, retain it for a much longer time. The dose of this tincture is from one dram to

## VINUM IPECACUANHÆ.

Wine of ipecacuanha.

Lond.

Take of

three or more.

Ipecacuanha, two ounces; Yellow rind of Seville orange peel, dried, half an ounce; Canary, two pints.

Macerate without heat, and itrain out the wine.

TINCTURA

TINCTURA IPECACU-ANHÆ.

Tincture of ipecacuanha. Edinb.

Take of

Ipecacuanha, in powder, one

Mountain wine, fifteen ounces. After three days digestion, let the tincture be filtered for use.

BOTH these wines are very mild and fafe emetics, and equally ferviceable, in dyfenteries also, with the ipecacuanha in fubstance; this root yielding nearly all its virtues both to the mountain and Canary wines here ordered, as it does a good share of them even to aqueous liquors. The common dofe is an ounce, more or lefs, according to the age and strength of the patient. The college of Edinburgh added formerly a scruple of cochineal, which imparts a fine red colour to the liquor. This article is now omitted, on a complaint, that the red colour of the matters evacuated, fometimes alarmed the patient, as if it proceeded from a difcharge of blood.

# VINUM VIPERINUM. Viper wine. Lond.

Take of
Dry vipers, two ounces;
Mountain, three pints.

Macerate with a gentle heat for a week, and then strain off the wine.

In has been disputed, whether live or dry vipers are preserable for making this medicine. Such as are moderately and newly dried, are perhaps the most eligible, since by exsectation they seem to lose only their phlegmatic or aqueous parts. Whether they communicate to the wine, either when used fresh or dry, so much virtue as they are

fupposed to do, is greatly to be doubted. Some compositions under this name have been highly celebrated, as restoratives, in debilities and decays of constitution; but what virtues of this kind they possessed, were supplied chiefly from other ingredients.

# VINUM MILLEPEDARUM. Wine of millepedes. Edinb.

Take of

Live millepedes, bruised, two ounces;

Rhenish wine, one pound. Insuse them together for a night, and afterwards press the liquor through a strainer.

THIS wine has been commended as an admirable cleanfer of all the viscera, yielding to nothing in the jaundice, and obstructions of the kidneys or urinary passages, of excellent fervice in almost all chronical distempers, even in scrophulous and strumous swellings, and in defluxions of rheum upon the eyes. But those who expected these extraordinary virtues from it, have often been deceived; and, at prefent, there are few who have any great dependence on it. It is directed to be given from half an ounce to two ounces.

# TINCTURA CEPHALICA. Cephalic tincture. Edinb.

Take of

Wild valerian root, four ounces; Virginian snakeroot, one ounce; Rosemary tops, half an ounce; French white wine, six pints.

Digest them together for three days, and then filter the uncture.

This preparation promises to be a medicine of considerable utility as a cephalic, that is, in disorders now retained.

of the nervous system, wherein the membranes of the brain are often principally affected, as in vertiginous, epileptic, and paralytic complaints. The composition is improved from former editions, by the rejection of some ingredients, of which the best were supersuous; viz. casumunar, white dittany roots, peony roots, misletoe of the oak, and peacocks dung. Casumunar is doubtless an article of importance, but much inferior, in the present intention, to the ingredients

Here it may be proper to obferve, that though fome of the distilled waters, to be treated of hereafter, receive many supernumerary ingredients, without any confiderable injury to the produce; yet in medicines prepared by infusion, it is far otherwise. there, ingredients, which give nothing over, do little harm: but as all those commonly employed in infusions communicate something to the menstruum; fo, if superfluous ones be admitted, they load the liquor with an useless matter, and occupy in it the place that ought to be possessed by the more efficacious.

#### TINCTURA CEPHALICA PURGANS.

Purging cephalic tincture.

Edinb.

This is made by adding to the foregoing, of Sena, two ounces;
Black hellebore roots, one ounce;
French white wine, two pints.

PURGATIVES are often very necessary additions to medicines of the foregoing class. Those here made choice of are well adapted to the purpose, and in such quantity as to make the wine gently laxative in doses of two ounces.

### TINCTURA RHABARBARI VINOSA.

Vinous tincture of rhubarb. Lond.

Take of

Rhubarb, two ounces;
Lesser cardamom seeds, freed
from the husks, half an ounce;
Sassron, two drams;
Mountain wine, two pints.
Macerate without heat, and then

Macerate without heat, and then firain off the tincture.

This is a warm, cordial, laxative medicine. It is used chiefly in weakness of the stomach and bowels, and some kinds of loosenesses, for evacuating the offending matter, and strengthening the tone of the viscera. It may be given from half a spoonful to three or sour spoonfuls or more, according to the circumstances of the disorder, and the purposes it is intended to answer.

# TINCTURA SACRA.

Take of

Socotorine aloes, eight ounces; Canella alba, two ounces; Mountain wine, ten pints.

Reduce the aloes and canella separately into powder, then mix, and pour on them the wine; asterwards macerate without heat, for a week or longer, occasionally shaking the vessel; lastly, strain off the wine.

It will be convenient to mix with the powders fome white fand, well washed from dirt, to prevent the aloes from concreting, which it is apt to do upon being moistened.

Edinb.

Take of

Socotorine aloes, one ounce;

The lesser cardamom seeds, Ginger, of each one dram; White wine, two pounds.

Digest for seven days, often shaking the vessel, and strain off the tincture.

This medicine has long been in great effeem, not only as a cathartic, but likewife as a stimulus; the wine diffolving all that part of the aloes in which these qualities reside, a portion only of the less active refinous matter being left. The aromatic ingredients are added, to warm the medicine, and fomewhat alleviate the ill flavour of the aloes. Canella alba, or cloves, are faid, among numerous materials that have been made trial of, to answer this end the most successfully. The fnakeroot\*, in the second of the above prescriptions, seems designed for promoting the stimulating virtue of the aloes, and thus extending its action to further purposes than it is by itself capable of. Probably in the same intention, asarum was made an ingredient in our former pharmacopœias: in a preceding edition of this work, the tincture is directed as follows: Take of

Aloes, eight ounces;
Afarum,
Cinnamon,
Zedoary,
Cardamom feeds,
Saffron, each four drams;
Cochineal, a fcruple;
Mountain wine, ten pints.

Pour the wine on the other ingredients reduced into powder, digest them together, and afterwards strain off the tincture for use. The tinctura sacra appears, from

long experience, to be a medicine of excellent fervice in languid, phlegmatic habits, not only for cleaning the primæ viæ, but like-

\* Omitted in the last edition of the Edinb.

wife for attenuating and dissolving viscid juices in the remoter parts, for flimulating the folids, warming the habit, promoting or exciting the uterine purgations, and the hæmorrhoidal flux. The dofe, as a purgative, is from one to two ounces, or more: it may be introduced into the habit, fo as to be productive of excellent effects, as an alterant, by giving it in small doses, at proper intervals; thus managed, it does not for a confiderable time operate remarkably by stool; but at length proves purgative, and occasions a lax habit, of much longer continuance than that produced by the other common cathartics.

#### TINCTURA AD STOMA-CHICOS.

Stomachic tincture.
Edinb.

Take of

Calamus aromaticus,

Gentian root, each one ounce and a half;

Peruvian bark, in powder, two ounces;

Curaffoa oranges,

Lesser centaury tops,

Carduns benedictus feeds, each one ounce;

Iron filings (to be tied up in a bag) three ounces;

Digest for the space of three days, and then filter the tincture.

This tincture may likewise be made without the iron.

This tincture is a very efficacious medicine in weakness of the stomach and chylopoietic organs, and in a lax flaccid state of the viscera in general. It is here rendered much more elegant and grateful than as it stood in former editions, by the rejection of some exceptionable ingredients, as galangal, langal, zedoary, camomile, and wormwood. The carduus feeds and centaury tops might still perhaps be spared without injury, as they do not feem to have any virtues which gentian root does not poffels in a greater degree. The Seville orange peel of former editions is here exchanged for the unripe young fruit of the orange tree, called Curaffao oranges, an article well adapted to compositions of this kind, being an aromatic bitter of a very agreeable flavour.

### TINCTURA THEBAICA. Thebaic tincture. Lond.

Take of Strained opium, two ounces; Cinnamon, Cloves, each one dram; Mountain wine, one pint. Macerate without heat for a week,

and then filter the tincture through paper.

THIS is the LIQUID LAUDA-NUM of SYDENHAM, with the exchange of Canary wine for mountain, and the omission of an ounce of faffron. The aromatics in the form above are in so small quantity, that the prescriber can scarce expect any confiderable effect from them, the proportion of each that goes to a grain of opium, amounting to no more than the fixteenth part of a grain. Even these minute proportions, however, are in good measure sufficient to take off the ill odour of the opium, which feems to be all that is intended by them.

The principal advantages of exhibiting opium in this form are, that by being already dissolved, it exerts itself the sooner in the body; and that by some perions, liquids are more commodiously

taken, than a bolus or pill. The common doses of the tincture are from ten drops to forty, fifty, or more, according to the exigencies of the case. It were to be wished, that the dose could be more exactly afcertained, by weight or measure; as the drops may, according to different circumstances, vary in quantity, though in number the same; and as an error therein may, in some cases, be of mischievous consequence. Twenty drops contain, at a medium, about one grain of opium, or rather, so much as that quantity of wine will extract from one grain; for the liquor does not dissolve the whole fubstance of the opium, nor is the folution equivalent, in its effect, to the full quantity of opium employed in it.

A liquid opiate, free from the inconveniencies here complained of, will be described under the head of

ipirituous tinctures.

## VINUM AROMATICUM.

Aromatic wine.

Take of Cloves, Ginger, each half an ounce; Cinnamon, Nutmegs, each one ounce; Canary wine, fix pints.

Beat the spices into a coarse powder, and steep them in the wine for some days; then pass the liquor through a strainer.

THIS wine is a very high cordial, and greatly commended for warming the habit and firengthening the nervous system. It is so hot of the spices as to require being diluted for use, and to be taken only in small quantities at a time. Mixed with a little lemon juice, and a large proportion of milk, it forms a pleafant and useful whey in low fevers. VINUM

VINUM ANTISCORBUTICUM.

Antiscorbutic wine.

Paris.

Take of

Leaves of Buckbean,
Water-creffes,
Brooklime,
Dittander,
Scurvy-grafs,

Jack-by-the-hedge, Roots of horseradish, each one

ounce;

Florence orris, two drams; White wine, half a gallon.

The herbs and roots, all fresh gathered and cut small, are to be steeped in the wine, in a vessel very closely stopt, for twentyfour hours; after which the wine is to be filtered for use.

THIS composition is not ill contrived for answering the purpose expressed by its title; though some of the ingredients are not unexceptionable. An ounce of the herbaceous brooklime is altogether infignificant in half a gallon of an infusion of such powerful materials; and it may be doubted whether the fresh orris root communicate any of its virtues to the liquor. The roots of the Florentine, as well as of the common orris, raised in our gardens, are, while fresh, strong purgatives; but their purgative matter is fo little difposed to solution in watery menftrua, that it separates from the expressed juices and settles to the bottom. In drying they change their nature; and the Florentine species, in a dry state, might be an useful addition, for giving an agreeable flavour to the wine. The flayour which this root communicates to vinous liquors, greatly resembles that of raipberries.

> VINUM SCORBUTICUM. Scorbutic wine.

Take of

Garden scurvy-grass, one handful;

Horseradish root, scraped, half an ounce;

Winter's bark, two drams; Mountain wine, two pints.

Let them steep together in the cold for three days.

This wine is so far impregnated with the virtues of the ingredients, as to do considerable service in scorbutic habits. It is used chiefly in the spring, in the quantity of a common wine glass, two or three times a day. Though far more simple than the preceding, it is not perhaps less efficacious.

VINUM SCORBUTICUM MUNTINGII.

Muntingius's scorbutic wine.

Take of

The roots of the greater waterdock, fix ounces;

Gentian root, Liquorice, Cinnamon, Black pepper,

Mace, each three ounces; Saffron, two ounces;

Mountain wine, fixteen pints; Strong vinegar, four pints; Yolks of three fresh eggs.

Reduce the roots and spices into a gross powder, and pour on them the wine, vinegar, and yolks of eggs. Digest the whole in a close vessel, with a gentle warmth, for three days; and then strain out the liquor for use.

THE author of this composition recommends it as a medicine of infallible efficacy against inveterate scurvies, and all kinds of scorbutic complaints, particularly such as are not accompanied with a fever or inflammation: even palsies, and the venereal lues, he says, have yielded to it. The dose is from three to

fix ounces, to be taken in the morning on an empty stomach, and continued for fourteen or twenty days, or longer: some quantity of it is likewise to be mixed with the patient's common drink, which he directs to be either good Rhenish wine, or sound malt liquors not too new. If the patient complain of heat, dryness, a violent cough, or where there are any symptoms of a consumption, the black pepper is ordered to be omitted, and the liquorice increased in its room to fix ounces.

A composition differing from the above only in the omission of vinegar, and employing spirit of wine for the menstruum, is said to have come into esteem at Paris, against the gout.

# VINUM FEBRIFUGUM. Febrifuge wine. Paris.

Take of

Peruvian bark, in powder, two ounces;

Rough red wine, two pints.

Digest them together in a circulatory vessel, with a moderate heat, for forty-eight hours, occasionally shaking the vessel: then suffer the whole to cool, and pass the wine through a strainer.

This is the preparation of bark made use of by sir Robert Tabor or Talbot (an English gentleman residing in France) who was one of the first that retrieved the character of the medicine itself, at the time that some ill consequences following its imprudent use had brought it into disesteem. He kept this preparation a secret, till Lewis XIV. purchased it for a considerable sum, and communicated it to the public. It was not however the preparation, but a proper method of managing the medicine,

upon which the fuccess of his practice depended. See page 197. It appears from experience, that this wine is less certain in the cure of agues, than the bark given in fubstance; nor is it equal, in this intention, for general use, to the watery infulion described in page 271; the wine preventing its being taken fo freely as is in many cases requifite. It nevertheless has its uses, in those intermittent fevers where a large quantity of the bark is not necessary; and is particularly ferviceable in a laxity and debility of the stomach and intestines.

# VINUM GUAIACINUM. Guaiacum wine.

Take of

Guaiacum wood, Yellow faunders, each two oun-

Orange peel, dried, Lesser cardamom seeds, each one ounce;

Mountain wine, one gallon

Let them steep together for a week,
and then strain out the wine for
use.

This is a moderately warm and corroborating wine. It is used in nervous weaknesses, in decays of constitution from cold pituitous humours; and proves an useful preservative against rheumatic and arthritic complaints. Two ounces, or an ordinary wine glass, may be taken two or three times a day, and continued for a month or two.

# VINUM GUAIACINUM CUM HELLEBORO.

Guaiacum wine with hellebore. Take of

Guaiacum wood,
Black hellebore root, each two
ounces;
Lesser cardamon seeds,

Orange

Orange peel, dried, each one ounce;

Mountain wine, four pints.

Let these ingredients steep together for a week or longer, and then strain out the wine for use.

FROM the warm, stimulating, deobstruent qualities of this wine, it may be used, to good advantage, in cold phlegmatic habits, where the humours stagnate in the remote vessels, and where there is a disposition to gouty, rheumatic, or hydropic disorders. It is to be taken chiefly over night, in such small doses as not to run off by stool.

# SECT. V.

Ales.

EDICATED ales are intended as diet-drinks in chronical indispositions. There are two ways, of impregnating malt-liquors with the virtues of medicinal substances; macerating the subject in the liquor after the fermentation is completely finished; and fermenting it along with the liquor, or at least adding it towards the end of the fermentation, that, by the refolutive power of that process, its texture may be opened, and its medicinal parts more fully extracted. Neumann observes, that the active powers of many vegetables are not only effectually extracted, but extended, as it were, by fermentation: that so much pounded nutmeg, as will lie on the point of a knife, gives a flavour to a large vat of fermenting ale; whereas, when the fermentation is finished, the quantity of liquor to which it gives a like impregnation, is comparatively inconfiderable.

CEREVISIA AMARA.
Bitter Ale.

Take of
Gentian root,
Lemon peel, fresh, each four
ounces;
Long pepper, one ounce;
Ale, one gallon.

Let them steep together without heat.

This is an agreeable bitter stomachic ale, much superior to the common purls, or any of the compositions of this kind in the extemporaneous recipe writers.

CEREVISIA APERIENS.

Aperient Ale.

Take of

Mustard seed, unbruised, ten
ounces;

Long birthwort root, six ounces;

Lesser centaury tops, two ounces;

Savin tops, one ounce;

New small ale, ten gallons.

This is an useful aperient dietdrink in cachectic and chlorotic indispositions, and in all cases where obstructions begin to form in the viscera. It is to be taken, to the quantity of half a pint at a time, twice a day.

CEREVISIA BUTLERI.
Dr. Butler's ale.

Take of
Betony,
Sage,
Agrimony,
Garden scurvy-grass,

Roman

Roman wormwood, each three Take of handfuls;

Elecampane roots,
Horferadish roots, each four ounce

New ale, four gallons.

The herbs and roots are to be put in a bag, and hung in the ale while it works.

This liquor has fo far obtained among the common people, as to have been frequently made and fold in public houses. It is used in the spring, for purifying the blood, and preventing scorbutic disorders.

### CEREVISIA CEPHALICA. Cephalic ale.

Take of
Wild valerian root, ten ounces;
Mustard seed, whole, six ounces;
Virginian snakeroot, two ounces;
Rosemary, or sage, three ounces;
New small ale, ten gallons.

THE ingredients of this composition are all of the warm and stimulating kind; and consequently tend to invigorate the nervous system, and promote the circulation of the sluids. In palsies, epilepsies, and vertigoes, some benesit may be expected from this liquor used as common drink.

### CEREVISIA DIURETICA. Diuretic ale.

Take of

Mustard seed, whole,

Juniper berries, each eight
ounces;

Wild carrot seeds, three ounces;

Common wormwood, two ounces;

New small ale, ten gallons.

Broom tops,
Mustard seed, each sixteen
ounces;
Flower-de-luce roots,
Sharp-pointed dock roots, each
twelve ounces;
Winter's bark,
Elder bark,
Wild carrot seeds,
Juniper berries, each two pounds;
New ale, twelve gallons.

In hydropic cases, and corpulent scorbutic habits, these aperient and diuretic liquors are very useful diet-drinks. Half a pint of either may be taken two or three times a day.

### CEREVISIA AD SCORBUTICOS.

Scorbutic ale.

Take of
Horseradish root, fresh, one
pound;
Sharp-pointed dock roots, half
a pound;
Canella alba, two ounces;
Buckbean leaves, fresh, eight
ounces: or dried, three
ounces;
New small ale, ten gallons.

In scorbutic disorders, and impurities of the blood and juices, this liquor, used as common drink, generally does good service. All the ingredients are very effectual for the intention, and well suited to the form. If the sharp-pointed dock roots were exchanged for those of the great water dock, the composition would be still more powerful.

#### SECT. VI.

### Spirituous Tinclures.

ECTIFIED spirit of wine is the direct menstruum of the refins and effential oils of vegetables; and totally extracts these active principles from fundry vegetable matters, which yield them to water either not at all, or only in part. It dissolves likewise the sweet faccharine matter of vegetables; and generally, those parts of animal bodies, in which their peculiar fmells and taftes refide.

The virtues of many vegetables are extracted almost equally by water and rectified spirit; but in the watery and spirituous tinctures of them there is this difference, that the active parts, in the watery extractions, are blended with a large proportion of inert gummy matter, on which their folubility in this menstruum in great measure depends, while rectified spirit extracts them almost pure from gum. Hence, when the fpirituous tinctures are mixed with watery liquors, a part of what the spirit had taken up from the subject generally separates and subfides, on account of its having been freed from that matter which, being blended with it in the original vegetable, made it foluble in water. This however is not universal; for the active parts of some vegetables, when extracted by rectified spirit, are not precipitated by water, being almost equally dissoluble in both menstrua.

Rectified spirit may be tinged by vegetables of all colours, except blue. The leaves of plants in general, which give out but little of their natural colour to watery liquors, communicate to spirit the whole of their green tincture, which for the most part proves elegant,

though not very durable.

Fixt alkaline falts deepen the colour of spirituous tinctures; and hence have been supposed to promote the diffolving power of the menstruum, though this does not appear from experience: in the trials that have been made to determine this affair, no more was found to be taken up in the deep coloured tinctures, than in the paler ones, and often not fo much; if the alkali be added after the extraction of the tincture, it will heighten the colour as much as when mixed with the ingredients at first. Nor is the addition of thefe falts, in making tinctures, ufeless only, but likewise prejudicial, as they, in general, injure the flayour of aromatics, and superadd a quality, fometimes contrary to the intention of the medicine. Volatile alkaline falts, in many cafes, promote the action of the fpirit. Acids generally weaken it; unless when the acid has been previously combined with the vinous spirit into a compound of new qualities, called dulcified spirit.

General rules for extracting tinctures; from the Edinburgh Pharmacopaia.

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

If the digestion be performed in balneo, the whole fuccess depends upon a proper management of the fire : it 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.

Very large circulatory vessels ought to be employed for this purpose, which should be heated before

they are luted together.

Circulatory vessels are those, which are so contrived, and of fuch a height, that the vapour, which arises during the digestion, may be cooled and condensed in the upper part, and fall down again into the liquor below: by these means the distipation, both of the spirit and of the volatile parts of the ingredients, is prevented. They are generally composed of two long-necked matraffes or boltheads; the mouth of one of which is to be inferted into that of the other, and the juncture secured by a piece of wet bladder. The use of heating the veffels is to expel a part of the air; which otherwise, rarifying in the process, would endanger burfting them, or blowing off the uppermost matrass. A fingle

matrass with a long neck, or with a glass pipe inserted into its mouth, is more commodious than the double veffel. See page 44.

The veffel is to be frequently shaken during the digestion.

All tinctures should be suffered to fettle before they are committed either to the filter or strainer.

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

Refins and refinous gums yield tinctures more successfully, if, after being ground into powder, they be mixed with some white fand, well washed and dried, which will prevent their running into lumps by the heat. If the powders prescribed be sufficient for this purpose, such an addition is unnecessary.

#### TINCTURA AMARA. Bitter tincture. Lond.

Take of

Gentian root, two ounces: Yellow rind of Seville orange peel, dried, one ounce; Lesser cardamom seeds, freed from the hulks, half an ounce; Proof spirit, two pints. Digest without heat, and strain off

the tincture.

THIS is a very elegant spirituous bitter. As the preparation is defigned for keeping, lemon peel,

an excellent ingredient in the watery bitter infusions, has, on account of the perishableness of its slavour, no place in this. The cardamom seeds are here a very commodious ingredient, as in this spirituous menstruum they are free from the inconvenience with which they are attended in other liquors, of rendering them untransparent. The Edinburgh pharmacopæia has a composition similar in intention to this, under the title of

### ELIXIR STOMACHICUM. Stomachic elixir.

Take of

Gentian root, two ounces; Curassao oranges, one ounce; Virginian snakeroot, half an ounce;

Cochineal, half a dram;
French brandy, two pints.
Let them steep for three days, and
then filter the elixir.

This elixir differs from that of former editions, in the substitution of Curassao oranges to fresh orange peel, and in the addition of half an ounce of Virginian snakeroot. The first is a grateful aromatic bitter, and the latter superadds a degree of pungency coinciding with the intention. Both this and the preceding composition are very useful stomachic bitters.

#### TINCTURA AROMATICA.

Aromatic tincture.

Take of

Cinnamon, fix drams;
Leffer cardamom feeds, freed
from the hufks, three drams;
Long pepper,
Ginger, each two drams;

Proof spirit, two pints.

Digest without heat, and then strain off the tincture.

This is a very warm aromatic,

too much so to be given without dilution. A tea spoonful or two may be taken in wine, or any other convenient vehicle, in languors, weakness of the stomach, flatulencies, and similar complaints. The stomachic tincture described hereafter, is similar in intention to this, but contrived less hot of the spices, that it may be taken by itself.

## \* TINCTURA AROMATICA. Aromatic tincture. Edinb.

Take of

Cinnamon, fix drams;
Lesser cardamom seeds, one ounce;
Garden angelica root, three drams;

Long pepper, two drams; Proof spirit, two pounds and an half.

Macerate seven days, and filter.

This preparation is improved from the preceding editions, by the omission of some articles either superfluous or foreign to the intention; galangal, gentian, zedoary, and bayberries. As now reformed, it is a sufficiently elegant warm aromatic.

## TINCTURA BALSAMICA. Balfamic tincture. Edinb.

Take of

Balfam of Copaiba, one ounce and a half;

Balsam of Peru, half an ounce; English saffron, one dram; Rectified spirit of wine, one

pint. est these ingredients together

Digest these ingredients together, in a sand heat, for three days; and, then, pass the tincture thro' a strainer.

This tincture is an excellent balfamic, both for internal and external purposes. It is usually X 2 given, given, in doses of ten, twenty, or thirty drops, in the fluor albus, gleets, cachexies, fome kinds of afthmas, and nephritic complaints, for strengthening the tone of the viscera, and corroborating the nervous fystem in general. Some caution is requifite in the use of these 'resinous warm medicines: in cold, languid, phlegmatic habits, they have for the most part good effects; but in bilious and plethoric constitutions, where there is any tendency to inflammation, or immoderate heat, they are manifestly prejudicial, and raise or continue febrile fymptoms.

#### TINCTURA CANTHARI-DUM.

Tineture of cantharides.

Take of

Cantharides, bruised, two drams; Cochineal, half a dram;

Proof spirit, a pint and a half.

Digest them together, and afterwards filter the tincture through paper.

Edinb.

Take of
Cantharides, one dram;
Proof spirit, one pound.
Digest four days, and filter.

THESE tinctures possess the whole virtues of the fly, and are the only preparations of it designed for internal use; tinctures being by far the most commodious and safe form for the exhibition of this active drug. If any additional fubstances should be thought requisite for promoting the effect of the cantharides, whether as a diuretic, as a detergent in ulcerations of the urinary paffages, or as a specific restringent of feminal gleets and the fluor albus, they are more advantageously joined extemporaneously to the tincture, or interpoled by themselves

at proper intervals. The usual dose of these tinctures is from ten to twenty drops, which may be taken in a glass of water, or any other more agreeable liquor, twice a day; and increased by two or three drops at a time, according to the effect.

# TINCTURA CARDAMOMI. Tincture of cardamoms. Lond.

Take of Leffer cardamom feeds, hufked, half a pound;

Proof spirit, two pints.
Digest without heat, and strain the tincture.

TINCTURE of cardamoms has been in use for a considerable time, though now first received into the dispensatory. It is a pleasant, warm cordial, and may be taken, along with any proper vehicle, from a dram to a spoonful or two.

## TINCTURA CASTOREI. Tincture of castor. Lond.

Take of
Russia castor, powdered, two
ounces;
Proof spirit, two pints.
Digest for ten days without heat,
and strain off the tincture.

#### Edinb.

Take of
Russia castor, one ounce and an half;
Rectified spirit of wine, one pound;
Macerate for six days, and strain.

An alkaline falt was formerly added in this last prescription, which is here judiciously rejected, as being at least an useless, if not a prejudicial ingredient. It has been disputed, whether a weak or rectified

tified spirit, and cold or warm digestion, be preferable for making this tincture. To determine this point, the following experiment has been brought. " Some fine Siberia caf-" tor having been infused in good " French brandy, without heat, " for twenty days, the tincture " proved very weak : on the fame " individual caftor (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 " extracted much stronger than the " other." But this experiment is not fatisfactory; the effects of the two menstrua, and of heat, having been respectively compared in very different circumstances. From the trials which I have made, it appears, that caftor, macerated without heat, gives out its finer and most grateful parts to either spirit, more perfectly to the rectified; that heat enables both menstrua to extract the greatest part of its grosser and more nauseous matter; and that proof spirit extracts this last more readily than rectified.

The tincture of castor is recommended in most kinds of nervous complaints, and hysteric disorders: in the latter it sometimes does fervice, though many have complained of its proving inessectual. The dose is from twenty drops to forty, fifty,

or more.

# COMPOSITA. Compound tincture of castor.

Take of

Russia castor, one ounce;
Asafetida, half an ounce;
Vinous spirit of sal ammoniac,
one pound.

Digest for fix days in a close-stopt phial, frequently shaking the veffel; and then frain the tinc-

This composition is a medicine of real efficacy, particularly in hysterical disorders, and the several symptoms which accompany them. The volatile oily spirit, here intended, is the second of those hereafter described under that title. It is an excellent menstruum both for the castor and the asafetida, and greatly adds to their virtues.

### TINCTURA CINNAMOMI. Tincture of cinnamon. Lond.

Take of

Cinnamon, an ounce and a half; Proof spirit, a pint.

Digest without heat, and strain off the tincture.

THE tincture of cinnamon posfesses the restringent virtues of the cinnamon, as well as its aromatic cordial ones; and, in this respect, it differs from the distilled waters of the spice.

# TINCTURA CORTICIS PERUVIANI SIMPLEX. Simple tincture of Peruvian bark.

ncture of Peruvian bark.

Lond.

Take of

Peruvian bark, four ounces; Proof spirit, two pints.

Digest and strain.

A medicine of this kind has been for a long time pretty much in esteem, and usually kept in the shops, though but lately received into the dispensatory. Some have employed highly-rectified spirit of wine as a menstruum; which they have taken care fully to saturate, by digestion on a large quantity of the bark. Others have thought to assist the action of the spirit, by the addition of a little fixt alkaline salt, which does not, however, appear

4 3

to be of any advantage; and others have given the preference to the vitriolic acid, which was supposed, by giving a greater confishence to the spirit, to enable it to sustain more than it would be capable of doing by itself; at the same time that the acid improves the medicine, by increasing the roughness of the bark. This last tincture, and that made with rectified spirit, have their advantages; though for general use, the above-directed is the most convenient of any, the proof spirit extracting nearly all the virtues of the bark. It may be given from a tea-spoonful to half an ounce, or an ounce, according to the different purposes it is intended to answer. See PERUVIANUS COR-TEX.

TINCTURA CORTICIS PERU-VIANI VOLATILIS.

Volatile tinoture of Peruvian bark. Lond.

Take of

Peruvian bark, four ounces;
Spirit of fal ammoniac, two pints.
Digest without heat, in a vessel close stopt; and afterwards strain the tincture.

THIS tincture is but lightly impregnated with the virtues of the bark; and is fo acrimonious, that the largest dose, which can with fafety be given of it, can contain only a very fmall quantity of the fubject. The medicine nevertheless has its uses, and may be serviceable in fome cases where the stronger are improper, as in difficulty of breathing, obstructions, and oppressions of the breast. Stronger tinctures of this kind may be obtained by means of dulcified spirit of fal ammoniac, or the spirit prepared with quicklime. All the three may be employed where a

large quantity of bark is not required, as at the close of the cure of intermittents, in weakness of digestion, attended with a cold fensation at the stomach, and some fluxes, particularly those from the uterus, where the circulation is languid, the fibres relaxed, and where there is a periodical return of flight feverish complaints. In these cases, I have often experienced falutary effects from a tincture in dulcified fpirit of fal ammoniac, given to the quantity of a tea spoonful five or fix times a day, in any appropriated vehicles.

TINCTURA CORTICIS PERU-VIANI. COMP.

Compound tineture of Peruvian bark.

Edinb.

Take of

Peruvian bark, in powder, three ounces;

Virginian snakeroot, Gentian, each two drams; French brandy, two pints.

Let them steep together for three days, and afterwards filter the tincture.

THE fubstances here joined to the bark, in many cases, promote its efficacy in the cure of intermittents; and not unfrequently, are absolutely necessary. In some bad habits, particularly where the juices are fluggish and tenacious, the vifcera and abdominal glands obftructed, the bark, by itself, proves unsuccessful, if not injurious; whilft, given in conjunction with corroborant flomachics and deobftruents, it rarely fails of the due effect. Gentian and Virginian fnakeroot are among the belt additions for the purpole; to which it is often necessary to join chalybeate medicines also.

Chap. 3.

TINCTURA CROCI.
Tincture of faffron.
Edinb.

Take of
English saffron, one ounce;
Proof spirit, sisteen ounces;
Digest for seven days, and strain.

This tincture is similar in virtue to the saffron wine. A spirituous menstruum is here preferred to the wine, as a tincture drawn with the sormer retains its elegant colour longer, and is not apt to deposit, in keeping, any part of what it had taken up from the saffron. The shops have been accustomed to employ treacle water as a menstruum for saffron, with a view to promote its essicacy in the intention of an alexipharmic; but the acid in that compound water soon destroys the colour of the tincture.

TINCTURA FŒTIDA.

Fetid tincture.

Lond.

Take of
Afafetida, four ounces;
Rectified spirit of wine, two pints.
Digest and strain.

This tincture, now received into the pharmacopæia, has been in use for a considerable time. It possesses the virtues of the asasedita itself; and may be given from ten drops to sifty or fixty. It was first proposed to the college to be made with proof spirit: this dissolves more of the asasetida than a rectified one, but the tincture proves turbid; and therefore rectified spirit, which extracts a transparent one, is very justly preferred.

TINCTURA FULIGINIS.

Tincture of foot.

Lond.

Take of Wood foot, two ounces; Afafetida, one ounce; Proof spirit, two pints. Digest and strain.

Edinb.

Take of
Shining wood-foot, one ounce;
Afafetida, half an ounce;
Rectified spirit of wine,
Proof spirit, of each half a pound.
Digest six days, and strain.

THE proof spirit is not liable to the same objection here as in the foregoing tincture; for when foot is added, whatever spirit be ememployed, the tineture will not prove transparent. Fuller, in his pharmacopœia domestica, has a medicine under the title of Hys-TERIC TINCTURE, fimilar to thefe, only with a little myrrh, which is no very material addition to afafe-These medicines tida and foot. are found ferviceable, not only in hysteric cases, but likewise in other nervous diforders. They may be given from a tea-spoonful to a common spoonful twice a day.

### TINCTURA GUAIACINA VOLATILIS.

Volatile tineture of guaiacum. Lond.

Take of
Gum guaiacum, four ounces;
Volatile aromatic spirit, a pint
and a half.

Digest, without heat, in a vessel close stopt; and afterwards let the tincture be passed through a strainer.

This is a very elegant and efficacious tincture; the volatile spirit excellently dissolving the gum, and, at the same time, promoting its medicinal virtue. In rheumatic cases, a tea-spoonful, taken every morning and evening in any convenient venient vehicle, has proved of fingular fervice.

TINCTURA JALAPII.

Tincture of jalap.

Lond.

Take of
Jalap root, eight ounces;
Proof spirit, two pints.
After proper digestion, strain off
the tincture.

This tincture is an useful and mild purgative, the menstruum, here employed, taking up so much of the gummy parts, as corrects the griping quality with which the resin is attended. It may be taken by itself from a dram to half an ounce; or mixed in smaller quantity with cathartic insusions, or the like.

TINCTURA JALAPPÆ.

Tincture of jalap.

Edinb.

Take of
Jalap root, three ounces;
Proof spirit, fifteen ounces.
Digest for eight days, and strain.

RECTIFIED Spirit of wine was formerly ordered for the prepararion of this tincture; but rectified fpirit, dissolving little more than the pure refinous parts of the jalap, rendered the use of the medicine fomewhat less commodious than that of the tincture prepared with proof spirit. Most of the tinctures made in rectified spirit, diluted with water to as to be fit for taking, form a turbid white mixture: many of them are fafely taken in this form, without any further addition; but the cathartic ones are never to be ventured on without an admixture of fyrup or mucilage to keep the refin united with the liquor; for if it separate, in its pure undivided state, it never fails to produce violent gripes.

Some have preferred to the tincture of jalap, a folution in spirit of wine of a known quantity of the refin extracted from the root; and observe, that this solution is more certain in strength than any tincture that can be drawn from the root directly. For, as the purgative virtue of jalap refides in its refin, and as all jalap appears, from experiment, not to be equally refinous, fome forts yielding five, and others not three ounces of refin from fixteen; it follows, that although the root be always taken in the same proportion as the menstruum, and the menstruum always of the same strength, it may nevertheless, according to the degree of goodness of the jalap, be impregnated with different quantities of refin, and confequently prove different in degree of efficacy. Though this objection against the tincture does not reach fo far as some seem to suppose, it certainly behoves the apothecary to be careful in the choice of the root. The inferior forts may be employed for making the refina jalapii, which they yield in as great perfection, though not in fo large quantity, as the best. Neumann thinks even the worm-eaten jalap as good, for that purpole, as any other.

#### TINCTURA JALAPPÆ COMPOSITA.

Compound tincture of jalap.

Edinb.

Take of

Jalap, fix drams;
Black hellebore roots, three drams;

Juniper berries,

Guaiacum shavings, each half an ounce;

French brandy, a pint and a half. Digest for three days, and afterwards strain the tincture.

THIS

This tincture requires to be taken in larger quantity than either of the foregoing. If intended to act fully as a cathartic, it may, in some cases, be employed to advantage, in small doses, as an alterant. The quantity of the purgative materials, that goes to an ounce of the tincture, is fifteen grains of jalap, and seven and a half of the black hellebore root.

### TINCTURA JAPONICA.

Japonic tinsture.

Lond.

Take of

Japan earth, three ounces; Cinnamon, two ounces; Proof spirit, two pints.

After a proper digestion, let the tincture be passed through a strainer.

A tincture of this kind, with the addition of Peruvian bark, ambergris, and musk, to the ingredients above directed, was formerly kept in the shops. The tincture here received is preserable for general use. Where any other ingredients are required, tinctures of them may be occasionally mixed with this in extemporaneous prescription. The cinnamon is a very useful addition to the Japan earth, not only as it warms the stomach, &c. but likewise as it improves the roughness and astringency of the other.

#### \* TINCTURA E KINO.

Tincture of gum kino.

Edinb.

Take of

Gum kino, two ounces; Proof spirit, one pound and an half.

Digest eight days, and strain off the tincture.

THESE tinctures are of good fer-

vice in all kinds of defluxions, catarrhs, loofenesses, uterine suors, and similar disorders, where mild astringent medicines are indicated. Two or three tea-spoonfuls may be taken every now and then, in red wine, or any other proper vehicle.

## TINCTURA LACCA. Tincture of gum-lac. Edinb.

Take of

Gum-lac, powdered, an ounce; Myrrh, powdered, half an ounce; Spirit of scurvy-grass, a pint and a half.

Digest in a sand heat for six days: after which, strain off the tincture.

This tincture is principally employed for strengthening the gums, and in bleedings and scorbutic exulcerations of them: it may be sitted for use in these intentions, by mixing it with honey of roses, or the like. Some recommend it internally against scorbutic complaints, and as a corroborant in gleets, semale weaknesses, &c. Its warmth, pungency, and manifestly astringent bitterish taste, point out its virtues, in these cases, to be considerable, though common practice, among us, has not yet received it.

#### TINCTURA FLORUM MAR-TIALIUM.

Tineture of the martial flowers.

Lond.

Take of

Martial flowers, four ounces; Proof spirit, one pint, Digest and strain.

# TINCTURA MARTIS. Tincture of iron. Edinb.

Take of

Iron filings, purified and reduced to powder, three ounces; Marine Marine acid, enough to diffolve

the powder.

Digest with a gentle heat, and, when the powder is dissolved, add such a quantity of spirit of wine as will make up the whole liquor two pounds.

#### TINCTURA MARTIS IN SPI-RITU SALIS.

Tincture of iron in Spirit of Salt.

Take of

Iron filings, half a pound; Glauber's spirit of falt, three pounds;

Reclified spirit of wine, three

pints.

Digest the iron filings in the spirit of falt, without heat, as long as the spirit acts upon the iron. After the seces have subsided, evaporate the liquor to one pound, and add thereto the vinous spirit.

ALL the tinctures of ficel are no other than real folutions of the metal made in acids, and combined with vinous spirits. three tinctures, here directed, differ from one another only in ftrength, the acid being the fame in all: the first is the weakest, and the last the strongest. In a former pharmacopœia there was a tincture from the matter which remains after the fublimation of the martial flowers; which, though it appears to be a good one, is now expunged as superfluous. Some have recommended dulcified spirit of nitre as a menitruum; but though this readily dissolves the metal, it does not keep it suspended. The marine is the only acid that can be employed for this uie.

All these tinctures are greatly preserable to the calces or croci of iron, as being not only more speedy, but likewise more certain in

their operation: the latter, in some cases, pass off through the intestinal tube with little effect; whilst the tinctures scarce ever fail. From ten to twenty drops of either of the tinctures, may be taken two or three times a day, in any proper vehicle; though it is seldom advisable to extend the dose so far as the last of the quantities, especially in regard to the tincture in spirit of salt, which is exceedingly strong of the iron.

#### TINCTURA MELAMPODII.

Tincture of melampodium, or black hellebore.

Lond. and Edinb.

Take of

Black hellebore roots, four oun-

Cochineal, two scruples; Proof spirit, two pints.

Digest them together, and afterwards filter the tincture through paper.

This is perhaps the best preparation of hellebore, when deligned for an alterative, the menstruum here employed extracting the whole of its virtues. It has been found, from experience, particularly serviceable in uterine obstructions: in fanguine conflitutions, where chalybeates are hurtful, it feldom fails of exciting the menstrual evacuations, and removing the ill confequences of their fuppression. So great is the power of this medicine, that wherever, from an ill conformation of the parts, or other causes, the expected discharge does not succeed upon the use of it, the blood, as Dr. Mead has observed, is so forcibly propelled, as to make its way through other passages. A tea spoonful of the tincture may be taken twice in a

day,

day, in warm water, or any other esteems it in all languid cases, pro-

convenient vehicle.

The college of Edinburgh had formerly a tincture of this root with wine. Proof spirit is undoubtedly preferable, both as a menstruum, and as being better calculated for keeping.

#### TINCTURA MYRRHÆ.

Tinclure of myrrh.

Lond.

Take of

Myrrh, three ounces; Proof spirit, two pints.

After due digestion, strain off the tincture.

Edinb.

Take of

Myrrh, three ounces;

Rectified spirit of wine, two pounds and a half.

Digest ten days, and strain off the

THE pharmaceutical writers in general have been of opinion, that no good tincture can be drawn from myrrh by spirit of wine alone, without the affiftance of fixt alkaline falts. But it appears from proper experiments, that thefe falts only heighten the colour of the tincture, without enabling the menftruum to dissolve any more than it would by itself. Rectified spirit extracts, without any addition, all that part of the myrrh, in which its peculiar smell and taste reside, viz. the refin: and proof ipirit diffolves almost the whole drug, except its impurities.

Tincture of myrrh is recommended internally for warming the habit, attenuating viscid juices, strengthening the folids, opening obstructions, particularly those of the uterine vessels, and resisting putrefaction. Boerhaave greatly

esteems it in all languid cases, proceeding from simple inactivity; in those semale disorders which are occasioned by an aqueous, mucous, sluggish indisposition of the humours, and a relaxation of the vessels; in the sluor albus, and all diseases arising from a singular cause. The dose is from sisteen drops to forty or more. The medicine may doubtless be given in these cases to advantage; though with us, it is more commonly used externally, for cleaning soul ulcers, and promoting the exsoliation of carious bones.

### TINCTURA MYRRHÆ ET ALOES.

Tincture of myrrh and aloes.

Edinb.

Take of

Myrrh, in powder, one ounce

and a half;

Hepatic aloes, in powder, one

Rectified spirit of wine, two pints.

Digest in a sand-heat for six days, and then let the tincture be strained off,

This tincture is employed only in chirurgical dressings, for cleansing foul ulcers, restraining the progress of gangrenes, &c. in which intention the aloes is an useful addition to the myrrh. The hepatic aloes is reckoned more effectual for these purposes than the siner Socotorine.

#### TINCTURA OPII, vulgo LAU-DANUM LIQUIDUM.

Tincture of opium, commonly called liquid laudanum.

Edinb.

Take of

Opium, two ounces;

Spirituous

Spirituous cinnamon water, one in one ounce by measure, which pound and an half.

Digest four days, and filter.

is equal nearly to seven drams by weight. Neither the tinctures in

This is a very elegant liquid opiate, the menstruum dissolving nearly the whole substance of the opium, and effectually covering its ill flavour. The proportion of menstruum is somewhat larger than in the vinous tincture formerly described: one grain of opium goes to about twenty drops of that tincture, and twenty-five of this: nevertheless, as there appears to be more of the opium dissolved here than in the other, this tincture may possibly be the stronger of the two. It were to be wished that the shops were furnished with a liquid opiate, in which the proportion of menfiruum was still much larger, io as to admit of the dole being determined by weight or measure; the method, by drops, feeming too precarious for a medicine of fo powerful a kind. The following preparation is contrived with this view.

Take of

Thebaic extract, half a dram;
Highly-rectified spirit of wine,
called alcohol, ten ounces;
Simple cinnamon water, twenty
ounces.

Digest them together until the opium is dissolved, and then filter the solution through paper.

This preparation I apprehend to be free from all the inconveniencies attending the common opiate tinctures. The menstruum diffolves the whole of the opium except the impurities, and consequently the tincture is not liable to any uncertainty in point of strength. The dose may be afcertained to the greatest exactness: one grain of opium is contained

is equal nearly to feven drams by weight. Neither the tinctures in wine nor proof spirit are so well adapted for keeping, as could be wished; in long standing, a part of the opium is gradually thrown off from both, and confequently the tinctures become gradually weaker: the part which thus feparates, amounts fometimes, as I have been informed, to near onefourth of the quantity of opium at first dissolved; it floats on the furface of the vinous tincture, and in the spirituous finks to the bottom. In the preparation here recommended, it has not been observed that any separation happens.

Instead of the cinnamon water, pure water may be employed in the mixture; and where aromatic additions are wanted, either in a medicinal intention, or for covering the ill fmell of the opium, any proper tincture or distilled water may be extemporaneously joined. Saffron, an addition employed by the Edinburgh college, has been looked upon as a corrector of opium; but the qualities it was supposed to correct, are merely imaginary: nor indeed can that article be of much importance in any intention, in the small quantity that enters a dose of the tincture; a grain of opium being accompanied with only half a grain of faffron.

### TINCTURA RHABARBARI SPIRITUOSA.

Spirituous tineture of rhubarb.

Take of

Rhubarb, two ounces;
Lesser cardamom seeds, husked,
half an ounce:
Sassron, two drams;
Proof spirit, two pints.
Digest

Digest without heat, and strain off the tincture for use.

#### TINCTURA RHEI AMARA.

Bitter tincture of rhubarb.

Edinb.

Take of

Rhubarb, two ounces; Gentian root, half an ounce; Virginian inakeroot, one dram; Proof spirit, two pounds and an half.

Digest seven days, and strain off.

TINCTURA RHEI DULCIS.

Sweet tincture of rhubarb.

Edinb.

Take of

Rhubarb, two ounces; Leffer cardamoms, half an ounce;

French brandy, two pints.

Digest for two days; and then, having strained out the tincture, add to it four ounces of white sugar-candy, in powder, and digest again until the sugar is dissolved.

THE last of these preparations is somewhat improved from the former edition. Two ounces of liquorice and one of raisins are supplied by an increase of the sugar; and two drams of canella alba, by increasing the cardamom seeds from two to four drams.

All the foregoing tinctures of rhubarb are defigned as stomachics and corroborants, as well as purgatives. Spirituous liquors excellently extract those parts of the rhubarb in which the two first qualities reside, and the additional ingredients considerably promote their essicacy. In weakness of the stomach, indigestion, laxity of the intestines, diarrheas, cholicky and other like complaints, these medicines are frequently of good service. The second is also, in many

cases, an useful addition to the Peruvian bark, in the cure of intermittents, particularly in cachectic habits, where the viscera are obstructed. In these intentions, a spoonful or two may be taken for a dose, and occasionally repeated.

# TINCTURA SATURNINA. Saturnine tinsture. Lond.

Take of

Sugar of lead,

Green vitriol, each two ounces; Reclified spirit of wine, two

pints.

Reduce the falts separately into a powder; then add the spirit, and digest them together without heat; afterwards filter the tincture through paper.

#### TINCTURA ANTIPHTHI-SICA.

Antiphthisical tincture. Edinb.

Take of

Sugar of lead, an ounce and a half;

Vitriol of iron, an ounce;
Rectified spirit of wine, a pint.
Let a tincture be extracted without heat.

THE reducing of the falts feparately into powder, and performing of the digestion without beat, are very necessary circumstances: for if the ingredients be attempted to be pulverized together, they will grow foft and almost liquid: and if heat be made use of, scarce any tincture will be obtained.

These tinctures are sometimes given from twenty to thirty drops, for restraining immoderate secretions, particularly the colliquative sweats attending hectic severs and phthisical disorders, whence the name antiphthisical tincture. They

are

are undoubtedly medicines of great efficacy in these cases, but too dangerous ones to be rashly ventured on. Some have supposed, that they do not contain any of the sugar of lead; but experiments, made for that purpose, have shewn that they do: and therefore, the London college has very judiciously changed the title of their tincture into one expressing its being a preparation of lead.

### TINCTURA SENÆ. Tincture of fena. Lond.

Take of

Raifins, stoned, fixteen onnces;

Sena, one pound;

Caraway feeds, one ounce and a half;

Lesser cardamoms, husked, half an ounce;

Proof spirit, one gallon.

Digest without heat, and then strain the tincture.

#### TINCTURA SENÆ COMPO-SITA, vulgo ELIXIR SA-LUTIS.

Compound tincture of sena, commonly called elixir of health. Edinb.

Take of

Sena leaves, two ounces; Jalap root, one ounce; Coriander feeds, half an ounce; Proof spirit, three pounds and an half.

Digest for seven days, and to the strained liquor add four ounces of fine sugar.

BOTH these tinctures are useful carminatives and cathartics, especially to those who have accustomed themselves to the use of spirituous liquors; they oftentimes relieve statulent and colicky complaints, where the common cordials have little effect: the dose is from one to two ounces. Several

preparations of this kind have been offered to the public, under the name of Daffy's elixir. The two above are equal to any, and superior to most of them.

## TINCTURA SERPENTARIÆ. Tincture of fnakeroot. Lond.

Take of

Virginian snakeroot, three oun-

Proof spirit, two pints.

Digest without heat, and strain off the tincture.

The tincture of snakeroot was in a former pharmacopæia directed with the tinctura salis tartari, which being now expunged, it was proposed to the college to employ rectified spirit; but as the heat of this spirit prevents the medicine from being taken in so large a dose as it might otherwise be, a weaker spirit was made choice of. The tincture made in this menstruum, which extracts the whole virtues of the root, may be taken to the quantity of a spoonful or more every sive or six hours.

The college of Edinburgh directs this tincture to be drawn with plague water; a distilled spirituous water, impregnated with masterwort, angelica, and elder slowers, and mixed with distilled vine-

gar.

#### Edinb.

Take of

Virginian snakeroot, two ounces; Cochineal, one dram; Proof spirit, two pounds and an

half.

Digest four days, and strain off.

THE plague water, as directed in a former pharmacopæia, is equally efficacious, as a menstruum, with the simple proof spirit; and likewise coincides with the general intention tention of the medicine, as an alexi- (which is faid to be the same with pharmic in fevers.

#### TINCTURA STOMACHICA. Stomachic tincture. Lond.

Take of Raisins, stoned, four ounces; Cinnamon, half an ounce; Caraway feeds, Leffer cardamoms, hufked, Cochineal, of each two drams, Proof spirit, two pints.

Digest without heat, and strain off the tincture.

This is a moderately warm ftomachic tincture, much more pleafant than the usqueBaugh of our former pharmacopæias. It may be taken, without any vehicle, to half an ounce or an ounce, though oftener used in mixtures.

#### TINCTURA STYPTICA. Styptic tincture. Lond.

Take of Green vitriol, calcined, dram :

French brandy (fuch as has acquired a yellowish tinge from the cask) two pints.

Mix them together, that the fpirit may grow black; then pais it through a strainer.

Some have supposed, that no other spirit than French brandy would fucceed in striking the black colour, for which this tincture is valued. But any spirit, that has gained an impregnation from the oak cafks, which these kinds of liquors are generally kept in, or from other vegetable altringents, will equally exhibit this phænomenon; and French brandy will not do it, without such assistance. The title of this tincture expresses its medicinal intention. The celebrated STYPTIC OF HELVETIUS

that of EATON) differs from it no otherwise, than in being more operose in composition. They are recommended both for internal use, and for restraining external hæmorrhages. Their virtues do not feem to depend fo much on the iron, as on the menstruum; the quantity of metal diffolved being extremely fmall. In keeping, the iron is apt to separate, and the liquor to lose its black colour.

#### TINCTURA SUCCINI. Tincture of amber.

Take of Yellow amber, two ounces; Rectified spirit of wine, twenty ounces.

Digest in a fand-heat for eight days, and afterwards filter the tincture.

This is a very elegant preparation of amber, of a grateful balfamic taste, and fragrant smell. Boerhaave, Hoffman, and others, strongly recommend it in disorders proceeding from a lax state of the folids and debility of the nervous lystem; in suppressions of the menstrual discharges, the fluor albus, feminal gleets, rheumatic complaints, and some kinds of epilepfies. It is directed to be taken from ten to an hundred drops, in Canary or other rich wine.

The medicine is doubtless an efficacious one; though it would be much more so, if a part of the spirit were drawn off, so as to leave what it had extracted from the amber, concentrated into the confiftence of a balfam: a tea-ipoonful of this may be taken three or four times a day, with fugar, or in any convenient vehicle. The spirit distilled off, which is richly impregnated with the amber smell, may be referved for extracting 2 freih

fresh tincture from another parcel of amber. A tincture of amber, made in this spirit, possesses the whole virtue of the concrete, and appears to be one of the most va-

luable preparations of it.

Fixt alkaline falts have been commonly employed in the preparation of this tincture; but with no good effect; for they not only do not promote the dissolution of the amber, but likewise injure the medical virtue of the preparation. Scarcely any of the substances that have been made trial of, give any confiderable affiftance to spirit of wine in diffolving this concrete, except the vitriolic acid; which, when intimately combined with it into a dulcified spirit, forms a menstruum said to be much more efficacious for amber than the fimple vinous ipirit. The college of Edinburgh have accordingly made choice of this menstruum, and directed the tincture as follows.

Take of

Yellow amber, two ounces; Dulcified spirit of vitriol, one

Digest them in a sand-bath, with a gentle heat, for four days; and then filter the tincture.

#### TINCTURA SUDORIFICA. Sudorific tineture. Edinb.

Take of

Virginian inakeroot, fix drams; Cochineal,

English saffron, each two drams;

Opium, one scruple:

Spirit of Mindererus, one pint. Digest them together in a gentle heat for three days, and then pass the tincture through a ftrainer.

This composition is an efficacious fudorific; the ingredients be-

ing of the most powerful kind; and the menstruum not only extracting those parts of them in which their virtues confift, but co-operating strongly in the same intention. Russia castor, a supernumerary ingredient in former editions, is now omitted: and cochineal, which from the quantity of it formerly employed, seemed to have been defigned with a medicinal view, is now reduced to one half, and nothing more is expected from it, than to furnish an agreeable colour to the tincture. Half an ounce of the tincture, by measure, contains five eighths of a grain of opium.

#### TINCTURA SULPHURIS. Tincture of Sulphur.

Take of

Rectified spirit of wine, one

pint.

Hepar fulphuris (that is, a mixture of fulphur and fixt alkaline falt melted together) four

Grind the hepar into powder whilft hot from the fire, add to it the spirit, and digest in a moderate heat for twenty-four hours; then pour off the tincture from the feces.

THE digestion may be commodiously performed in a glass receiver. Put the spirit first into the veilel, and pour the hot powder upon it: then shake them together; and, to prevent the exhalation of any part of the spirit during the digestion, insert a glass tube into the mouth of the receiver.

This tincture is of a rich gold colour, a hot aromatic tafte, and a not ungrateful smell. Its virtues are those of a warm, attenuating, aperient, and anti-acid medicine. Some have recommended it as a last

refource

resource in phthisics and ulcerations of the lungs; but in these cases it promises little service, and has been sometimes found prejudicial. The dose is from ten to fixty drops: it is most commodiously taken in Canary or other rich wines.

### TINCTURA ANTIMONII. Tincture of antimony.

Take of

Any fixt alkaline falt, one pound; Antimony, half a pound; Rectified spirit of wine, two

pints.

Reduce the antimony into powder, mix it with the falt, and melt them together, with a ftrong fire, for an hour. Then pour out the matter, pulverize it, add the spirit, and digest them for three or four days: after which, ftrain off the tincture for use.

#### Edinb.

Take of

Antimony, in powder, four ounces;

Salt of tartar, fix ounces; Rectified spirit of wine, two

pints. Mix the antimony with the falt of tartar, and inject them by little and little into a crucible placed in a strong fire. The mixture melts thin, and is to be continued in this state for half an hour; after which, it is to be poured out into a hot and dry iron mortar. Powder the mass while hot, put it into a heated matrais, and pour thereon the fpirit. Digeft them together, for three days, in a gentle heat of fand; and then decant the tincture.

In these processes, the alkaline falt unites with the fulphur of the antimony into a hepar; which

communicates to the spirit a tincture fimilar to the foregoing. This antimonial tincture is supposed to contain likewise some of the reguline parts of the mineral, and is faid to have sometimes provoked a puke when taken on an empty ftomach, even in a small dose. It stands recommended, in doses of from ten to fixty drops or more, as a deobstruent, promoter of urine. and a purifier of the blood.

#### TINCTURA ANTIMONII DIA-PHORETICI.

Tincture of diaphoretic antimony. Take of

Diaphoretic antimony, fixteen ounces;

Nitre, four pounds;

Tartarized spirit of wine, three

Let the antimony and nitre be finely powdered, mixed, injected by a spoonful at a time into a redhot crucible, and kept in a strong melting heat for half an hour. Then pour the matter into a warm iron mortar, powder it whilst hot, and immediately add the vinous spirit. Digest for three days, and filter the tincture for use.

This tincture is recommended for the same purposes as the foregoing, and in the fame dose. It is very fragrant in smell, and agreeable to the tafte.

### TINCTURA SALIS TARTARI. Tincture of falt of tartar.

Take of

Salt of tartar, fix ounces. Melt it in a crucible till it acquires a greenish colour; pulverize it whilst hot, and immediately pour upon it, in a strong long-necked matrafs, as much rectified spirit of wine as will fland three or four inches above it. Digest, for feveral

feveral days, in a pretty strong Take of fand-heat, that a tincture may Wild when be obtained.

Proof

THIS preparation is taken from a former edition of our pharmacopæia. It has been usually expected to be of a red hue; but (as the committee observe) if neither the falt nor the spirit have any oily tincture, the spirit, though it acquires from the alkali a hot pungent tafte, will scarce receive any degree of colour, unless by some fpark of coal, which may accidentally fall into the crucible, while the falt is calcining. For this reafon, this tincture has been usually prepared in a counterfeit manner, by adding some portion of antimony to the falt, whereby it refembled too much the tincture of antimony, for both to be retained.

TINCTURA TOLUTANA.

Tincture of balfam of Tolu.

Edinb.

Take of

Balfam of Tolu, an ounce and

a half;

Rectified spirit of wine, a pint. Digest in a fand heat, until the balfam is dissolved: and then strain the tincture.

This folution of balfam of Tolu possesses all the virtues of the balfam itself. It may be taken internally, in the several intentions for which this valuable balfam is proper, to the quantity of a tea spoonful or two, in any convenient vehicle. Mixed with the plain syrup of sugar, it forms an elegant balfamic syrup.

TINCTURA VALERIANÆ. SIMPLEX.

Simple tincture of valerian.

Take of
Wild valerian root, four ounces:
Proof spirit, two pints.
After due digestion, strain off the tincture.

The valerian root ought to be reduced into fine powder, otherwise the spirit will not sufficiently extract its virtues. The tincture proves of a deep colour, and confiderably strong of the valerian; though it has not been found to answer so well in the cure of epileptic disorders, as the root in substance exhibited in the form of powder or bolus. The dose of the tincture is, from half a spoonful to a spoonful or more, two or three times a day.

TINCTURA VALERIANÆ
VOLATILIS.
Volatile tincture of valerian.

Lond.

Take of

Wild valerian root, four ounces; Volatile aromatic spirit, two pints.

Digest without heat, in a vessel closely stopt, and afterwards strain off the tincture.

The volatile spirit is here an excellent menstruum, and, at the same time, considerably promotes the virtues of the valerian, which in some cases wants an assistance of this kind. The dose may be a tea-spoonful or two.

TINCTURA VERATRI.

Tincture of veratrum, or white hellebore.

Lond.

Take of
White hellebore root, eight

Proof. spirit, two pints.

Digest them together, and filter
the tincture through paper.

This

This tincture is fometimes used for acuating cathartics, &c. and as an emetic in apoplectic and maniacal disorders. It may likewise be so managed, as to prove a powerful alterative and deobstruent, in cases where milder remedies have little effect. But a great deal of caution is requisite in its use. The dose, at first, ought to be only a few drops; if considerable, it proves violently emetic or cathartic.

### BALSAMUM GUAIACINUM. Balfam of guaiacum.

Take of

Gum guaiacum, one pound; Balfam of Peru, three drams; Rectified spirit of wine, two pints and a half.

Digest till the gum is dissolved, and then strain off the balsam.

## ELIXIR GUAIACINUM. Elixir of guaiacum. Edinb.

Take of

Gum guaiacum, one pound;
Balsam of Peru, three drams;
Rectified spirit of wine, two
pounds and an half.

Digest for ten days, and strain off.

#### \* ELIXIR GUAIACINUM VOLATILE.

Volatile elixir of guaiacum. Edinb.

Take of

Gum guaiacum, four ounces; Balsam of Peru, two drams; Essential oil of sassafras, half a dram;

Vinous spirit of sal ammoniac, one pound and an half.

Macerate for fix days, in a well ftopped vial, and strain off the elixir.

THESE compositions are medicines of great efficacy, and capable

of answering many useful purposes. They warm and strengthen the habit, and promote insensible perspi-Twenty or thirty drops ration. may be taken two or three times a day, or oftener, in any proper vehicle, in rheumatic complaints, cutaneous defedations, &c. particularly where the patient is of a cold phlegmatic temperament, and the folids weak and relaxed. In hot, bilious constitutions, and tensity or rigidity of the veffels, like other stimulating medicines, they are evidently improper.

#### BALSAMUM COMMENDATORIS.

Baume de commandeur.

Take of

Dry Peruvian balfam, one ounce; Storax in the tear, two ounces; Benjamin, three ounces; Socotorine aloes, Myrrh, Olibanum, Angelica roots,

St. John's wort flowers, each half an ounce;

Spirit of wine, two pounds eight ounces by weight.

Let them stand together in the sun, during the dog-days, in a glass vessel, closely stopt; and afterwards strain out the balsam thro' a linen cloth.

THIS balfam has been inserted, with little variation, in some foreign pharmacopæias, and likewife kept a secret in private hands, under the titles of Balfamum Perficum, Balsam of Berne, Wade's Balsam, Friar's Balsam, Jesuit's drops, &c. The form above is taken from the original receipt published by Pomet (Histoire des drogues, edit. 2. tom. ii. p. 56.) It stands greatly recommended, externally, for cleanfing and heating wounds and ulcers, discussing cold tumors, allaying gouty, rheumatic, and other old pains

pains and aches; and likewise internally, for warming and strengthening the stomach and intestines, expelling statulencies, and relieving colicky complaints. Outwardly, it is applied cold on the part with a feather; inwardly, a few drops are taken at a time, in wine or any other convenient vehicle.

#### BALSAMUM TRAUMATI-CUM:

Traumatic or vulnerary balfam.
Lond.

Take of

Benzoine, three ounces; Storax, strained, two ounces; Balsam of Tolu, one ounce; Socotorine aloes, half an ounce; Rectified spirit of wine, two pints.

Digest, that the gums may as much as possible be dissolved; and then strain off the balsam for

use.

This is an elegant reformation , of the preceding composition, confiderably more fimple, yet not infenor in efficacy. The balfam of Tolu fupplies, with advantage, the dry Peruvian balfam, a drug very rare to be met with in this country: the olibanum, myrrh, and angelica roots here omitted, were certainly superfluous in a medicine containing to much more powerful materials; and the St. John's wort flowers are as defervedly thrown out, as having little elfe to recommend them than prejudice or superstition.

#### Edinb.

Take of

Benzoine, powdered, three oun-

Balfam of Peru, two ounces; Hepatic aloes, in powder, half an ounce;

Rectified spirit of wine, two pints.

Digest them in a sand-heat, for the space of three days; and then strain the balsam.

This is a further contraction of the baume de commandeur, without any injury to it as a medicine, at least with regard to the purposes for which the title shews it designed. Socotorine aloes is here judiciously exchanged for the hepatic, which appears from experience to be the most serviceable in external applications.

# ELIXIR ALOES. Elixir of aloes. Lond.

Take of
Tincture of myrrh, two pints;
Socotorine aloes,
Saffron, each three ounces.

Digest them together, and strain off the elixir.

### ELIXIR PROPRIETATIS. Edinb.

Take of

Myrrh, in powder, two ounces; Rectified spirit of wine,

Proof spirit, of each one pound, Digest for four days, and add

Socotorine aloes, powdered, one ounce and a half;

English saffron, one ounce.

Digest for two days more, and, when it is settled, pour it off.

This is the elixir proprietatis of Paracelfus, improved with regard to the manner of preparation. The myrrh, faffron, and aloes, have been usually directed to be digested in the spirit together. By this method, the menstruum soon loads itself with the latter, so as scarce to take up any of the myrrh; whilst a tincture, extracted sirft from the myrrh, readily dissolves a large quantity of the others. The alkaline salt, commonly ordered in these preparations,

tions, with a view to promote the dissolution of the myrrh, we have already observed to be useless; and, accordingly, it is now omitted.

This medicine is greatly recommended, and not undefervedly, as a warm stimulant and aperient. It ftrengthens the stomach and other viscera, cleanses the first passages from tenacious phlegm, and promotes the natural fecretions in general. Its continued use has frequently done good fervice in cachectic and icteric cases, uterine obstructions, and fimilar disorders; particularly in cold, pale, phlegmaric habits; where the patient is of a hot, bilious constitution, and slorid complexion, this warm flimulating medicine is less proper, and fometimes prejudicial. The dose may be from twenty drops to a teaspoonful or more, two or three times a day, according to the purposes which it is intended to anfwer.

### ELIXIR PROPRIETATIS VITRIOLICUM. Edinb.

Take of Myrrh,

Socotorine aloes, of each an ounce and an half;

English sastron, one ounce; Sweet spirit of vitriol, one pound.

Digest the myrrh with the spirit, in a well stopped vial, four days, then add the saffron and aloes.

Digest them again for four days more, and when the feces have subsided, pour off the elixir.

HERE the dulcified spirit of vitriol is very judiciously substituted for the spirit of sulphur, ordered in other books of pharmacy to be added to the foregoing preparation: for that strong acid precipitates from the liquor great part of what

it had before taken up from the other ingredients; whereas, when the acid is previously combined with the vinous spirit, and thereby dulcified, as it is called, it does not impede its dissolving power. This elixir possesses the general virtues of the preceding, and is, in virtue of the menstraum, preferred to it in hot constitutions, and weaknesses of the stomach. See Elixir witrioli in the following page.

## ELIXIR PAREGORICUM. Paregoric elixir. Lond.

Take of

Flowers of benzoine; Opium strained, each one dram; Camphor, two scruples; Essential oil of anisceds, half a

dram;

Rectified spirit of wine, two pints.

Digest and strain.

#### \* Edinb.

Take of

Flowers of benzoine, English saffron, of each three drams;

Opium, two drams;

Essential oil of aniseed, half a dram;

Vinous spirit of sal ammoniac, fixteen ounces.

Digest for four days, in a well-closed bottle, and frain it off.

THESE clixirs are taken from Le Mort, and were originally prescribed under the title of BLIXIR ASTHMATICUM, which they do not ill deserve. They contribute to allay the tickling, which provokes frequent coughing; and at the same time are supposed to open the breast, and give greater liberty of breathing. The opium procures (as it does by itself) a temporary Y 2 relief

relief from the fymptoms; whilst the other ingredients tend to remove the cause, and prevent their return. It is given to children, against the chin-cough, &c. from sive drops to twenty; to adults, from twenty to an hundred. Half an ounce by measure contains about a grain of opium.

# ELIXIR PECTORALE. Pettoral elixir. Edinb.

Take of

Balfam of Tolu, two ounces;

Balfam of Peru, one ounce;

Flowers of benzoine,

English faffron, each half an ounce;

Rectified spirit of wine, two pints.

Digest them in a fand-heat for three days, and then strain off the elixir.

This balfamic elixir is given to the quantity of a tea-spoonful, two or three times a day, as an expectorant and detergent, in coughs and ulcerations of the breast. The balfam of Peru is a new ingredient, introduced in a late edition; and the slowers of benzoine are substituted to benzoine in substance.

### ELIXIR VITRIOLI ACIDUM. Acid elixir of vitriol.

Take of the
Aromatic tincture, one pint;
Strong spirit (called oil) of vitriol, sour ounces.

Mix them together, and after the feces have subsided, filter the elixir through paper.

This preparation was originally taken from Mynficht, and has been usually distinguished by his name. It is here prepared in a somewhat different manner from that directed

by the author, and in other books of pharmacy; the oil of vitriol and spirit of wine being there first mixed together, and then digested upon aromatics.

Mynsicht's elixir of vitriol is directed, in a preceding pharmaco-

pœia, as follows;

Take of Cinnamon, Ginger,

Cloves, each three drams; Calamus aromaticus, one ounce; Galangal, an ounce and a half;

Mint, each half an ounce; Cubebs,

Nutmegs, each two drams; Aloes wood,

Citron-peel, each one dram.

Reduce these ingredients into a powder, to which add of Sugar-candy three ounces;

Spirit of wine, a pint and a half;

Oil of vitriol, one pint.

Digest them together for twenty
days, and then filter the tincture
for use.

In a late edition of the Edinburgh pharmacopæia, the elixir vitrioli is thus prepared. Take of

Cinnamon one ounce and a half; Ginger, one ounce; Oil of vitriol, fix ounces; Rectified spirit of wine, two pounds.

Drop the oil of vitriol by little and little into the spirit of wine, and digest them together in a sandbath, with a very gentle heat, for three days: then add the other ingredients; continue the digestion, in the same gentle heat, for three days longer; and afterwards filter the tincture in a

THE intention in these processes

is, to obtain a tincture of aromatic vegetables.

vegetables, in spirit of wine, combined with a confiderable proportion of vitriolic acid. When the tincture is first drawn with vinous spirits, and the acid added afterwards, as in the first of the above preicriptions, the acid precipitates great part of what the spirit had before taken up: and, on the other hand, when the acid is mixed with the spirit immediately before the extraction, as in the fecond procefs, it prevents the diffolution of all that it would have precipitated by the former way of treatment. By previously uniting the acid and the vinous spirit together by digestion, as in the last process, the inconvenience is somewhat lessened.

All these compositions are valuable medicines in weakness and relaxations of the flomach, and decays of constitution, particularly in those which proceed from irregularities, which are accompanied with flow febrile symptoms, or which follow the suppression of intermittents. They have frequently taken place after bitters and aromatics, by themselves, had availed nothing; and, indeed, great part of their virtue -depends on the vitriolic acid; which, barely diluted with water, has, in these cases, where the flomach could bear the acidity, produced happy effects.

Fuller relates (in his Medicina gymnastica) that he was recovered, by Mynficht's elixir, from an extreme decay of constitution, and continual reachings to vomit. They may all be given from ten to thirty or forty drops, or more, according to the quantity of acid, twice or thrice a day, at such times as the

comach is most empty.

ELIXIR VITRIOLI DULCE. Sweet elixir of vitriol. Lond.

Take of the

Aromatic tincture, one pint ; Dulcified spirit of vittiol, eight ounces by weight. Mix them together.

THIS is defigned for perfons whose stomach is too weak to bear the foregoing acid elixir. To the taste, it is gratefully aromatic, without any perceptible acidity. The dulcified spirit of vitriol, here directed, occasions little or no precipitation upon adding it to the tincture.

THE college of Edinburgh, in a former edition of their pharmacopæia, employed dulcified spirit of vitriol as the menstruum. composition was as follows; Take of

Dulcified spirit of vitriol, two pounds;

Effential oil of mint, half an ounce;

of lemon peel,

of nutmegs, each two drams. Gradually drop the oils into the fpirit, and mix the whole well together.

THIS elixir, if the essential oils be good, and the dulcified spirit made as it ought to be, (if it be not, it will not dissolve the oils), proves a very elegant and grateful stomachic, fimilar to the foregoing fweet elixir: a tea-spoonful of elther may be taken two or three times a day.

A medicine of this kind was formerly in great effeem under the title of VIGANI'S VOLATILE ELIXIR or vitriol; the composition of which was first communicated to the public in the Pharmacopæia reformata. It is prepared by digetting some volatile spirit of vitriol upon a fmall quantity of mintleaves leaves curiously dried, till the liquor has acquired a fine green colour. If the spirit, as it frequently does, partakes too much of the acid, this colour will not succeed: in fuch case it should be rectified from a little fixt alkaline falt, as hereafter directed in chap. viii. fect. 5. The mint is most commodiously sufpended in the spirit in a fine linen cloth: this prevents the necessity of filtration, during which the more volatile parts would exhale.

#### ELIXIR MYRRHÆ COMPO-SITUM.

Compound elixir of myrrh. Lond.

Take of

Extract of favin, one ounce; Tincture of castor, one pint; Tincture of myrrh, half a pint. Digest them together, and then ftrain the elixir.

This preparation is improved from one described in some former dispensatories under the name of ELIXIR UTERINUM. It is a medicine of great importance in uterine obstructions, and in hypochondriacal cases; though, possibly, means might be contrived of fuperadding more effectually the virtues of favin to a tincture of myrrh and castor. It may be given from five drops to twenty or thirty, or more, in pennyroyal water, or any other fuitable vehicle.

#### ELIXIR SACRUM. Edinb.

Take of Rhubarb, ten drams; Socotorine aloes, fix drams; Lesser cardamom seeds, half an ounce ; Proof ipirit, two pounds and an

Digest for feven days, and strain off the clixir.

SPIRITUS VINOSUS CAM-PHORATUS.

Camphorated Spirit of wine. Lond. and Edinb.

Take of

Camphor, two ounces; Rectified spirit of wine, two pints.

Mix them together, that the camphor may be dissolved.

This folution of camphor is employed chiefly for external uses, against rheumatic pains, paralytic numbnesses, inflammations, for difculling tumors, preventing gangrenes, or restraining their progress. It is too pungent to be exhibited internally, even when diluted, nor does the dilution succeed well; for on the admixture of aqueous liquors, the camphor gradually feparates and runs together in little maffes.

Hoffman, Rothen, and others, mention a camphorated spirit not fubject to this inconvenience. It is prepared by grinding the camphor with somewhat more than an equal weight of fixt alkaline falt, then adding a proper quantity of proof fpirit, and drawing off one half of it by distillation. This spirit was proposed to the college to be received into the pharmacopæia, under the title of SPIRITUS CAM-PHORÆ TARTARIZATUS. upon trial, it did not answer expectation; fome of the camphor, as the committee observe, rises with the spirit in distillation, though but a fmall quantity; whence, mixed with a large portion of water, it does not fenfibly render it turbid: but in a proper quantity, it exhibits the same appearance as the more common camphorated spirit. did not appear, that spirit distilled from camphor, with or without the alkaline falt, differed at all in this respect.

The

The most convenient method of uniting camphor with aqueous liquors, for internal use, seems to be by the mediation of almonds, or of mucilages. Triturated with these, it readily mingles with water into the form of an emulsion, at the same time that its pungency is considerably abated. It may also be commodiously exhibited in the form of an oily draught, expressed oils totally dissolving it.

TINCTURA BENZOINI,
Tincture of benzoine.

Take of

Benzoine, four ounces:
Rectified spirit of wine, one

Digest them together in a sandheat for three or four days, and then decant off the tincture.

THIS tincture stands recommended in afthmas, and other diforders of the lungs, in doses of from twenty to fixty or feventy drops. It has, however, been principally made use of externally, as a cosmetic, for clearing and fmoothing the skin. For these purposes it is mixed with a large portion of water, when it forms a white liquor called LAC VIRGINIS. If this be fuffered to rest for some time, the benzoine precipitates, in form of a white magistery (of a very pleafant fmell, and not disagreeable tafte), which in the Brandenburgh pharmacopæia is preferred to the flowers of benzoine, as being free from the empyreumatic flavour with which these are generally attended. It is, however, of a different nature from the flowers, being no other than the benzoine in its whole fubflance; whereas the flowers are a distinct part of it, not refinous, like the rest of the mass, but rather, as we shall see hereafter, of the faline kind. The

The most convenient method of precipitation is directed to be made with camphor with aqueous li- with rose water.

GUTTE VITE.

Drops of life.

Take of

Opium, four ounces;
Saffron, one ounce;
Virginian fnakeroot,
Cochineal, each half an ounce;
Nutmegs,
Zedoary, each two ounces;
Camphor, one ounce;
Tincture of diaphoretic antimony, one pint;

Water, two pints,

Digest the opium with the water in a scalding heat, till as much as possible of it is dissolved, and pass the solution through a strainer. Digest the other ingredients in the antimonial tincture for three or sour days. Mix both liquors together; let them stand in digestion for two days longer, and after the seces have subsided, pour off the clear for use.

This medicine has been recommended as preferable to the common opiates, and less apt to leave a nausea on the stomach. The dose is from ten drops to forty or fifty.

TINCTURA seu Essentia AM-BRÆ.

Tincture or effence of ambergris.

Parif.

Take of

Ambergris, one dram;
Tartarized spirit of wine,
Spirit of roses, that is, highly
rectified spirit of wine drawn
off from dried damask roses,
each one ounce and a half.
Digest in the heat of a water-bath.

THE ambergris, if pure, is here totally dissolved into a reddish liquor, provided the heat be fusiicient

cient to make the spirit boil or simmer. With a weaker heat, or if the spirit be not highly rectified, the folution does not fucceed. This tincture is a high cordial : eight or ten drops may be taken on fugar.

TINCTURA feu Essentia REGIA. The royal tincture or essence. Parif.

Take of

Ambergris, two scruples; Musk, one scruple; Civet, ten grains; Oil of cinnamon, fix drops; Oil of rhodium, four drops; Salt of tartar, half a dram; Rectified spirit of wine, Spirit of roles, Spirit of orange flowers, each

one ounce and a half. Grind the falt of tartar with the ambergris, musk, civet, and esfential oils, till they are thoroughly mixed; then add the spirits, and digest in a warm place for some days, frequently shaking the veffel; afterwards let the liquor fettle, and pour off the clear from the dregs.

This tincture is a very high perfume; and by those who can bear fubiliances of that class, may be taken like the preceding, as a cordial. A few drops gives a fine flavour to a large quantity of other liquors. The ambergris dissolves here with less heat than in the foregoing preparation: the effential oils promoting its folution.

TINCTURA ODONTALGIA MYN-

Mynsicht's tincture for the toothach. Argentoratens.

Take of Guaiacum wood, two ounces; Saffafras, Sarfaparilla, each one ounce; Pellitory of Spain,

Alum, Sal prunellæ, each half an ounce; Stavefacre feeds, Henbane feeds, each two drams; Opium, Cloves, each one dram and a half; Serpyllum, Origanum, Saffron, each one dram; Rectified spirit of wine, Vinegar, each one pint and a half.

Reduce the dry ingredients into powder, and extract a tincture from them with the spirit and vinegar mixed.

" A LITTLE of this tincture is to be taken warm into the " mouth, and repeated if there " should be occasion. It effectu-" ally relieves the most violent " toothachs; preventing the afflux " of humours, and furprifingly ex-" tracting those already fettled upes on the parts; the pain feems " often, on the first application of er it, to increase, but soon after " abates and goes off." The above composition, and this account of its virtues, is from the pharmacopæia of the college of Strafburgh.

Essentia alexipharmaca STAHLII.

Stabl's alexipharmic effence. Argentoratens.

Take of the roots of Masterwort, Carline thiftle, Angelica, Pimpinella alba, each half an ounce; Swallow wort, Elecampane, White dittany, Contrayerva, Wild valerian, each one ounce. Extract Extract an essence or tincture from these ingredients, with a sufficient quantity of highly rectified spirit of wine.

This tincture, kept a fecret by its celebrated author, and first published by Juncker, is greatly esteemed by many of the German physicians, as a diaphoretic and alexipharmic, for attenuating vifcid humours, and gently promoting urine; both in low fevers, particularly in exanthematous ones, where the eruptions have been repelled, and in chronical diforders. The dose is twenty or thirty drops or more. It is doubtless a medicine of efficacy, though fome of its ingredients might be retrenched without injury to its virtue.

ESSENTIA LIGNORUM.

Essentia Lignorum.

Argentoratens.

Take of
Sassafras, two ounces;
Guaiacum, three ounces;
China root,
Sarsaparilla,
Red saunders,
Yellow saunders, each one ounce;
Spirit of wine, as much as will
cover the above ingredients to
the height of four inches.

Digest for eight days, and then filter the essence.

This effence, or tincture, is given in venereal and catarrhous diforders, and impurities of the humours in general, from a scruple to a dram or more. By gently

drawing off half of the spirit, the remainder becomes proportionably stronger, and is then called effentia lignorum concentrata.

BALSAMUM VITE.

Baljam of life.

Brandenburgh.

Take of

Effential oils of Lavender,

Nutmegs,
Cloves,
Rhodium,
Serpyllum, each
half a dram;
Cinnamon,
Lemon peel,
Bergamotte, each
two fcruples;

Balfam of Peru, one dram; Highly rectified spirit of lavender, fifteen ounces.

First dissolve the balsam in the spirit, then add the oils, and digest till the whole is dissolved.

THIS fragrant balfam is an improvement on one described by Hoffman, in his notes on Poterius. and is probably the fame, or nearly the fame, with the balfam fo much celebrated afterwards in that author's practice, internally in languors, faintings, debilities of the nervous fystem, colics, &c. from ten to twenty or thirty drops; and externally applied to the nostrils, temples, &c. in vertiginous, lethargic, and other like complaints. Thus much is certain, from Hoffman's own writings, that his balfam was composed of fragrant oils dissolved in rectified spirit of wine.

### SECT. VII.

### Oils by infusion and decoction.

finous and oily parts of vegetables, but do not act upon, or unite with the gummy and mucilaginous. Hence the oleum e mucilaginibus of the shops contains nothing of the mucilage with which its ingredients abound. These oils may be tinged, by vegetable matters, of almost all colours; the leaves of most plants communicate a green; yellow slowers, a dilute gold colour; some red slowers, a light red; alkanet root, a beautiful and deep red.

In making the officinal oils from the leaves of plants, a good deal of care is necessary, to give them the fine green colour expected in them. If the boiling of the herb in the oil be not continued till all the aqueous moisture has exhaled (the mark of which is, the herb's being crifp) the oil will have a dingy yellowish hue; if continued longer, it turns black, and contracts an empyreumatic smell. The most convenient method of managing the process feems to be, to firain off the oil when sufficiently impregnated with the virtue of the plant, and afterwards to let it stand in a clean vessel, over a gentle fire, until, by frequent trials on a white tile, it appears to have gained the deep green colour required.

## OLEUM CHAMÆMELI. Oil of chamomile. Edinb.

Take of
Chamomile, with the flowers,
fresh gathered and bruised,
one pound;

Oil olive, three pints.

Boil them gently till the herb is almost crisp; then strain and press out the oil.

The oils of other herbs are prepared in the same manner.

OLEUM HYPERICI.
Oil of St. John's wort.
Lond.

Take of

The flowers of St. John's wort, full blown, fresh gathered, and carefully freed from the cups, four ounces;

Oil olive, two pints. Pour the oil upon the

Pour the oil upon the flowers, and let them stand together, till the oil is sufficiently coloured.

# OLEUM E MUCIL AGINIBUS. Oil of mucilages. Lond.

Take of
Marshmallow root, fresh, half a
pound;
Linseed.

Fenugreek feed, each three ounces:

Water, two pints; Oil olive, four pints.

Bruise the roots and seeds, and gently boil them in the water for half an hour: then add the oil, and continue the boiling till all the water is wasted: afterwards let the oil be carefully poured off for use.

# OLEUM SAMBUCINUM. Oil of elder. Lond.

Take of
Elder flowers, one pound;
Oil olive, two pints.

Boil the flowers in the oil, till they are almost crisp; then press out the oil, and set it by till the seces have subsided.

## OLEUM VIRIDE. Green oil. Lond.

Take of
Bay leaves,
Rue leaves,
Marjoram leaves,
Sea wormwood leaves,
Chamomile leaves, each, fresh
gathered, three ounces;

Oil olive, two pints.

Bruise the herbs and gently boil them in the oil till they are almost crisp; then press out the oil, let it stand to settle, and afterwards pour it off from the sediment.

ALL the foregoing oils are defigned for external applications only. They are supposed, besides the general emollient quality of the oil itself, to receive particular virtues from the ingredients: that of chamomile flowers, to be a warm difcutient and resolvent; that of St. John's wort flowers, to be peculiarly grateful to the nerves, to give great relief in all kinds of pains and wearinefs, to refolve tumours, and heal wounds and ulcers; and the oil of mucilages to be fofter and more emollient than common oil. An oil prepared in the same manner from wormwood, rubbed on the ftomach and umbilical region, is faid to excite appetite, strengthen the vifcera, and kill worms; and one from rue, to be of fingular efficacy against worms and colicky pains and fwellings.

It is prefumed, however, that, at present, there are sew who expect much more from these preparations than from common oil itself, which has the advantage of being less of-

fensive. The mucilaginous ingredients, marshmallow root and linfeed, in the oleum e mucilaginibus, make no addition to the virtue of the oil; for mucilages, as already observed, are not soluble in oils. Experience has not discovered any fuch fingular qualities in flowers of St. John's wort, that four ounces of them should communicate any remarkable virtue to a quart of oil. Of the other herbs, the more valuable parts are diffipated by the boiling heat; and, although the remaining matter, if it were taken internally, either by itself, or dissolved in watery or spirituous liquors, might not be destitute of activity; yet it can fearcely be supposed, when combined with a large quantity of oil, to have any material effect in external applications. The number of these oils has, therefore, been judiciously retrenched, at a late reformation. The five above retained, are not one-tenth part of those which were formerly ordered The most to be kept in the shops. certain way of answering the purpofes intended by these preparations, appears to be, by mixing with the expressed oil a suitable quantity either of the native refins of vegetables, or of the effential oils and refinous extracts artificially prepared from them.

## OLEUM CAMPHORATUM. Camphorated oil. Edinb.

Take of
Fresh drawn oil of almonds, or
linseed, two ounces;
Camphor, half an ounce.
Dissolve the camphor in the oil.

This oil is defigned, like the foregoing ones, for external purposes. It has been in use for some time, in the infirmary of Edinburgh, against burns, rheumatic pains, &c.

and is thence received into the pharmacopæia of the Edinburgh college.

OLEUM ODORIFERUM.
Odoriferous oil.

Let some fine carded cotton be dipt in oil olive, or oil of ben nuts, that it may be thoroughly imbibed with the oil, without retaining fo much as to drip fpontaneously. Lay a bed of this cotton in the bottom of a tin or procelane veffel, and lightly spread upon it a pretty thick layer of any odoriferous flowers fresh gathered, as jasmine flowers, violets, lilies of the valley, &c. Above these fpread more of the cotton, and then more flowers alternately, till the vessel is full: then cover it close, and let it stand for twentyfour hours in a gentle warmth. Great part of the fragrance of the flowers will be communicated to the oil in the cotton, which is to be stratisfied in the same manner with two or three fresh quantities of the flowers, till it is sufficiently impregnated therewith; after which the oil is to be squeezed out from the cotton in a press.

This appears to be the most effectual method of transferring into expressed oils, the odoriferous matter of those tender slowers which yield little or no essential oil; the perfumed oils and essences of those slowers, brought from Italy, are prepared in this manner. The odorous parts may be again separated from the oil, and transferred into water or spirit, by distillation with those liquors.

### CHAPTER IV.

Conservation of recent vegetables and their infustors, &c. by sugar and honey.

#### SECT. I.

Conserves.

Conserves are compositions of recent vegetable matters and sugar, beaten together in an uniform mass.

This management is introduced for preferving certain fimples, undried, in an agreeable form, with as little alteration as possible in their native virtues; and to some subjects it is very advantageously applied. Vegetables, whose virtues are lost or destroyed in drying, may in this form be kept uninjured for a length of time: for, by carefully fecuring the mouth of the containing veffel, the alteration, as well as diffipation, of their active principles, is generally prevented; and the fugar preserves them from the corruption which juicy vegetables would otherwise undergo.

There are, however, fundry vegetables, whose virtues are impaired by this treatment. Mucilaginous substances, by long lying with sugar, becomes less glutinous; and astringents, sensibly softer upon the palate. Many of the fragrant slowers are of so tender and delicate a texture, as almost entirely to lose their peculiar qualities on

being beaten or bruifed.

In general, it is obvious, that in this form, on account of the large admixture of fugar, only substances of considerable activity can be taken to advantage as medicines. And indeed, conferves are at prefent confidered chiefly as auxiliaries to medicines of greater efficacy; or as intermedia for joining them together. They are very convenient for reducing into bolufes or pills, the more ponderous powders, as mercurius dulcis, the calces of iron, and other mineral preparations; which with liquid or less confistent matters, as fyrups, will not cohere.

The shops were formerly incumbered with many conserves, altogether insignificant; the sew now retained have in general either an agreeable slavour to recommend them, or are capable of answering some useful purposes as medicines. Their common dose is the bulk of a nutmeg, or as much as can be taken up at once or twice upon the point of a knife. There is in general no great danger of exceeding in this particular.

General method of preparing conserves.

Leaves are picked from the stalks, and slowers from their cups. They are then beaten in a marble mortar, with a wooden pessle, into a smooth mass; after which, thrice their weight of doublerefined sugar is added by degrees, and the beating continued till they are uniformly mixed.

The fugar should be pulverized by itself, and passed through a fieve, before it is mixed with the vegetable mass; otherwise it cannot eafily be reduced to fufficient fineness so as to be duly incorporated. Some vegetables are scarce reducible to the requifite fineness by beating in a mortar: fuch is orange-peel. This is most conveniently raiped or grated off from the fruit, then well mixed with the fugar, and the compound fet by in a close vessel for some weeks: after which, it may be beaten fmooth with confiderable less labour than at first. This peel, and red rose buds, are commonly ground in a wooden mill made for that purpofe.

CONSERVA foliorum COCH-LEARIÆ hortensis. Conserve of the leaves of garden scurvy-grass. L. E.

This is the only form in which feurvy-grafs in substance can be kept, without the total loss of its virtues. The conferve retains the full talle and virtue of the herb for a very confiderable length of time; as a year or two; provided the vesfel be made perfectly close, and fet in a cool place. It may be given in fcorbutic habits, three or four times a day, or oftener : though it is more frequently used as an assistant to other medicines of fimilar intention, than depended on by itfelf. It is an excellent addition to arum-root in rheumatic cases; and in this form, even the fresh root of arum may be taken freely, without any complaint of the excellive pungency which of itself it impresses on the tongue. An ounce of fresh arum root, beaten into a pulp, and tour ounces or less of conserve of

fcurvy-grafs, well mixed together, form a compound, in which the pungency of the arum is hardly perceived, and which I have given, with good effect, to the quantity of a nutmeg twice or thrice a day. To further sheath the acrimony of the arum, it may be beaten with equal its weight of powdered gum arabic, before the admixture of the conserves.

CONSERVA foliorum LUJULÆ.

Conferve of the leaves of woodforrel.

L. E.

This is a very elegant and grates ful conferve; in taste it is lightly acidulous, with a peculiar flavour, which some resemble to that of green tea. It is taken occasionally, for quenching thirst; and cooling the mouth and fauces in hot distempers. It may be usefully joined to the foregoing preparation, whose virtue it somewhat promotes, at the same time that it improves the taste.

CONSERVA foliorum MEN-THÆ vulgaris. Conserve of the leaves of spearmint. Lond.

The conferve of mint retains the taste and virtues of the herb. It is given in weakness of the stomach and reachings to vomit; and not unfrequently does service in some cases of this kind, where the warmer and more active preparations of mint would be less proper.

CONSERVA foliorum RUTÆ.

Conserve of the leaves of rue.

Lond.

This conferve is given from a dram to half an ounce, in crudities

of the primæ viæ, for promoting digestion, and in hysteric disorders. It gently stimulates the solids, attenuates viscid juices, and excites the natural secretions. Some have had a great opinion of it, taken in a morning, as a preservative against the effects of contagious air or exhalation.

CONSERVA fummitatum AB-SINTHII maritimi.

Conserve of the tops of sea worm-

Lond.

THE conserve of wormwood has been celebrated in dropsies. Matthiolus relates, that several persons were cured by it of that distemper, without the assistance of any other medicine. Where the disorder indeed proceeds from a simple laxity or flaccidity of the solids, the continued use of this medicine may be of some service; as it appears to be a not inelegant mild corroborant. It is directed to be given in the dose of half an ounce, about three hours before meals.

CONSERVA florum LAVEN-DULÆ.

Conferve of lavender flowers.

Lond.

This conserve is not near so fragrant as the flowers themselves. It is nevertheless a sufficiently agreeable one; and is sometimes used as a mild cordial, and in debilities of the nervous system.

CONSERVA florum MALVÆ.

Conserve of the flowers of mallows.

Lond.

This is looked upon as an emollient, and fometimes made use of as fuch in disorders of the breast and urinary passages. It is the most unimportant of the conserves: nor do the slowers themselves appear to have much virtue.

CONSERVA florum ROSARUM rubrarum immaturarum.

Conserve of the buds of red roses.

L. E.

This is a very agreeable and useful conserve. A dram or two, dissolved in warm milk, are frequently given as a light restringent. in weakness of the stomach, and likewife in coughs and phthifical complaints. In the German ephemerides, examples are related of very dangerous phthises cured by the continued use of this medicine. In one of these cases, twenty pounds of the conserve were taken in the space of a month; and in another, upwards of thirty. Riverius mentions several other instances of this kind.

CONSERVA florum RORISMA-RINI.

Conserve of rosemary flowers.

L. E.

Rosemary flowers in great meafure lose their peculiar fragrance by beating, and hence the conserve has very little of their flavour. Some are therefore accustomed to make this preparation from the leaves of the plant (which retain their virtues under the pesse) or at least to add a portion of these to the flowers. The conserve of rosemary is directed in weakness of the nerves, and as a light cordial.

CONSERVA flavedinis CORTI-CUM AURANTIORUM Hispalensium.

 $\mathbf{z}$ 

Con-

Conferve of the yellow rind of Seville orange peel.

L. E.

This conserve is a very elegant one, containing all the virtues of the peel, in a form sufficiently agreeable, both with regard to the dose and the convenience of taking. It is a pleasant warm stomachic, and in this intention is frequently used.

#### CONSERVA FRUCTUS CY-NOSBATI.

Conferve of hips.

Hips require less sugar for reducing them into a conserve, than the substances above enumerated. Twelve ounces of the pulp of the ripe fruit are to be mixed with only twenty ounces of sugar.

THE conserve of hips is of some esteem, as a soft, cooling restringent. Three or four drams or more are given at a time, in bilious sluxes, sharpness of urine, and hot indispositions of the stomach. A

good deal of care is requisite on the part of the apothecary in making this conserve: the pulp is apt to carry with it some of the prickly sibres, with which the inside of the fruit is lined. If these be retained in the conserve, they will irritate the stomach, so as to occasion vomiting.

#### CONSERVA PRUNORUM SIL-VESTRIUM.

Conserve of floes.

Lond.

Let the floes be put into water, and fet over the fire till they grow foft, with care that they do not burst. Then take the floes out of the water, press out their pulp, and mix with it thrice its weight of double-refined sugar.

This preparation is a gentle aftringent, and may be given as such in the dose of two or three drams. The degree of its astringency will vary according to the maturity of the sloes, and the length of time that the conserve has been kept.

### SECT. II.

Preserves.

PRESERVES are made by steeping or boiling recent simples,
first in water, and then in syrup,
or solution of sugar. The subject is afterwards either kept
moist in the syrup, or taken out
and dried, that the sugar may
candy upon it; the latter is the
more usual method.

In this process, some of the valuable parts of the subject are extracted by the liquor, and consequently lost to the preparation; greater regard being here had to palatableness than medicinal efficacy. And indeed most of the

preparations of this kind are confidered rather as fweetmeats than as medicines; as the business of the confectioner rather than of the apothecary. It would be needless therefore to mention the doses of the several articles, or give particular remarks on the manner of preparing them.

# RADIX ERYNGII CONDITA. Candied eringo roots. Lond.

Boil them in water, till the rind will eafily peel off; when peeled, flit them through the middle, take out the pith, and wash them three or four times in cold water. For every pound of the roots, so prepared, take two pounds of double-refined sugar, which is to be dissolved in a proper quantity of water, and set over the fire: as soon as the liquor begins to boil, put in the roots, and continue the boiling till they are soft.

After this manner are candied ANGELICÆ CAULES.

Angelica stalks.

### CORTEX AURANTIORUM CONDITUS.

Candied orange peel.

Lond.

Steep the fresh peels of Seville oranges in water, which is to be frequently renewed, until they lose their bitterness. Then, having dissolved in water a suitable quantity of double refined sugar, boil the peels in this liquor till they become soft and transparent.

After the fame manner are candied LIMONUM CORTICES.

Lemon peels. [L.]

In the fame, or a fimilar manner, may likewife be candied

RADICES ANGELICÆ.

Angelica roots. [E.]

RADICES HELENII.

Elecampane roots. [E.]

All forts of fruits, flowers, and feeds may also be preserved, either by keeping them in fyrup, or crusting them over with sugar; but these kinds of preparations scarce belong to the art of pharmacy.

Nutmegs and ginger are brought to us ready candied from the East Indies. [E.]

#### MARS SACCHARATUS.

Candied Steel.

Put any quantity of clean filings of iron 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, with which powdered starch has been previously mixed, in the proportion of a dram to every pound; agitating the kettle continually, that the filings may be crusted over with the sugar, and taking great care to prevent their running into lumps.

This is a very agreeable preparation of steel; but has hitherto been made only by the confectioners. The college of Edinburgh received it in former editions; but, as there described, it was almost impossible to hinder the matter from concreting into lumps. They have now discovered the intermedium which prevents that inconvenience, and which the confectioners have kept a fecret; the addition of a little starch to the fugar. preparation may be given to the quantity of half a dram, in cales in which chalybeate medicines are proper. See page 141.

# SECT. III.

Jellies.

TEGETABLE jellies are composed of the juices of fruits and fugar, boiled to a thick confistence. Independently of the admixture of fugar, the boiling appears to occasion some alteration in the quality of the juices themselves. The recent juices of the fummer fruits are prone to fermentation. After they have been boiled, they are less disposed to ferment, and at the same time they are much less liable to produce, in the human body, flatulencies, gripes, or fluxes; though they still retain, in no small degree, their original antiseptic, anti-inflammatory, and aperient or restringent virtues.

GELATINA, seu miva, CYDO-NIORUM.

Felly, or marmalade, of quinces.

Edinb.

Take three pints of depurated quince juice, and a pound of white sugar. Simmer them together, to a proper thickness.

This is an uleful, cooling, reftringent medicine. It is given in
weakness of the stomach, reachings to vomit, diarrheas and dyfenteries, proceeding from a hot
indisposition, or sharp bilious humours. It is best taken in little
quantities, as a tea spoonful or
two now and then, either by itfelf. or diluted with any suitable
liquors.

GELATINA BERBERORUM.

Jelly of barberries.

Edinb.

Take a pound of barberries picked clean from the stalks, and the same quantity of white sugar. Boil them with a gentle heat to a due consistence; then pass the jelly through a stannel cloth.

GELATINA RIBESIORUM.

felly of currants.

Edinb.

Is prepared after the same manner.

HERE the trouble of expression is faved; these fost fruits freely giving out their juice, which incorporates with the fugar, in the process. Both these preparations are gratefully fub-acid and cooling, and in this intention are occasionally made use of, for moistening the mouth and fauces in febrile or inflammatory distempers. Dissolved in water, they afford an useful diluent drink, of a saponaceous nature, which mingles with the blood or its ferum when thickened (as in some kinds of fevers) where pure water runs off by the kidneys almost unchanged. By the fame qualities, they prove ferviceable likewise in chronical disorders proceeding from obstructions of the vifcera, or accompanied with immoderate heat: in bilious fluxes and putrid fcurvies, their liberal and continued use has sometimes had good effects. Boerhaave greatly commends these kinds of preparations in the fcorbutic diforders to which feafaring people are particularly subject.

# SECT. IV.

Syrups.

YRUPS are faturated folutions of fugar, made in water, or watery or vinous infusions, or in juices. They were formerly confidered as medicines of much greater importance than they are thought to be at prefent. Syrups and distilled waters were for some ages made use of as the great alteratives; infomuch that the evacuation of any peccant humour was never attempted, till by a due course of these, it had first been regularly prepared for expulsion. Hence arose the exuberant collection of both, which we meet with in pharmacopæias; and like errors have prevailed in each. As multitudes of diffilled waters have been compounded from materials unfit to give any virtue over the helm; so numbers of syrups have been prepared from ingredients, which in this form cannot be taken in sufficient doses to exert their virtues; for two-thirds of a syrup confist of sugar, and the greatest part of the remaining third is an aqueous fluid.

Syrups are at present chiefly regarded as convenient vehicles for medicines of greater efficacy; and made use of for sweetening draughts and juleps, for reducing the lighter powders into boluses, pills, or electaries, and similar purposes. Some likewise may not improperly be considered as medicines themselves; as syrup of fastron, and buckthorn berries.

# General Rules for preparing Syrups.

All the rules laid down for making decoctions, are likewise to be obferved in the decoctions for syrups. Vegetables, both for decoctions and infusions, ought to be dry, unless expressly ordered otherwise [E.]

In the London pharmacopæia, only the purest or double-refined fugar is allowed.

In the Edinburgh, the directions are less explicit. For such syrups as are prepared without boiling, it is lest to the choice of the operator to employ either the double-refined, or the common white sugar; which latter he is directed to purify for those syrups

(not for the others) by previpully diffolving it in water, clarifying the folution with whites of egg, and boiling it down to a thick confidence, with care to take off the four which rifes during the boiling.

In the fyrups prepared by boiling, it has been cultomary to perform the elarification with whites of eggs, after the fugar had been dissolved in the decoction of the vegetable. This method is apparently injurious to the preparation: fince not only the impurities of the fugar are thus discharged; but a considerable part likewise of the medicinal matter, which the water had before taken up from the ingredients, is separated along with Z 3

them. Nor indeed is the clarification and despumation of the sugar, by itself, very adviseable; for its purification by this process is not so perfect as might be expected; after it has undergone this process, the refiners still separate from it a quantity of oily matter, which is disagreeable to weak stomachs. See page 215. It appears therefore most eligible to employ fine sugar for all the fyrups; even the purgative ones (which have been usually made with coarse sugar, as somewhat coinciding with their intention) not excepted; for, as purgative medicines are in general ungrateful to the stomach, it is certainly improper to employ an addition which increases their offenfiveness.

ш.

Where the weight of the lugar is not expressed, twenty-nine ounces thereof are to be taken to every pint of liquor. The fugar is to be reduced into powder, and diffolved in the liquor by the heat of a water-bath, unless ordered otherwise. [L.]

Although in the formulæ of several of the fyrups, a double weight of fugar to that of the liquor is directed, yet less will generally be sufficient. First therefore diffolve in the liquor an equal weight of fugar, then gradually add some more in powder, till a little remains undissolved at the bottom, which is to be afterwards incorporated by fetting the fyrup in a water-bath [E.]

The quantity of fugar should be so much, that the liquor may keep disfolved in the cold : if there be more, a part of it will separate, and concrete into crystals, or candy; if less, the syrup will be subject to ferment, especially in warm weather, and change into a vinous or tour liquor. If, in crystallizing,

only the fuperfluous fugar feparated, it would be of no inconvenience; but, when part of the fugar has candied, the remaining fyrup is found to have an under proportion, and is as subject to fermentation as if it had wanted lugar at hrit.

Copper veffels, unless well tinned, should not be employed in the making of acid fyrups, or fuch as are composed of the juices of

fruits [E.] 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 fyrups, as of oranges and lemons. Nevertheless, by taking due care that their coppers be well fcoured and perfectly clean, and that the fyrup remain no longer in them than is absolutely necessary, they avoid giving it any ill tafte or quality from the metal. This practice, however, is by no means to be recommended to the apothecary.

The fyrup, when made, is to be fet by till next day; if any faccharine crust appear upon the surface, take it off [L.]

> SYRUPUS ex ALLIO. Syrup of garlick.

Take of

Garlick, fliced, one pound; Boiling water, two pints.

Macerate them in a close vessel for twelve hours, then strain off the liquor, and dissolve in it a proper quantity of lugar, so as to make a fyrup.

THIS fyrup is occasionally made use of for attenuating viscid phlegm, and promoting expectoration in humoural moural asthmas, and oppressions of the breast. In these cases, it proves a medicine of considerable esticacy, though a very unpleasant one: it tastes and smells strongly of the garlick. The college have received it as an alterative to the oxymel exallio, for the use of those with whom honey disagrees.

# SYRUPUS ex ALTHÆA. Syrup of marshmallows. Lond.

Take of

Marshmallow roots, fresh, one pound;

Double refined fugar, four pounds;

Water, one gallon.

Boil the water with the roots, to one half: when grown thoroughly cold, pour off and press out the decoction, and set it by for a night to settle: next morning pour off the clear liquor, and adding to it the sugar, boil the whole to the weight of fix pounds.

#### Edinb.

Take of

Marshmallow roots, nine ounces; White sugar, four pounds;

Water, ten pounds.

Boil the water with the marshmallow roots to the consumption of one-third, then strain out
the remaining decoction, and
suffer it to rest for some time.
Pour off the clear liquor from
the sediment, and boil it with
the sugar over a gentle sire,
keeping the matter continually
stirring, till it becomes a syrup.
This syrup supplies likewise the
place of the pectoral syrup.

THE fyrup of marshmallows feems to have been a fort of favourite among dispensatory-writers, who have taken great pains to alter and amend it, but have been won-

derfully tender in retrenching any of its articles. In the above prescriptions, it is lopt of its superfluities, without any injury to its virtues. It is used chiefly in nephritic cases, for sweetening emollient decoctions, and the like. Of itself, it can do little service, notwithstanding the high opinion which some have entertained of it : for what can be expected from two or three spoonfuls of the syrup, when the decoction, from which two or three pounds are made, may be taken at a draught or two? The college of Edinburgh has very properly united this and the pectoral fyrup into one: for the fyrup of marshmallows has always, till this reformation, contained the principal ingredients of the pectoral fyrup, and its own capital ingredient coincides in the same intention.

# SYRUPUS e CORTICIBUS AURANTIORUM. Syrup of orange peel.

Take of the

Yellow rind of Seville orange peel, fresh, eight ounces;

Boiling water, five pints.

Macerate them for a night in a close vessel; next morning, strain out the liquor, and dissolve in it the proper quantity of sugar for making it into a syrup.

#### Edinb.

Take of the

Yellow rind of orange peel, fresh,

fix ounces;

Infuse them for a night in a close vessel, then strain the liquor, let it stand to settle, and having poured it off clear from the sediment, dissolve therein twice its weight of white sugar, so as to make it into syrup without boiling.

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In making this fyrup, it is particularly necessary, that the sugar be previously powdered and disfolved in the infusion with as gentle a heat as possible, to prevent the exhalation of the volatile parts of the peel. With these cautions, the syrup proves a very elegant and agreeable one, possessing great share of the fine slavour of the orange-peel.

# SYRUPUS BALSAMICUS. Balfamic fyrup.

Lond.

Take of

Balfam of Tolu, eight ounces;

Water, three pints.

Boil them for two or three hours in a circulatory vessel, or at least in a long-necked matrass, having its mouth lightly covered. When grown cold, strain out the liquor, and mix therewith a proper quantity of sugar to make it into a syrup.

THE coction may be conveniently performed in a retort, with a receiver adapted to it, the liquor which comes over being occasionally poured back; or the water may be entirely drawn off, and the sugar dissolved in the distilled liquor.

### Edinb.

Take of the

Syrup of fugar, just made, and warm from the fire, two pounds;

Tincture of balfam of Tolu, one

When the fyrup has grown almost cold, stir into it the tincture, by little at a time, agitating them well together, till perfectly united. The mixture is then to be kept in the heat of a water-bath until the spirit has exhaled.

THIS method of making the bal-

famic fyrup was dropt in one of the the preceding editions of the Edinburgh pharmacopœia, on a complaint that the spirit spoiled the tafte of the fyrup; which it did in a great degree when the tinctore was drawn with malt spirits; the nauseous oil, with which all the common malt spirits are accompanied, being left in the fyrup after the evaporation of the pure spirituous part. Particular care therefore should be taken, that the ipirit, employed for making the tincture, be perfectly clean, and well rectified from all ill flavour.

The intention of the contrivers of the two foregoing processes seems to have been somewhat different. In the first, the more subtile and fragrant parts of the balsam are extracted from the grosser resinous matter, and alone retained in the syrup: the other syrup contains the whole substance of the balsam, in larger quantity. They are both moderately impregnated with the agreeable slavour of the balsam.

In some pharmacopæias, an elegant syrup of this kind is prepared from a tincture of balsam of Peru, with rose-water, and a proper quan-

tity of fugar.

# SYRUPUS CARYOPHYLLO-RUM RUBRORUM. Syrup of clove july-flowers.

Lond.

Take of

Clove july-flowers, fresh gathered, and freed from the heels, three pounds;

Boiling water, five pints.

Macerate them for a night in a glass or glazed earthen vessel; then strain off the liquor, and dissolve therein its due proportion of sugar to make it into a syrup.

One pound of the flowers is to be infused

infused in four pounds of water, and the syrup made as above, without boiling.

This fyrup is of an agreeable flavour, and a fine red colour; and for these it is chiefly valued.

# \* SYRUPUS COLCHICI. Syrup of colchicum. Edinh.

Take of

The root of colchicum, fresh and fucculent, and cut into slices, one ounce;

Vinegar, fixteen ounces.

Macerate the root in the vinegar two days, shaking the vessel often; then strain the liquor by gentle pressure, and add the sugar powdered; boil it gently to the consistence of a syrup. Vide Colchicum.

# SYRUPUS CROCI. Syrup of Saffron. Lond.

Take of

Saffron wine, one pint; Double-refined fugar, twentyfive ounces.

Dissolve the sugar in the wine, so as to make a syrup.

SAFFRON is very well fitted for making a fyrup, as in this form a fufficient dose of it is contained in a reasonable compass. This syrup is at present more frequently prescribed than the wine from which it is made: it is a pleasant cordial, and gives a fine colour to juleps.

# SYRUPUS CYDONIORUM.

Syrup of quinces. Lond.

Take of
Quince juice, depurated, three
pints;
Cinnamon, one dram;
Cloves,

Ginger, each half a dram;

Red Port wine, one pint; Double refined fugar, nine pounds.

Digest the juice with the spices, in the heat of ashes, for six hours; then adding the wine, pass the liquor through a strainer; and afterwards dissolve in it the sugar, so as to make a syrup.

If the quinces be kept for fome time in an airy place, before the juice is pressed out, the syrup proves rather more elegant, and richer of the fruit, than when they are taken fresh from the tree. In either case, the preparation is a very agreeable, mild, cordial restringent; and in some kinds of loosenesses and disorders of the stomach, may be either taken by itfelf, in the quantity of a spoonful or two at a time, or employed for reconciling to the palate and stomach, medicines of the more ungrateful kind.

### SYRUPUS KERMESINUS.

Syrup of kermes.

This fyrup is brought to us ready made, from the fouthern parts of France.

THE fyrup of kermes is of an agreeable taste, and a fine red colour. It is accounted cordial and corroborant, and supposed to be particularly serviceable in weaknesses and other disorders of pregnant women.

# SYRUPUS e SUCCO LIMO-NUM. Syrup of lemon juice.

Take of
Juice of lemons, fuffered to stand
till the feces have subsided, and
afterwards strained, two pints;
Double

Double refined fugar, fifty oun-

Dissolve the fugar in the juice, so as to make a syrup thereof.

Edinb.

Take of

Lemon juice, depurated, two pounds and an half;

White fugar, fifty ounces.

Make them into a fyrup according to art, without boiling

After the same manner are prepared

SYRUPUS e SUCCO MORO-RUM.

Syrup of mulberries [L.]

SYRUPUS e SUCCO FRUC-TUS RUBI IDÆI. Syrup of raspherries [L.]

ALL these are very pleasant, cooling syrups, and in this intention are occasionally made use of, in draughts and juleps, for quenching thirst, abating heat, &c. in bilious or inflammatory distempers. They are sometimes likewise employed in gargarisms for inflammations of the mouth and tonsils.

SYRUPUS e MECONIO, five DIACODION.

Syrup of meconium, or diacodium.

Lond.

Take of

White poppy heads, dried and cleared from the feeds, three pounds and a half;

Water, fix gallons.

Cut the heads, and boil them in the water, stirring them now and then to prevent their burning, till only about one-third part of the liquor remains, which will be almost entirely soaked up by the poppies. Then remove the vessel from the fire, strongly

press out the decoction, and boil it down to about four pints: strain it whilst hot, first through a sieve, and afterwards through a sieve, and afterwards through a sieve, and afterwards through a sieve, and set it by for a night, that the seces may subside. Next morning, pour the liquor off clear, and boil it with six pounds of double-refined sugar, until the weight of the whole be nine pounds, or a little more, that it may become a syrup of a proper consistence.

SYRUPUS PAPAVERIS ALBI, feu de MECONIO, vulgo DIACODION.

Syrup of white poppies, or of meconium, commonly called diacodium.

Edinb.

Take of

White poppy heads, dried and freed from their feeds, two pounds;

Boiling water, thirty pounds; The finest sugar, four pounds.

Macerate the heads, cut in small pieces, for a night; afterwards boil it till one third part only of the liquor remains; strain it, and strongly press out the remainder. Boil the strained liquor to one half, and strain it again; then add the sugar, and boil it to a syrup.

These fyrups, impregnated with the opiate matter of the poppy heads, are given to children in dofes of two or three drams; to adults, from half an ounce to an ounce and upwards, for obtunding and incrassating acrimonious humours, easing pain, procuring rest, and answering the other intentions of mild opiates. Particular care is requisite in their preparation, that they may be always made, as near as possible, of the same strength; and

and accordingly the colleges have been very minute in their description of the process.

SYRUPUS PAPAVERIS ERRA-TICI.

Syrup of wild poppies.

Take of

Wild poppy flowers, fresh, four pounds;

Boiling water, four pints and a

Pour the water on the poppies, set them over the fire, and frequently stir them, until the slowers be thoroughly moistened. As soon as they have sunk under the water, let the whole be set by to steep for a night: next day pour off and press out the liquor, and set it by for a night longer to settle: afterwards add the proper quantity of double-refined sugar to make it into a syrup.

THE defign of fetting the flowers over the fire is (as Dr. Pemberton observes) that they may be a little scalded, so as to shrink enough to be all immerged in the water: without this artifice, they can scarce be all got in; but they are no longer to be continued over the fire, than till this effect is produced, lest the liquor become too thick, and the syrup be rendered ropy.

This fyrup has been recommended in diforders of the breast, coughs, spitting of blood, pleurisies, and other diseases, both as an emollient, and as an opiate. It is one of the lightest of the opiate medicines, and in this respect so weak, that some have doubted of its having any anodyne quality.

SYRUPUS PECTORALIS.

Pettoral fyrup.

Lond.

Take of

English maidenhair, dried, five ounces;

Liquorice, four ounces; Boiling water, five pints.

Macerate them for some hours; then strain out the liquor, and, with a proper quantity of double-refined sugar, make it into a syrup.

THE title of this composition expresses its medical intention. It is supposed to foften acrimonious humours, allay tickling coughs, and promote the expectoration of tough phlegm. The true maidenhair is the only fort that has been usually directed in these kinds of compositions: the use of the English is here very judiciously allowed; not only as being more easily procurable, and having been substituted for the other in the shops, but likewife as there does not feem to be any medicinal difference betwixt Fuller finds great fault with both these ingredients, on a supposition that all their virtues fly away in drying; but in this he certainly mistook; for the virtues of both these maidenhairs confift in a mucilaginous substance, which fuffers no injury by being dried. There is one species indeed, the Canada maidenhair, which has a considerable share of a pleasant imell and flavour joined to its mucilage; but this is as yet little known in the shops, though not uncommon in some of our gardens.

SYRUPUS e FLORIBUS PA-RALYSIS.

Syrup of cowslips.

This is made from cowslip flowers, after the same manner as the syrup of clove july-flowers.

IT has been supposed serviceable

in nervous disorders; its agreeable flavour recommends it to the patient, though at present there are few who suppose it to possess any singular virtues.

### SYRUPUS ROSARUM SOLU-TIVUS.

Solutive fyrup of roses.

Take the liquor that remains after the distillation of fix pounds of damask roses;

Of double-refined fugar, five pounds.

Having pressed out the liquor from the roses, boil it down to three pints, and set it by for a night to settle. Next morning, pour it off clear from the sediment, and adding the sugar, boil the mixture to the weight of seven pounds and an half.

### SYRUPUS ROSARUM PALLI-DARUM.

Syrup of pale roses. Edinb.

Take of

Pale rofes, fresh gathered, one

Boiling water, four pounds; White fugar, three pounds.

Macerate the roses in the water for a night; then strain the liquor, and adding to it the sugar, boil them into a syrup.

This fyrup may likewise be made from the liquor remaining after the distillation of rose water, depurated from its seces.

THE liquor remaining after the distillation of roses (provided the still has been perfectly clean) is as proper for making this syrup as a fresh infusion: for the distillation only collects those volatile parts, which are dissipated in the air, whilst the infusion is boiling to its consistence. This syrup is an agree-

able and mild purgative for children, in the dose of half a spoonful, or a spoonful. It likewise proves gently laxative to adults, and in this intention may be of service in costive habits. Its principal use is in solutive glysters.

# SYRUPUS de ROSIS SICCIS. Syrup of dry roses. Edinb.

Take of

Red roses dried, seven ounces; White sugar, six pounds; Boiling water, sive pounds.

Infuse the roses in the water for a night, then boil them a little, strain out the liquor, and, adding to it the sugar, boil them to the consistence of a syrup.

This fyrup is supposed to be mildly astringent: but is principally valued on account of its red colour. The London college have omitted it, having retained others at least equal to it in that respect.

# Syrup of fquills.

Take of

Vinegar of fquills, a pint and a half:

Cinnamon,

Double-refined fugar, three pounds and a half.

Steep the spices in the vinegar for three days; then strain out the liquor, and add the sugar, so as to make a syrup.

### Edinb.

Take of
Vinegar of squills, two pounds;
White sugar, three pounds and

Make them into a fyrup, without boiling.

THE spices, in the first of these compositions,

compositions, somewhat alleviate the offensiveness of the squills, though not fo much as to prevent the medicine from being difagreeable. It is used chiefly in doses of a spoonful or two, for attenuating viscid phlegm, and promoting expectoration, which it does very powerfully.

### SYRUPUS SIMPLEX. The simple syrup. Lond.

Diffolve in water to much doublerefined fugar as will make it into a fyrup.

# SYRUPUS SACCHARI. Syrup of Sugar. Edinb.

Take of

White fugar,

Water, each equal quantities. Boil them into a fyrup.

THESE preparations are plain liquid sweets, void of flavour or colour. They are convenient for fundry purposes where these qualities are not wanted, or would be exceptionable.

# SYRUPUS e SPINA CERVINA. Syrup of buckthorn.

Take of the

Juice of ripe and fresh buckthorn berries, one gallon;

Cinnamon,

Ginger,

Nutmegs, each one ounce; refined fugar, feven Double

pounds.

Set the juice by for fome days, to fettle; then pass it through a strainer, and in some part thereof macerate the spices. Boil the rest of the juice, adding towards the end that part in which the through a strainer: this part of

the process must be so managed, that the whole liquor may be reduced to four pints. Lastly, put in the fugar, and make the mixture into a fyrup.

#### Edinb.

Take of

The juice of ripe buckthorn berries, depurated, feven pounds and an half;

White fugar, three pounds and an half.

Boil them to the confistence of a iyrup.

BOTH these preparations, in doses of three or four spoonfuls, operate as brisk cathartics. The principal inconveniencies attending them are, their being very unpleafant, and their occasioning a thirst and dryness of the mouth and fauces, and sometimes violent gripes. Both these may be prevented, by drinking liberally of water-gruel, or other warm liquids, during the operation. The ungratefulness of the buckthorn is endeavoured to be remedied in the first of the above prescriptions, by the addition of aromatics, which, however, are scarcely sufficient for that purpose. The fecond also had formerly an aromatic material for the fame intention, a dram of the effential oil of cloves; which being found ineffectual, is now rejected.

### SYRUPUS VIOLARUM. Syrup of violets. Lond.

Take of

Violets, fresh, and well coloured, two pounds;

Boiling water, five pints.

Macerate them, for a whole day, in a glass, or at least a glazed earthen veffel; then pour out the liquor, spices were macerated, first passed and pass it through a thin linen cloth, carefully avoiding even the lightest

lightest pressure : afterwards adding the due proportion of fugar, make it into a fyrup.

#### Edinb.

Take of

March violets, fresh, one pound;

Boiling water, three pints.

Steep them together for a night in a glazed earthen vessel, close covered; then ftrain out the liquor, and dissolve in it twice its weight of white fugar, fo as to make a fyrup without boiling.

This fyrup is of a very agreeable flavour, and in the quantity of a spoonful or two, proves to children gently laxative. It is apt to lofe, in keeping, the elegant blue colour, for which it is chiefly valued; and hence fome have been induced to counterfeit it with materials whose colour is more permanent. This abuse may be readily discovered, by adding to a little of the suspected syrup any acid or alkaline liquor. If the fyrup be genuine, the acid will change its blue colour to a red, and the alkali will change it to a green; but if counterfeit, these changes will not happen. It is obvious, from this mutability of the colour of the violet, that the prescriber would be deceived if he should expect to give any blue tinge to acidulated or alkalized juleps or mixtures, by the addition of the blue fyrup.

# SYRUPUS ZINGIBERIS. Syrup of ginger.

Take of Ginger, cut into thin flices, four ounces;

Boiling water, three pints.

Macerate them for some hours, then strain out the liquor, and make it into a fyrup with a proper quantity of double-refined fugar. Edinb.

Take of

Ginger, fliced and bruifed, three

White lugar, feven pounds and

an half.

Boiling water, four pounds. Steep the ginger in the water, in a close vessel, for a night; then boil them a little, and having strained out the decoction, fet it by to lettle. Pour off the clear liquor, add to it the fugar, and make them into a fyrup.

These are agreeable and moderately aromatic fyrups, lightly impregnated with the flavour and virtues of the ginger.

# CONFECTIO ALKERMES.

Confection of kermes.

Take of

Juice of kermes grains, warmed and strained, three pounds; Damask rose water, fix ounces by

measure;

Oil of cinnamon, half a scruple; Double-refined fugar, one pound. Diffolve the fugar in the role water, by the heat of a waterbath, into a fyrup; then mix in the juice of kermes, and after it has grown cold, the oil of cinnamon

#### Edinb.

Take of

Syrup of kermes, three pounds; Yellow faunders,

Cinnamon, each fix drams; Cochineal, three drams;

Saffron, one dram and a half.

Evaporate the fyrup, with a gentle heat, to the confishence of honey; then mix with it the other ingredients reduced to a very fine powder.

Both these compositions are elegant and agreeable cordials; the dose, when taken by themselves, is from a scruple to a dram or more. The first has an advantage of mixing uniformly in juleps, without spoiling their transparency, which the powders in the second always do. Particular care ought to be

had in the choice of the effential oil, which for the most part is grievously adulterated; it would be convenient to grind the oil with a little of the sugar, before it is added to the other ingredients; for by these means it will mix more perfectly, and not be apt to separate in keeping.

# SECT. V.

# Honeys and Oxymels.

THE more fixt parts of vegetables, dissolved in watery liquors, may be thence transferred into honey, by mixing the honey with the watery decoction or juice of the plant, and boiling them together till the aqueous part has exhaled, and the honey remains of its original confisence.

MEL ELATINES.

Honey of fluellin,

Lond.

Take of

Depurated juice of fluellin, four pints;

Clarified honey, four pounds. Boil them to a due confidence.

This preparation made its first appearance in a preceding edition of our pharmacopæia. It is very rarely made use of, and not often kept in the shops.

MEL HELLEBORATUM.

Honey of hellebore.

Lond.

Take of

White hellebore roots, dried and cut in flices, one pound; glyster Clarified honey, three pounds; of, and the Let the roots be macerated in the leges.

water for three days, and then boiled a little; press out the liquor, and, having passed it again through a strainer, boil it with the honey to a proper thickness.

Particular care ought to be had to reduce this preparation as nearly as possible to the honey confistence, that its strength may not be too uncertain. It acts, as a drastic purgative or emetic, too violent and precarious for common use. It has been sometimes given in maniacal cases, in doses of one or two drams and upwards; though more frequently employed in glysters. The present practice very rarely makes use of it at all.

MEL MERCURIALE.

Honey of Mercury.

Take of

Juice of French-herb-mercury,
Honey, each three pounds.
Boil them together to the confiftence of honey, taking off the
foum which rifes to the top.

This is defigned chiefly for glysters: it is very rarely made use of, and hence is now dropt both by the London and Edinburgh colleges.

MEL

MEL ROSACEUM.

Honey of roses.

Lond.

Take of

Red rose-buds, freed from the heels, and hashily dried, four ounces;

Boiling water, three pints; Clarified honey, five pounds.

Steep the roses in the water for fome hours; then strain off the liquor, mix with it the honey, and boil them to a due consistence.

Edinb.

Take of

Red roses, dried, half a pound; Boiling water, four pints; Clarified honey, fix pounds.

Steep the roses in the water for a night, then strain out the liquor, add to it the honey, and boil the mixture to the consistence of honey.

This preparation is not unfrequently made use of as a mild cooling detergent, particularly in gargarisms for ulcerations and inflammation of the mouth and tonfils. The design of hastily drying the roses, as directed in the first of the above prescriptions, is, that they may the better preserve their astringency. See page 254.

# MEL SOLUTIVUM. Solutive honey. Lond.

Take

The liquor remaining after the distillation of fix pounds of damask roses;

Cummin feeds, bruifed a little, one ounce;

Brown fugar, four pounds; Honey, two pounds.

Having pressed out the liquor, boil it to three pints; adding, toward the end, the seeds tied up in a linen cloth. Then put in the fugar and honey, and boil down the mixture to the confiftence of thin honey.

This composition is very well contrived for the purpose expressed in its title. It is principally employed in laxative glysters; and hence brown sugar is here allowed; whilst, for all other uses, the double-refined is directed.

# OXYMEL ex ALLIO. Oxymel of garlick. Lond.

Take of

Garlick, cut in flices, an ounce and an half;

Caraway feeds,

Sweet fennel feeds, each two drams;

Vinegar, half a pint;

Clarified honey, ten ounces by

weight.

Boil the vinegar, for a little time, with the feeds bruifed, in a glazed earthen veffel; then add the garlick, and cover the veffel close: when grown cold, press out the liquor, and diffolve in it the honey by the heat of a water-bath.

This oxymel is recommended for attenuating viscid juices, promoting expectoration, and the fluid fecretions in general. It is doubtless a medicine of considerable efficacy, though very unpleasant; the slavour of the garlick prevailing, notwithstanding the addition of the aromatic seeds.

# OXYMEL PECTORALE. Pectoral oxymel. Edinb.

Take of

Elecampane roots, one ounce;
Florence orris roots, half an ounce;

ward the end, the feeds tied up . Gum ammoniacum, one ounce; Vinegar,

Vinegar, half a pint; Clarified honey, one pound; Water, three pints.

Let the roots, cut and bruised, be boiled in the water till one third be wasted; then strain off the liquor, let it stand to settle, and having poured it off clear from the seces, add to it the honey, and the ammoniacum, previously dissolved in the vinegar. Mix them together, by boiling them a little.

THE title of this composition expresses its medical virtues. It is designed for those disorders of the breast that proceed from a load of viscid phlegm (which this medicine attenuates and promotes the expectoration of) and obstructions of the pulmonary vessels. Two or three spoonfuls may be taken every night and morning, and continued for some time.

# OXYMEL SCILLITICUM. Oxymel of fquills.

Take of

Clarified honey, three pounds; Vinegar of squills, two pints.

Boil them in a glazed earthen veffel, over a gentle fire, to the confistence of a fyrup.

## Edinb.

Take of

Clarified honey, four pounds;
Vinegar of squills, two pints.
Boil them to the consistence of a syrup.

THE honey was formerly employed for this preparation unclarified; and the scum, which in such cases arises in the boiling, taken off. By these means, the impurities of the honey were difcharged; but some of the medicinal parts of the squills, with which the vinegar was impregnated, were also separated. For this reason the colleges both of London and Edinburgh have now judiciously ordered the honey, for all these kinds of preparations, to be previously clarisied by itself.

Oxymel of fquills is an useful aperient, detergent, and expectorant, and of great service in humoural assumas, coughs, and other disorders, where thick phlegm abounds. It is given in doses of two or three drams, along with some aromatic water, as that of cinnamon, to prevent the great nausea which it would otherwise be apt to excite. In large doses, it proves emetic.

# OXYMEL SIMPLEX. Simple oxymel. [L. E.]

Take of

Clarified honey, two pounds; Vinegar, one pint. Boil them to a due confisence.

This simple preparation is not inferior in esticacy to many more elaborate compositions. It is an agreeable, mild, cooling, saponaceous, detergent, and attenuating medicine. It is often used in cooling, detergent gargarisms, and not unfrequently as an expectorant.

The boiling of oxymels in glazed earthen vessels, is not free from danger. Their glazing is procured by a vitrification of lead; and vinegar, by a boiling heat, may corrode so much of vitrified lead, as to receive from it noxious qualities. See page 35.

# CHAPTER V.

Separation and collection of those parts of vegetable and animal substances, which are volatile in the heat of boiling water.

able, and some animal substances, whose virtues reside, wholly or in part, in a matter which is capable of totally exhaling in the heat of boiling water. In most of the processes hitherto described, it has been endeavoured, as much as possible, to preserve this volatile matter along with the more fixt parts; whether those fixt parts were themselves medicinal, or only subservient to the union of the volatile

matter with the fluids employed. The aim, in the present chapter, will be to completely separate this volatile subtile principle, and collect it pure from the grosser fixt parts, either in a concentrated state, or diluted with water or spirit of wine. In its concentrated state, it appears commonly an oil; which, from its containing always the specific odour, and frequently the other medicinal powers of the subject, is called essential oil.

# SECT. I.

# Essential Oils.

Rentlat oils are drawn by distillation in an alembic, with a large refrigeratory. A quantity of water is added to the subject, sufficient to prevent its burning; and, in this water, it is likewise macerated a little time before the distillation. The oil comes over along with the water; and either swims on its surface, or sinks to the bottom, according as it is lighter or heavier than that sluid [L.]

In the Edinburgh pharmacopæia, fome fea falt is ordered to be added to the water, sufficient to give it a flight brackish taste. The length of the maceration is

to be varied according to the texture and compactness of the fubject. The most tender subjects scarce require any. Those of a foft and loofe texture are to be steeped for two or three days; and the more viscous ones, for a longer time. The further the maceration is intended to be protracted, the greater quantity of fea falt must be added. From vifcous substances the oil may be obtained in a shorter time, by submitting them to a slight, and not too long continued, fermentation; in which cale, the addition of falt is improper. Seeds and spices are to be bruised, and woods to be raiped, previously to the maceration or fermentation [E.]

Essential oils are obtained only from odoriferous substances; but not equally from all of this class, nor in quantity proportionable to their degree of odour; fome which, if we were to reason from analogy, should feem very well fitted for this process yielding extremely little oil, and others none at all. Rofes and camomile flowers, whose firing and latting fmell promises abundance, are found, upon experiment, to contain but a small quantity. The violet and jafmine flower, which perfume the air with their odour, lose their fmell upon the gentlest coction, and do not afford the least perceptible mark of oil upon being distilled, unless immense quantities be submitted to the operation at once; whilst favin, whose disagreeable scent extends to no great diftance, gives out the most oil of almost any vegetable known.

Nor are the same plants equally fit for this operation, when produced in different foils or feafons; or at different times of their growth. Some yield more oil if gathered when the flowers begin to fall off, than at any other time; lavender and rue for instance. Others, as fage, afford the largest quantity when young, before they have fent forth any flowers; and others, as thyme, when the flowers have just appeared. All fragrant herbs yield a larger proportion of oil when produced in dry foils and warm fummers, than in the oppofite circumstances. On the other hand, some of the disagreable firong feented ones, as wormwood, are faid to contain most in rainy feasons, and moist rich grounds.

SEVERAL of the chemists have

been of opinion, that herbs and flowers, moderately dried, yield a greater quantity of effential oil, than if they were distilled when fresh. It is supposed, that the oil being already blended, in fresh plants, with a watery fluid, great part of it remains diffused through the water after the distillation, divided into particles too minute to unite and be collected; whereas, in drying, the oily parts, on the exhalation of the moisture which kept them divided and dispersed, run together into globules, which have little disposition to mingle with watery fluids, and eafily feparate from the water employed in the distillation.

This theory, however, does not appear to be altogether fatisfactory; for though the oil be collected in the subject into distinct globules, it does not rife in that form, but resolved into vapour, and blended and coagitated by the heat with the vapour of the water; and if the oil in a dry plant were less disposed to unite with aqueous fluids than in a fresh one, the dry ought to yield a weaker infusion than the fresh; the contrary of which is generally found to obtain. As the oil of the dry plant is most perfectly extracted, and kept dissolved by the water before the distillation, I can see no reason why it should have a greater tendency to separate from the water afterwards.

The opinion of dry plants yielding most oil, seems to have arisen from an observation of Hossman, which has, I think, been misunderstood: "A pound, he says, of dry spike slowers yields an ounce of oil, but if they were distilled fresh, they would scarcely yield habove half an ounce; and the case is the same in balm, sage, and the reason is, that in drying, the watery humidity exhales;

hales; and as from two pounds of a fresh plant we do not obtain above one pound of dry, and little of the subtile oil evaer porates in the drying, it follows, " that more oil ought to be afford-" ed by the dry than by the fresh." The meaning of which I apprehend to be no more than this: that if two pounds of a fresh plant be, by drying, reduced to one, without any loss of the oil, then the one pound dry ought to be equivalent to the two fresh. A later writer quotes an experiment of Neumann, which appears to be mifunderstood in the same manner; for Neumann, in the place referred to, fays only, that dry wormwood is found to yield much more oil than an equal weight of the fresh plant. I do not recollect any instance, in which fresh and dry plants have been brought to a fair comparison, by dividing the quantity of the subject into two equal weights, and diftilling one, while fresh, and the other, after it has been carefully and moderately dried.

But whatever may be the effect of moderate exficcation, it is certain, that if the drying be long continued, the produce of oil will be diminished, its colour altered,

and its fmell impaired.

WITH regard to the proportion of water, if whole plants, moderately dried, be used, or the shavings of woods, as much of either may be put into the vessel, as, lightly pressed, will occupy half its cavity; and as much water may be added, as will rise up to two thirds its height. The water and ingredients, altogether, should never take up more than three-sourths of the shill; there should be liquor enough to prevent any danger of an empyreuma, but not so much as to be too apt to boil over into the receiver.

The maceration should be continued io long, as that the water may fully penetrate the parts of the subject. To promote this effect, woods should be thinly shaved across the grain, roots cut transversely into thin slices, barks reduced into coarfe powder, and feeds lightly bruifed. Very compact and tenacious substances require the maceration to be continued a week or two, or longer; for those of a softer and looser texture, two or three days are sufficient; whilft some tender herbs and flowers not only fland not in need of any at all, but are even injured by it.

Whether the addition of fea falt be of any real fervice, is greatly to be doubted. The uses generally affigned to it are, to penetrate and unlock the texture of the subject more effectually than fimple water could do; and to prevent the fermentation or putrefaction, into which the matter is apt to run during the length of time that the maceration is often continued. But fea falt feems rather to harden and condense, than to foften and refolve, both vegetable and animal subjects; and if it prevent putrefaction, it must, on that very account, be rather injurious than of fervice. The resolution, here aimed at, approaches near to a beginning putrefaction; and faline substances, by retarding this, prolong the maceration far beyond the time that would otherwise be necessary. It is in the power of the operator, when he perceives the process coming near this pitch, to put a stop to it at pleasure, by proceeding immediately to diffillation. By these means, the whole affair will be finished in a very little time, with at least equal advantage in every other respect; provided the manual operations of pounding, rasping, and the like which

which are equally necessary in ei-rily debase its quality. And inther case, be scientifically complideed, when water alone is made use ed with.

Bodies of a very viscous and compact texture, are directed, in the Edinburgh pharmacopæia, to be fermented for some days with a little yeast: half their quantity of water is fufficient for performing the fermentation; so much more as is necessary, is to be added afterwards, before the distillation. This process undoubtedly promotes the resolution of the subject, and the extrication of the oil; it rarely happens, however, that affiltances of this kind are needful. cular care must be had not to continue the fermentation too long; or to give a bad flavour to the oil by an ill-chosen ferment, or using

too large a quantity of any.

Some chemists pretend, that by the addition of falts and acid fpirits, they have been enabled to gain more oil from certain vegetable matters, than can possibly be got from them without fuch affiftance. Experiments made on purpose to settle this point seem to prove the contrary. This at least is constantly found to be true; that where there is any reason to think the yield to be greater than usual, the quality of the oil is proportionably injured. The quantity of true essential oil in vegetables can by no means be increased; and what is, really contained in them may be eafily separated without any addition of this kind. All that faline matters can do in this respect, is, to make the water susceptible of a greater degree of heat than it can fustain by itself, and thus enable it to carry up a grofs unctuous matter, not volatile enough to arise with pure water. This gross matter, mingling with the pure oil, increases the quantity, but at the same time must necessarily debase its quality. And indeed, when water alone is made use of, the oil which comes over about the end of the operation is remarkably less fragrant, and of a thicker consistence, than that which arises at the beginning; distilled a second time, with a gentle heat, it leaves a large quantity of gross, almost inshipid, resinous matter behind.

THE choice of proper inftruments is of great consequence to the performance of this process to advantage. There are some oils. which pass freely over the swan neck of the head of the common still: others, less volatile, cannot eafily be made to rife fo high. For obtaining these last, we would recommend a large low head, having a rim or hollow canal round it. In this canal the oil is detained on its first ascent (and thence conveyed at once into the receiver), the advantages of which are fufficiently obvious.

With regard to the fire, the operator ought to be expeditious in raifing it at first, and to keep it up, during the whole process, of such a degree, that the oil may freely distil; otherwise, the oil will be exposed to an unnecessary heat, a circumstance which ought as much as possible to be avoided. Fire communicates to all these oils a difagreeable impression, as is evident from their being much less grateful when newly distilled, than after they have flood for some time in a cool place; the longer the heat is continued, the more alteration it

The greater number of oils require for their distillation the heat of water strongly boiling; but there are many also which rise with a considerable less heat: such as those of lemon-peel, citron-peel, oils of the flowers of lavender and rosemary,

must produce in them.

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and

and of almost all the more odoriferous kinds of flowers. We have already observed, that these slowers have their fragrance greatly injured, or even destroyed, by beating or bruifing them. It is impaired also by the immersion in water, in the prefent process; and the more so in proportion to the continuance of the immersion, and the heat. Hence these oils, dittilled in the common manner, prove much less agreeable in fmell than the subjects themselves. For the distillation of fubstances of this class, I have contrived another method. Instead of being immerfed in water, they are exposed only to its vapour. A proper quantity of water being put into the bottom of the still, the odoriferous herbs or flowers are laid lightly in a basket, of such a fize that it may enter into the still, and rest against its sides, just above the water. The head being then fitted on, and the water made to boil, the fteam, percolating through the subject, imbibes the oil, without impairing its fragrance, and carries it over into the receiver. Oils thus obtained, possess the odour of the fubject in an exquisite degree, and have nothing of the difagreeable fcent perceivable in those distilled by boiling them in water in the common manner.

It may be proper to observe, that those oils, which rise with a less heat than that of boiling water, are generally called, by the chemical and pharmaceutical writers, light oils; and those which require the heat of water strongly boiling, are called ponderous. have avoided these expressions, as they might be thought to relate to the comparitive gravities of the oils; with which the volatility or fixednefs have no connection. Oil olive is lighter than most of the effen-

tial oils; but the heat requisite to make it distil exceeds that in which the heaviest essential oil diffils, confiderably more than the heat of boiling water exceeds that of ice.

THE water employed in the distillation of esential oils, always imbibes fome portion of the oil; as is evident from the imell, tafte, and colour which it acquires. It cannot however retain above a certain quantity; and therefore fuch as has been already ofed, and almost saturated itself, may be advantageously employed, instead of common water, in a second, third, or any future distillation of the same subject.

Some late chemical writers recommend, not the water which comes over, but that which remains in the still, to be used a fecond time. This can be of no fervice; as containing only fuch parts of the vegetable as are not capable of arising in distillation, and which serve only to impede the action of the water as a menstruum, and to endanger an empy-

After the distillation of one oil, particular care should be had to duly cleanfe the worm before it is employed in the distillation of a different plant. Some oils, those of wormwood and anifeeds for instance, adhere to it so tenaciously, as not to be melted out by heat, or washed off by water. The best way of cleaning the worm from thefe, is to run a little spirit of wine through it.

Essential oils, after they are distilled, should be suffered to stand for fome days, in reffels loofely covered with paper, till they have loft their disagreeable hery odour, and become limpid: then put them

up in small bottles, which are to be kept quite full, closely stopt, in a cool place. With these cautions, they will retain their virtues in per-

fection for many years.

When carelessly kept, they in time gradually lofe their flavour, and become gross and thick. Some endeavour to recover them again, after they have undergone this change, by grinding them with about thrice their weight of common falt, then adding a large proportion of water, and distilling them afresh. The purer part arises thin and limpid, possessing a great degree of the pristine smell and taste of the oil, though inferior in both respects to what the oil was at first. This rectification, as it is called, succeeds equally without the falt. The oils, when thus altered, are nearly in the same state with the turpentines, and other thickened oily juices, which readily yield their purer oil in distillation with water alone.

When essential oils have entirely lost their smell, some recommend adding them in the diffillation of a fresh quantity of the oil of the same plant; by which means they are faid to fatiate themselves anew with the odorous matter, and become entirely reno-This practice, however, vated. ought doubtless to be disapproved, as being no other than a specious fophistication; for it can do no more than to divide, between the old oil and the new, the active matter which belongs to the new alone.

Essential oils, medicinally confidered, agree in the general qualities of punge cy and heat; in particular virtues, they differ as much as the subjects from which they are obtained, the oil being the direct principle in which the virtues, or part of the virtues, of the feveral subjects reside. Thus the carminative virtue of the warm seeds, the diuretic of juniper berries, the emmenagogue of savin, the nervine of rosemary, the stomachic of mint, the antiscorbutic of scurvy-grass, the cordial of aromatics, &c. are concentrated in their oils.

There is another remarkable difference in effential oils, the foundation of which is less obvious; that of the degree of their pungency and heat; which are by no means in proportion, as might be expected, to those of the subject they were drawn from. The oil of cinnamon, for inflance, is exceffively pungent and fiery; in its undiluted state, it is almost caustic: whereas cloves, a spice which in fubstance is far more pungent than the other, yields an oil which is far less fo. This difference feems to depend partly upon the quantity of oil afforded, cinnamon vielding much less than cloves, and confequently having its active matter concentrated into a smaller volume; partly, upon a difference in the nature of the active parts themfelves: for though effential oils contain always the specific odour and flavour of their subjects, whether grateful or ungrateful, they do not always contain the whole pungency: this relides frequently in a more fixt refinous matter, and does not rife with the oil. After the distillation of cloves, pepper, and fome other spices, a part of their pungency is found to remain behind: a simple tincture of them in rectified spirit of wine is even more pungent than their pure effential oils.

The more grateful oils are frequently made use of for reconciling to the stomach medicines of themfelves disgustful. It has been cuf-

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tomary to employ them as correctors for the refinous purgatives; an use to which they do not seem to be well adapted. All the service they can here be of, is to make the resin sit easier at first on the stomach: far from abating the irritating quality upon which the virulence of its operation depends, these pungent oils superadd a fresh stimulus. See the article Cathartics.

Effential oils are never given alone, on account of their extreme heat and pungency; which in some is fo great, that a fingle drop, let fall upon the tongue, produces a gangrenous eschar. They are readily imbibed by pure dry fugar, and in this form may be conveniently exhibited. Ground with eight or ten times their weight of the fugar, they become foluble in aqueous liquors, and thus may be diluted to any affigned degree. Mucilages also render them miscible with water into an uniform milky liquor. They dissolve likewife in spirit of wine: the more fragrant in an equal weight, and almost all of them in less than four times their own quantity. These folutions may be either taken on fugar, or mixed with fyrups, or the like: on mixing them with water, the liquor grows milky, and the oil separates.

The more pungent oils are employed externally against paralytic complaints, numbness, pains and aches, cold tumours, and in other cases where particular parts require to be heated or stimulated. The tooth-ach is sometimes relieved by a drop of these almost caustic oils, received on cotton, and cautiously introduced into the hollow tooth.

OLEUM ABSINTHII ESSEN-TIALE.

Essential oil of the leaves of wormwood.

L. E. This is one of the more ungrateful oils: it smells strongly of the wormwood, and contains its particular nauseous taste; but has little or nothing of its bitterness, this remaining entire in the decoction left after the distillation. Its colour, when drawn from the fresh herb, is a dark green; from the dry, a brownish yellow. This oil is recommended by Hoffman as a mild anodyne, in spasmodic contractions: for this purpose, he directs a dram of it to be dissolved in an ounce of rectified spirit of wine, and seven or eight drops of the mixture taken for a dose in any convenient vehicle. Boerhaave greatly commends, in tertian fevers, a medicated liquor composed of about seven grains of the oil, ground first with a dram of fugar, then with two drams of the falt of wormwood, and afterwards dissolved in fix ounces of the distilled water of the same plant. Two hours before the fit is expected, the patient is to bathe his feet and legs in warm water, and then to drink two ounces of the liquor every quarter of an hour till the two hours are expired. By thefe means, he fays, all cases of this kind are generally cured with eafe and fafety, provided there is no fchirrofity or suppuration. With us, the oil of wormwood is employed chiefly as a vermifuge, and for this purpole is both applied externally to the belly, and taken internally. It is most conveniently exhibited in the form of pills, which it may be reduced into by mixing it with crumb of bread.

OLEUM SEMINUM ANETHI
ESSENTIALE.

Essential oil of dill feeds.

Lond.

This

This is a very warm oil; of a flavour not very agreeable, less fo than that of the seeds. It is fometimes given as a carminative, in flatulencies, colicky pains, hiccups, and the like, from one to three or four drops.

# OLEUM SEMINUM ANISI ESSENTIALE. Essential oil of aniseeds. L. E.

This oil possesses the taste and fmell of the anifeeds in perfection. It is one of the mildest of the distilled oils. Fifteen or twenty drops may be taken at a time without danger, though common practice rarely goes fo far as half this number. Its smell is extremely durable and diffusive. Milk drawn from the breaft, after taking it, is found impregnated with its odour; and possibly this may be, in part, the foundation of the pectoral virtues usually ascribed to it. In flatulencies and colics, it is faid by fome to be less effectual than the feeds themselves.

It is remarkable of this oil, that it congeals, even when the air is not fensibly cold, into a butyrace-ous confishence: and hence, in the distillation of it, the operator ought not to be over-folicitous in keeping the water in the refrigeratory too cool: it behoves him rather to let it grow somewhat hot, particularly towards the end of the process; otherwise the oil congealing, may so stop up the worin, as to endanger blowing off the head of the still; at least a considerable quantity of oil will remain in it.

# OLEUM SEMINUM CARUI ESSENTIALE.

Essential oil of caraway seeds. L. E.

The flavour of this exactly refembles that of the caraway. It is a very hot and pungent oil; a fingle drop is a moderate dose, and five or fix a very large one. It is not unfrequently made use of as a carminative; and supposed by some to be peculiarly serviceable for promoting urine, to which it communicates some degree of its smell.

## OLEUM CARYOPHYLLO-RUM AROMATICORUM ESSENTIALE.

Essential oil of cloves.

This oil is so ponderous as to fink in water, and is not easily elevated in distillation; if the water which comes over be returned on the remaining cloves, and the distillation repeated, fome more oil will generally be obtained, though much inferior in quality to the first. The oil of cloves is usually described as being "in tafte excessively hot and fiery, and of a gold yellow colour." (Boerh. process. 27.) Such indeed is the composition which we receive under this name from Holland: but the genuine oil of cloves is one of the milder oils: it may be taken with great fafety (duly diluted) to the quantity of ten or twelve drops or more. Nor is its colour at all yellow, unless it has been long and carelessly kept, or distilled by too violent a fire. When in perfection, it is limpid and colourless, of a pleasant, moderately warm and pungent tafte, and a very agreeable fmell, much resembling that of the spice itself. The Dutch oil of cloves contains a large quantity of expressed oil, as evidently appears upon examining it by distillation. This however cannot be the addition to which it owes its acrimony. A fmall proportion of a refinous extract of cloves communicates to a large one of oil a deep colour, and a great degree of acrimony.

OLEUM

OLEUM FLORUM CHAMÆ-MELI ESSENTIALE.

Essential oil of camomile flowers. Lond.

This is a very pungent oil, of a ftrong not ungrateful fmell, refembling that of the flowers. Its colour is yellow, with a cast of greenish or brown. It is sometimes given in the dose of a few drops, as a carminative, in hysteric disorders, and likewise as a vermifuge. It may be conveniently made into pills with

crumb of bread.

The oil above described is that obtained from the common garden camomile, which is the only fort directed in our dispensatories (see the foregoing part, page 124.) There is another species, more frequent in corn-fields than in our gardens (chamemælum vulgare Ger. Raii synopf. ed. 3.288.) which yields a beautiful blue oil : this colour, if the oil be carefully kept, remains for many years : but if the air be not perfectly excluded, foon degenerates into a yellow like that of the foregoing.

### OLEUM CINNAMOMI. Oil of cinnamon. L.E.

This valuable oil is extremely hot and pungent, of a most agreeble flavour, like that of the cinnamon itself. In cold languid cases, and debilities of the nervous fyftem, it is one of the most immediate cordials and restoratives. The dose is one, two, or three drops : which must always be carefully diluted by the mediation of fugar, &c. for fo great is the pungency of this oil, that a fingle drop let fall upon the tongue, undiluted, produces, as Boerhaave observes, a gangrenous eschar. In the distillation of this oil, a smart fire is required; and the low head, with a channel round ir, before recom-

mended for the distillation of the less volatile oils, is particularly neceffary for this, which is one of the least volatile, and which is afforded by the spice in exceeding small quantity. The distilled water retains no small portion of the oil; but this oil being very ponderous, great part of it subsides, from the water, on flanding for two or three weeks in a cool place.

### OLEUM SEMINUM CYMINI ESSENTIALE.

Essential oil of cummin seeds. Lond.

This is one of the warmer and less pleasant oils. It is employed chiefly in cold, flatulent, hysteric complaints, in doses of two or three drops. It gives its smell strong to the urine, and is supposed peculiarly serviceable for promoting its discharge.

### OLEUM SEMINUM FŒNI-CULI ESSENTIALE. Essential oil of fennel seeds. Edinb.

The oil obtained from sweet fennel feeds is much more elegant and agreeable than that of the common fennel. It is one of the mildest of these preparations. It is nearly of the fame degree of warmth with that of anifeeds; to which it is likewise similar in flavour, though far more grateful. It is given from two or three drops to ten or twelve, as a carminative, in cold indispositions of the stomach; and in some kinds of coughs, for promoting expectoration.

#### OLEUM foliorum HYSSOPI ESSEN-TIALE.

Effential oil of by fop leaves.

The oil of hystop is moderately acrid, of a strong not very agreeable fmell, exactly refembling the original herb. Its colour is yellowith,

ish, with a slight cast of green; which, in keeping, changes to a brownish colour. It is commended in humoural afthmas, for promoting expectoration, &c. from one to two or three drops; but it is rarely made use of, and not often kept in the shops; for which reason, it is now omitted both by the London and Edinburgh colleges.

OLEUM baccarum JUNIPERI ESSENTIALE.

Essential oil of juniper berries.

This oil is a very warm and pungent one, of a strong slavour, not unlike that of the berries. In the dose of a drop or two, it proves a ferviceable carminative and stomachic. In one of fix, eight, or more, a stimulating, detergent, diuretic and emmenagogue. It seems to have fomewhat of the nature of the turpentines, or their diffilled oil; like which it communicates a violet fmell to the urine.

The oil of these berries resides partly in veficles spread through the substance of the fruit, and partly in little cells contained in the feeds; when the berry is dry, and the oil hardened into a refinous fubitance, it becomes visible, upon breaking the feeds, in form of little transparent drops. In order therefore to obtain this oil to advantage, we externally. ought, previously to the distillation, to bruise the berry thoroughly; so I ESSENTIA LIMONUM [L.] as to break the feeds, and entirely lay open the oily receptacles.

OLEUM florum LAVENDULÆ ESSENTIALE.

Essential oil of lavender flowers. L. E.

This oil, when in perfection, is very limpid, of a pleafant yellowish colour, extremely fragrant, poffeffing in an aminent degree the peculiar smell generally admired in the flowers. It is a medicine of great use, both externally and internally, in paralytic and lethargic complaints, rheumatic pains, and debilities of the nervous fystem. The dose is from one drop to five or fix.

Lavender flowers yield the most fragrant oil, and in confiderably the largest quantity, when they are ready to fall off spontaneously, and the feeds begin to shew themselves; the leaves give out extremely little. The flowers may be separated from the rest of the plant, by drying it a little, and then gently beating it: they should be immediately committed to distillation, and the process conducted with a well-regulated gentle heat: too great heat would not only change the colour of the oil, but likewise make a difagreeable alteration in its fmell.

OLEUM baccarum LAURI ESSEN-TIALE.

Estential oil of bayberries.

The oil of bayberries is thin and limpid, moderately pungent, of a strong and tolerably grateful smell. It is given in flatulent colics, hysteric complaints, and for allaying the pains confequent upon delivery; the dose, from two drops to five or fix. It is likewise made an ingredient in carminative glysters; and in some hysteric cases, is applied

OLEUM corticum LIMONUM

Essence of lemons, or the essential oil of lemon-peel.

This is a pleasant oil, of a fine fmell, very near as agrecable as that of the fresh peel; it is one of the lightest and most volatile essential oils we have, perfectly limpid, and almost colourless. It is taken in doles of two or three drops, as a cordial,

cordial, in weakness of the stomach, &c. though more frequently used as a perfume. It gives a fine slavour to the officinal spiritus volatilis aromaticus, and occasions the soap pills to sit easy on the stomach.

OLBUM MACIS ESSENTIALE.

Estential oil of mace. The effential oil of mace is moderately pungent, very subtile and volatile, of a firong aromatic fmell, like that of the spice itself: it is thin and limpid, of a pale yellowish colour, with a portion of thicker and darker-coloured oil at the bot-This oil is celebrated in vomiting, hiccups, colicky pains, &c. both given internally from one to four drops, and applied externally to the flomach and umbilical region. It is however but rarely made use of, and not often met with in the shops.

### OLEUM MARJORANÆ ESSENTIALE.

Essential oil of marjoram leaves.

This oil is very hot and penetrating, in flavour not near fo agreable as the marjoram itself: when in perfection, it is of a pale yellow colour; by long keeping, it turns reddift: if distilled with too great a heat, it arises of this colour at first. It is supposed to be peculiarly serviceable in relaxations, obstructions, and mucous discharges of the uterus: the dose is one or two drops.

### OLEUM MENTHÆ ESSENTIALE.

Effential oil of the leaves of common mint.

This oil fmells and tastes strongly of the mint, but is in both respects

fomewhat less agreable than the herb itself. It is an useful stomachic medicine; and not unfrequently exhibited in want of appetite, weakness of the stomach, reachings to vomit, and similar disorders, when not accompanied with heat or instammation: two or three drops, or more, are given for a dose. It is likewise employed externally for the same purposes; and is an excellent ingredient in the stomachic plaster of the shops.

# OLEUM MENTHÆ PIPERI-TIDIS ESSENTIALE.

Essential oil of the leaves of pep-

This possesses the smell, taste, and virtues of the peppermint in perfection; the colour is a pale greenish yellow. It is a medicine of great pungency and subtility; and disfuses, almost as soon as taken, a glowing warmth through the whole system. In colics, accompanied with great coldness, and in some hysteric complaints, it is of excellent service. A drop or two are in general a sufficient dose.

## OLEUM NUCIS MOSCHATÆ ESSENTIALE.

Essential oil of nutmegs.

The effential oil of nutmegs poffesses the slavour and aromatic virtues of the spice in an eminent degree. It is similar in quality to the oil of mace, but somewhat less grateful.

# OLEUM ORIGANI ESSEN-TIALE.

Effential oil of the leaves of origanum.

L.E.

This oil has a very rungent acrimonious tafte, and a penetrating fmell. It has been chiefly employed externally as an errhine, and for eafing pains of the teeth.

# OLEUM ESSENTIALE PIPE-RIS JAMAICENSIS.

Esential oil of Jamaica pepper.

Edinb.

This is a very elegant oil, and may be used as a succedaneum to the oils of some of the dearer spices. It is of a fine pale colour, in slavour more agreable than the oil of cloves, and not far short of that of nutmegs. It sinks in water, like the oils of some of the eastern spices.

# OLEUM PULEGH ESSEN-TIALE.

Essential oil of the leaves of pennyroyal. L. E.

This oil, in smell and taste, refembles the original plant; the virtues of which it likewise posfesses. It is given in hysteric cases, from one to sour or sive drops.

# OLEUM RORISMARINI ES-SENTIALE.

Essential oil of rosemary.

The oil of rosemary is drawn from the plant in flower. When in persection, it is very light and thin, pale, and almost colourless; of great fragrancy, though not quite so agreable as the rosemary itself. It is recommended, in the dose of a sew drops, in nervous and hysteric complaints. Boerhaave holds it in great essem against epilepsies, and suppressions of the uterine purgations, occasioned by weakness and inactivity.

### OLEUM LIGNI RHODII ES-SENTIALE.

Essential oil of rhodium. L. E.

This oil is extremely odoriferous, and principally employed as a perfume in scenting pomatums, and the like. Custom has not as yet received any preparation of this elegant aromatic wood into internal use.

# OLEUM RUTÆ ESSENTIALE. Essential oil of rue leaves. L. E.

The oil of rue has a very acrid taste, and a penetrating smell, resembling that of the herb, but rather more unpleasant. It is sometimes made use of in hysteric disorders, and as an anthelmintic; as also in epilepsies proceeding from a relaxed state of the nerves.

Rue yields its oil very sparingly. The largest quantity is obtained from it when the slowers are ready to fall off, and the seeds begin to shew themselves. Suitable maceration, previous to the distillation, is here extremely necessary.

## OLEUM SABINÆ ESSEN-TIALE.

Essential oil of Savin leaves.

Savin is one of the plants which, in former editions of the Edinburgh pharmacopæia, were directed to be lightly fermented before the diftillation: this, however, is not very necessary: for favin yields, without any fermentation, and even without much maceration, a very large quantity of oil: the foregoing herb stands more in need of a treatment of this kind. The oil of favin is a celebrated uterine and emmenagogue: in cold phlegmatic habits, it is undoubtedly a medicine of good fervice, though not capable

capable of performing what it has been usually represented to do. The dose is, two or three drops or more.

### OLEUM SASSAFRAS ESSEN-TIALE.

Essential oil of fassafras.

This is the most ponderous of all the known essential oils, but rises in distillation with sufficient ease: it appears limpid as water, has a moderately pungent taste, a very fragrant smell, exactly resembling that of the sassaffaras. It stands greatly commended as a sudorisic, and for purifying the blood and juices: it is likewise supposed to be of service in humoural assamd coughs. The dose is from one drop to eight or ten; though Geoffroy goes as far as twenty.

The decoction remaining after the distillation of the oil, assords by inspissation (see chap. vi.) an useful extract, of a mild, bitterish, subastringent taste. Hossman says, he has given it with great benefit, in doses of a scruple, as a corroborant in cachectic cases, in the decline of intermitting severs, and for abating hypochondriacal spass.

# OLEUM TEREBINTHINÆ. Oil of turpentine. L. E.

This is distilled in the same manner as the foregoing oils, and is strictly an essential one, though not usually ranked in this class. It is commonly, but improperly, as the college observe, called spirit of turpentine. It is employed in large quantities for some mechanic purposes, and hence the distillation of it is become a particular business. This oil is a very hot stimulating medicine (see page 240). It is sometimes given as a sudorific and diuretic, in the dose of two or

three drops : in larger doses, it is apt greatly to heat the body, occasion pain of the head, and effufion of the femen and liquor of the profrate glands. It has nevertheless been taken in considerable doses (along with honey or other convenient vehicles) against the sciatica; and, as is faid, with good fuccels. Some have recommended it against venereal runnings: but here it has produced mischievous consequences, inflaming the parts and aggravating the disorder. Externally it is not unfrequently employed against rheumatic pains, aches, sprains, for discussing cold tumours, and restraining hæmorrhages.

After the distillation of the turpentine, there remains in the still, a brittle resinous substance, of a yellow colour, called resina slava, yellow resin [L.]

The only use of this is in external applications, for giving confistence to plasters, and the like purposes.

Most of the foregoing oils are drawn by our chemists, and easily procurable in a tolerable degree of perfection; those of cinnamon, cloves, nutmegs, and mace, excepted. These are usually imported; and are for the most part so much adulterated, that it is difficult to meet with such as are at all sit for use.

Nor are the adulterations of these kinds of preparations easily discoverable. The grosser abuses indeed may be readily detected: thus if the oil be mixed with spirit of wine, it will turn milky on the addition of water; if with expressed oils, rectified spirit will dissolve the essential, and leave the other behind; if with oil of turpentine, on dipping a piece of paper in the mixture, and drying it with a gen-

the heat, the turpentine will be betrayed by its smell. But the more subtle artists have contrived other methods of sophistication, which elude all trials of this kind.

Some have looked upon the fpecific gravity of oils as a certain criterion of their genuineness; and accordingly we have given a table of the gravity of several in page 38. This however is not to be absolutely depended on : for the genuine oils, obtained from the same subjects, oftentimes differ in gravity as much as those drawn from different ones. Cinnamon and cloves, whose oils usually fink in water, yield, if flowly and warily distilled, an oil of great fragrancy, which is nevertheless specifically lighter than the aqueous fluid employed in the diftillation of it; whilst, on the other hand, the last runnings of some of the lighter oils prove fometimes fo ponderous as to fink in water.

As all effential oils agree in the general properties of folubility in spirit of wine, indissolubility in water, miscibility with water by the intervention of certain intermedia, volatility in the heat of boiling water, &c. it is plain that they may be variously mixed with one another, or the dearer fophisticated with the cheaper, without any possibility of discovering the abuse by any trials of this kind. And indeed it would not be of much advantage to the purchaser, if he had infallible criteria of the genuineness of every individual oil. It is of as much importance, that they be good, as that they be genuine; for I have often feen genuine oils, from incurious distillation, and long and careless keeping, weaker both in fmell and tafte than the common sophisticated ones.

The smell and taste seem to be the only certain tests that the nature of the thing will admit of. If a bark should have in every respect the appearance of good cinnamon, and should be proved indisputably to be the genuine bark of the cinnamon tree; yet, if it want the cinnamon slavour, or have it but in a low degree, we reject it; and the case is the same with the oil. It is only from use and habit, or comparisons with specimens of known quality, that we can judge of the goodness, either of the drugs themselves, or of their oils.

Most of the essential oils, indeed, are too hot and pungent to be tailed with fafety; and the fmell of the subject is so much concentrated in them, that a fmall variation in this respect is not easily distinguished. But we can readily dilute them to any affignable degree. A drop of the oil may be dissolved in spirit of wine; or received on a bit of fugar, and diffolved by that intermedium in water. The quantity of liquor, which it thus impregnates with its flavour, or the degree of flavour which it communicates to a certain determinate quantity, will be the measure of the degree of goodness of the oil.

I shall here subjoin some expeririments, of the quantity of effential oil obtained f. om different vegetables, reduced into the form of a table. The first column contains the names of the respective vegetable substances, the second the quantity of each which was submitted to the distillation, and the third the quantity of oil obtained. In every other part of this book, where pound weights are mentioned, the troy pound of twelve onuces is meant: but these experiments having been all made by a pound of fixteen ounces, it was thought expedient to fet down the matter of fact in the original weights; especially as the feveral materials, in the large quantity commonly required for the

dillillation

distillation of oils, are purchased by weights of the same kind. But to remove any ambiguity which might arise hence, and enable the reader to judge more readily of the yield, a reduction of the weights is given in the next column; which shews the number of parts of each of the subjects, from which one part of oil was obtained. To each article is affixed the author's name from whom the experiment is taken: those to which no name is added,

are experiments of my own. The different distillations of one subject, several of which are inserted in the table, shew how variable the yield of oil is, and that the exotic spices, as well as our indigenous plants, do not always contain the same proportion of this active principle: though it must be observed, also, that part of the differences may probably arise from the operation itself having been more or less carefully performed.

Table of the quantity of essential oil obtained from different vegetables.

			APPLICATE.	2300	1
Agallochum wood	10 lb.7	1	4 dra.	(	320 Hoff.
Angelica root	1 lb.		I dra.		128 Carth.
Anifeed	ı lb.		4 dra.		32 Neum.
Anifeed	3 lb.		I oun.	200	48
Anifeed	4 lb.	13	I oun.	-	64
Asafetida	4 oun.		ı dra.		32 Neum.
	50 lb.	100	2 oun.	MIN TO	185 Hoff.
Carallino ar our	1 1b.	7	2 fcrup.	-	192 Neum.
Calamus aromaticus	4 lb.		2 oun.	-	32
Caraway feeds	2 lb.	100	o dra.	from	281
Caraway feeds	1 cwt.	250	83 oun.		211
Calaway Iccus	ı lb.	123	2½ scrup.	ed	153 Neum.
Carline thiftle root	I oun.	=	1 fcrup.	E I	24 Neum.
Cardamoni iccas	2 lb.	oil	1 dra.	was obtained	171
Carrot feeds	1 lb.	ia.	1 dra.	0	128 Carth.
Cafcarilla	The second second	nt		/as	256 Carth.
Camomile flowers		effential	30 gra.		153
Common camomile flowers	6 lb.	of o	5 dra.	19	384 Carth.
Wild camomile flowers -	1 lb.	0 1	20 gra.	jo	
Wild camomile flowers -	6 lb.	led	2½ dra.	2	307
Chervil leaves, fresh	9 lb.	yielded	30 gra.	part	2304 Neum.
Cedar wood	1 lb.	7.	z dra.	9	64 Margg.
Cinnamon	1 lb.	9 99	ı dra.	one	
Cinnamon	1 lb.		2½ scrup.	at	153 Neum.
Cinnamon	4 lb.	200	6 dra.	that	853 Lemery
Cinnamon	- 1 lb.		2 dra.	0	64 Carth.
Cinnamon	- 1 lb.		8 fcrup.		45 1 Carth.
Clary feeds	- 4 lb.		2 dra.		256
Clary in flower, fresh -	-130lb.	1.20	3½ oun.		594
Cloves	- 1 lb.		1½ oun.	13	103 Teichm.
Cloves	- 1 lb.		24 oun.	1	7 Carth.
Cloves -	- 2 lb.	1	5 oun.		62 Hoff.
Copaiba balfam -	- I lb.		6 oun.	-	23 Hoff.
Consider ballam	- 1 lb.	1	i 8 oun.	1	2
Copaiba balfam -	2/3000		No. of Concession, Name of Street, or other Persons, Name of Street, or ot	-	THE RESERVE OF THE PARTY OF THE

270 Pharmace	utical 1	Pret	barations.		Part	t III.
3/		-	6 dra. 7	r	277	
Pennyroyal in flower, fresh	2 lb.		6 dra.		423	
Black pepper			2½ dra.	500		Teum.
Black pepper		4	4 ferup.		10000	arth.
Black pepper	The state of the s	1	i dra.		128 H	leister
Black pepper	1 lb. 6 lb.	100	3 dra.	1		eoff.
Black pepper	I oun.		30 gra.	100		Teum.
Pimento -	1 lb.		3 dra.		423/	Veum.
Rhodium wood	ı lb.		2 dra.	-	64 8	
Rhodium wood	1 lb.	3 6	3 dra.	1	423 8	Sala
Kuodium wood	1 lb.	P	3 dra.	200	423 (	Carth.
Rhodium wood	ı lb.	8 3	4 dra.		132 (	Carth.
Rhodium wood	1 cwt.	13	8 oun.	-	224	
Rosemary in flower	ı lb.	610	2 dra.	1	64	
Rosemary leaves	ı lb.	1 37	3 dra.	from	423	
Rosemary leaves	3 lb.	11/2	3 dra.	ALCOHOL: N		Neum.
Rofemary leaves	1 lb.	1700	ı dra.	obtained		Carth.
Rosemary leaves	1 lb.	4	1½ dra.	ain	ALCOHOL: U	Garth.
Rosemary leaves, fresh	70 lb.	lio li	5 oun.	pt	224	
Rofes	100 lb.		4 dra.		The second second second	Tachen
Roses	100 lb.	effential	I oun.	was	CONTRACTOR OF STREET	Homb.
Rofes	12 lb.	le n	30 gra.	1000	768	Hoff.
Rue	10 lb.	e	2 dra.	lio		Hoff.
Rue	10 lb.	70	4 dra.	75		Hoff.
Rue in flower -			i dra.	part	512	
	60 lb.	yielded	$2\frac{1}{2}$ oun.	pa	507	
Rue with the feeds -	72 lb.	ie	3 oun.	one	384	Vogel
Saffron	ı lb.	12		The second second	1000000	Carth.
Sage leaves	I lb.		5 fcrup.	at	The second second	Carib.
Sage in flower, fresh -	34 lb.	1	1½ oun. 6 dra.	유	544	
Sage of virtue in flower	- 27 lb.	1	THE RESERVE TO BE A SECOND TO SECOND	10	681	
Sage of virtue in flower	8 lb.		1½ dra.	1	55	Hoff.
Saffafras	6 lb.	_	13 oun. 2 oun.	1	48	Neum.
Sallalias	2 lb.		5 oun.	1000	62	Hoff.
Savin	1 lb.	_	z dra.	1	1 64	Carth.
Saunders, yellow -	1 lb.		21 ferup.	1	154	Neum.
Smallage feeds	53 lb.		z dra.		368	
Stechas in flower, fresh	- 2 cwt.	-	5º oun.	100	1652	9
Thyme in flower, fresh	- 3½ lb.	13	11 dra.	1	298	
Thyme in flower, dry	n 51.1b.	1	13 oun.	i	653	1 1000
Lemon thymein flower, fre		1	21 oun.	4	627	
Lemon thyme in flower, fre. Lemon thyme, dried a litt	le 104 lb.	7	3 oun.	1	1 555	-
Lemon thyme, direct a fitt	- 4 lb.	1	I oun.		64	1
Wormwood leaves, dry Wormwood leaves, dry	- 18 lb.		11 oun.	1	192	1
Wormwood leaves, dry	- 25 lb.		32 oun.	1	114	-
	- 1 lb.	1	Li dra.	1	128	Neum.
Zedoary =			1	The same	The state of	

# SECT. II.

Simple distilled Waters.

THE effluvia which exhale in the air from many vegetables, particularly from those of the odorous kind, confift apparently of principles of great fubtility and activity, capable of strongly and suddenly affecting the brain and nervous system, especially in those whose nerves are of great sensibility; and likewise of operating, in a flower manner, upon the lystem of groffer veffels. Thus Boerhaave observes that in hysterical and hypochondriacal persons, the fragrant odour of the Indian hyacinth excites strange spasms, which the ftrong fcent of rue relieves: that the effluvia of the walnut-tree occasion head-achs, and make the body costive: that those of poppies procure sleep: and that the smell of bean-blossoms, long continued, disorders the senses. Lemery relates, from his own knowledge, that feveral persons were purged, by staying long in a room where damask roses were drying.

Some of the chemists have indulged themselves in the pleasing furvey of these presiding spirits, as they are called, of vegetables; their peculiar nature in the different species of plants; their exhalation into the atmosphere by the fun's heat, and dispersion by winds; their rendering the air of particular places medicinal, or otherwise, according to the nature of the plants that abound. They have contrived also different means for collecting these fugitive emanations, and concentrating and condensing them into a liquid form; employing either the native moisture of the subject, or an

addition of water, as a vehicle of matrix for retaining them.

THE process which has been judged most analagous to that of nature is the following. The fubject fresh gathered, at the feafon of its greatest vigour, with the morning dew upon it, is laid lightly and unbruifed in a shallow vessel, to which is adapted a low head with a recipient. Under the vessel, a live coal is placed, and occasionally renewed, fo as to keep up an uniform heat, no greater than that which obtains in the atmosphere in summer, viz. about 85 degrees of Fahrenheit's thermometer. In this degree of heat, there arises, very slowly, an invisible vapour, which condenses in the head into dewy drops and falls down into the receiver, and which has been supposed to be the very fubstance that the plant would have spontaneously emitted in the open

But on submitting to this process many kinds of odoriferous vegetables, I have always found the liquors obtained by it to be very different from the natural effluvia of the respective subjects: they had very little fmell, and no remarkable taffe. It appeared that a heat, equal to that of the atmosphere, is incapable of raising in close vessels those parts of vegetables which they emit in the open air. It may therefore be prefumed, that in this last case, some other cause concurs to the effect : that it is not the fun's heat alone, which raifes, and impregnates the air with, the odorous principles of vegetables, but that Bba the

the air itself, or the watery humidity with which it abounds, acting as a true dissolvent, extracts and imbibes them; fo that the natural effluvia of a plant may be looked upon as an infusion of the plant made in air. The purgative virtue of the damaik rose, and the aftringency of the walnut-tree, which, as above observed, are in some meafure communicated to the air, may be totally extracted by infusion both in watery and spirituous menstrua, but never rife in distillation with any degree of heat: and the volatile odours of aromatic herbs, which are diffused through the atmosphere in the lowest warmth, cannot be made to distil without a heat much greater than is ever found to obtain in a shaded air.

The above process therefore, and the theory on which it is built, appear to be faulty in two points; (1.) in supposing that all those principles, which naturally exhale from vegetables, may be collected by diftillation; whereas there are many which the air extracts in virtue of its diffolving power, and which are artificially separable also by dissolvents only; (2) in employing a degree of heat infufficient for separating even those parts which are truly exhalable by heat.

THE foregoing method of distillation is commonly called distillation by the cold still; but those, who have practifed it, have generally employed a confiderable heat. shallow leaden vessel is filled with the fresh herbs, flowers, &c. which are heaped above it, fo that when the head is fitted on, this also may be filled a confiderable way. A little fire is made under the vessel, sufficient to make the bottom much hotter than the hand can bear, care being taken only not to heat it fo far as to endanger fcorching any

part of the subject. If the bottom of the veffel be not made fo hot as to have this effect on the part contiguous to it, it is not to be feared that the heat communicated to the rest of the included matter will be great enough to do it any injury. By this management, the volatile parts of feveral odorous plants, as mint, are effectually forced over; and if the process have been skilfully managed, the distilled liquor proves richly impregnated with the native colour and flavour of the subject, without having received any kind of disagreeable impression from the heat made use of.

This process has been chiefly practifed in private families; the flowness of the distillation, and the attendance and care necessary for preventing the fcorching of some part of the plant, fo as to communicate an ungrateful burnt flavour to the liquor, rendering it inconfiftent with the dispatch requisite in the larger way of bufiness.

ANOTHER method has therefore been used, that by the common still, called, in diffinction from the foregoing, the hot still. Here a quantity of water is added to the plant, to prevent its burning : and the liquor is kept nearly of a boiling heat, or made fully to boil, fo that the vapour rifes plentifully into the head, and passing thence into a spiral pipe or worm placed in a vessel of cold water, is there condensed, and runs out in drops quickly fucceeding one another, or in a continued stream. The additional water does not at all weaken the produce: for the most volatile parts of the jubject rife first, and impregnate the liquor that first distils : as foon as the plant has given over its virtue fufficiently, which is known by examining from time to time the liquor that runs from the note of the

the worm, the distillation is to be

This is the method of distillation commonly practifed for the officinal waters. It is accompanied with one imperfection, affecting chiefly those waters, whose principal value confifts in the delicacy of their flavour; this being not a little injured by the boiling heat usually employed, and by the agitation of the odorous particles of the fubject with the water. Sometimes also a part of the plant flicks to the fides of the still, and is so far scorched as to give an ungrateful taint to the liquor.

THERE is another method of managing this operation, which I have already recommended for the diftillation of the more volatile effential oils, and which is equally applicable to that of the waters. In this method, the advantages of the foregoing ones are united, and their inconveniencies obviated. A quantity of water being poured into the ffill, and the herbs or flowers placed in a basket over it, there can be no possibility of burning; the water may be made to boil, but so as not to rife up into the balket, which would defeat the intention of this contrivance. The hot vapour of the water passing lightly through all the interffices of the subject, imbibes and carries over the volatile parts unaltered in their native flavour. By these means the distilled waters of all those substances, whose oils are of the more volatile kind, are obtained in the utmost perfection, and with fufficient dispatch; for which last intention the still may be filled quite up to the head.

In the distillation of effential oils, the water, as observed in the foregoing fection, imbibes always

a part of the oil. The distilled liquors, here treated of, are no other than water thus impregnated with the essential oil of the subject; whatever smell, taste, or virtue, is here communicated to water, or obtained in the form of a watery liquor, being found in a concentrated state in the oil. The effential oil, or some part of it, more attenuated and fubtilized than the rest, is the direct principle, on which the title of spiritus rector, or presiding spi-

rit, has been bestowed.

All those vegetables therefore which contain an effential oil, will give over some virtue to water by distillation: but the degree of the impregnation of the water, or the quantity of water which a plant is capable of fatiating with its virtue, are by no means in proportion to the quantity of its oil. The oil fatiates only the water that comes over at the same time with it. If there be more oil than is fufficient for this fatiation, the furplus separates, and concretes in its proper form, not miscible with the water that arises afterwards. Some odoriferous flowers, whose oil is in so little quantity, that scarcely any vifible mark of it appears, unless fifty or an hundred pounds or more are distilled at once, give nevertheless as strong an impregnation to water, as those plants which abound most with oil.

Many have been of opinion, that diffilled waters may be more and more impregnated with the virtues of the subject, and their strength increased to any assigned degree, by cobobation, that is, by re-diffilling them a number of times from fresh parcels of the plant. Experience, however, thews the contrary; a water skilfully drawn in the first diftillation, proves on every repeated one, not ftronger, but more dif-

agrecable. B b 3

agreeable. Aqueous liquors are not capable of imbibing above a certain quantity of the volatile oil of vegetables, and this they may be made to take up by one, as well as by any number of distillations. The oftener the process is repeated, the ungrateful impression, which they generally receive from the fire even at the first time, becomes greater and greater. Those plants which do not yield at first waters sufficiently strong, are not proper subjects for this process, fince their virtue may be obtained much more advantageously by others.

General rules for the distillation of the officinal simple waters.

I.

Plants and their parts ought to be

fresh gathered [E.]

Where they are directed fresh, such only must be employed; but some are allowed to be used dry, as being easily procurable in this state at all times of the year, though rather more elegant waters might be obtained from them whilst green [L.]

11.

Having bruised the subject a little, pour thereon thrice its quantity of spring water. This quantity is to be diminished or increased, according as the plants are more or less juicy than ordinary [E.]

When fresh and juicy herbs are to be distilled, thrice their weight of water will be fully sufficient: but dry ones require a much larger quantity. In general, there should be so much water, that after all intended to be distilled has come over, there may be liquor enough left to prevent the matter from burning to the still.

III.

The distillation may be performed in an alembic with a refrigeratory, the junctures being luted [E.]

IV.

The distillation is to be continued as long as the water which comes over is perceived to have any smell or taste of the plant [E.]

Plants differ so much, according to the soil and season of which they are the produce, and likewise according to their own age, that it is impossible to six the quantity of water to be drawn from a certain weight of them, to any invariable standard. The distillation may always be continued as long as the liquor runs well slavoured of the subject, and no longer.

If the herbs be of prime goodness, they must be taken in the weights prescribed. But when fresh ones are substituted to dry, or when the plants themselves are the produce of unfavourable seasons, and weaker than ordinary, the quantities are to be varied according to the discretion of the

artist [L.]

After the odorous water, alone intended for use, has come over, an acidulous liquor arises, which has sometimes extracted so much from the copper head of the still, as to prove emetic. To this are owing the anthelmintic virtues attributed to certain distilled waters.

V.

In the preceding edition of the Edinburgh Pharmacopæia, some vegetables were ordered to be slightly fermented with the addition of yeast, previously to the distillation.

The principle, on which this management is founded, is cer-

tainly just; for the fermentation and stomach: few are depended on, fomewhat opens and unlocks their texture, fo as to make them part with more in the subsequent distillation than could be drawn over from them without some affistance of this kind. Those plants, however, which require this treatment, are not proper subjects for simple waters to be drawn from; their virtues being obtainable to better advantage by other processes.

#### VI.

If any drops of oil fwim on the furface of the water, they are to be carefully taken off [E.]

#### VII.

That the waters may keep the better, about one-twentieth part of their weight of proof spirit may be added to each, after they are distilled [L.]

A great number of distilled waters was formerly kept in the shops, and are still retained in foreign pharmacopæias. The faculty of Paris direct, in a late edition of their codex medicamentarius, no less than one hundred and twenty-five different waters, and one hundred and thirty different ingredients in one fingle water. Near one half of these preparations have scarcely any virtue or flavour from the subject, and many of the others are infignificant.

The colleges of London and Edinburgh have rejected these oftentatious superfluities; and given an elegant and compendious fet of waters, sufficient for answering such purposes as these kinds of preparations are applied to in practice. Distilled waters are employed chiefly as grateful diluents, as fuitable vehicles for medicines of greater efficacy, or for rendering difguftful ones more acceptable to the palate

in any intentions of consequence, by themselves.

## AQUA ALEXETERIA SIMPLEX.

Simple alexeterial water. Lond.

Take of

Spearmint leaves, fresh, a pound and a half;

Sea wormwood tops, fresh,

Angelica leaves, fresh, each one pound;

Water, as much as is sufficient to prevent an empyreuma.

Draw off by distillation three gallons.

#### Edinb.

Take of

Elder flowers, moderately dried, two p unds:

Angelica leaves, fresh gathered, one p und;

Water, a fufficient quantity. Distil off three gallons.

THESE waters are fufficiently elegant with regard to tafte and fmell; though few expect from them fuch virtues as their title feems to imply. They are used occasionally for vehicles of alexipharmic medicines, or in juleps to be drunk after them, as coinciding with the intention; but in general are not fupposed to be themselves of any confiderable efficacy.

### AQUA SEMINUM ANETHI. Dill-feed water. Lond.

Take of

Dill-seeds, a pound and a half; Water, as much as is sufficient to prevent an empyreuma.

Draw off by distillation one gallon.

THIS water, which turns out pretty strong of the dill-seeds, is B b 4 fometimes fometimes employed as the basis of carminative juleps. It is similar in slavour to a water drawn from caraway seeds, but less agreeable.

AQUA ANGELICA.

Angelica water.

Take of

Angelica leaves, fresh, any quantity;

Water, three times as much.

Distil as long as the liquor runs
well slavoured of the plant.

This water is among us very rarely made use of. It smells and tastes considerably of the angelica, but does not prove so agreeable as might be expected.

AQUA CORTICUM
AURANTIORUM SIMPLEX.
Simple orange peel water.
Lond.

Take of

Yellow peel of Seville oranges, dried, four ounces; Water, as much as is sufficient to prevent burning. Distil off one gallon.

This water proves very weak of the orange-peel. It is defigned for a diluter, in fevers, and other diforders where the flomach and palate are subject to receive quick difguit; in which cases (as the committee observe) cordial waters, especially it their use be to be long continued, ought to be but lightly impregnated with any flavour, however agreeable.

AQUA CARDUI BENEDICTI.

Carduus water.

This is prepared from the leaves of carduus benedictus, after the fame manner as directed in the Vth general rule, p. 174.

This water has been looked up-

on as a fudorific and alexipharmic; and in this intention is still frequently prescribed by foreign phyficians, in juleps and draughts. Among us, it has been long disused, and held entirely infignificant; this plant, however opened by fermentation, giving nothing valuable over the helm. The decoction which remains after the diffillation, duly depurated and inspissated, proves a medicine of fome use: it is a moderately strong bitter, similar to the extract of carduus; fee chap. vi. In keeping, a confiderable quantity of effential falt fometimes shoots in it.

## - AQUA CASTOREI.

Castor water.

Take of
Russia castor, one ounce;
Water, as much as will prevent
burning.
Draw off two pints.

Castor yields almost all its slayour in distillation to water; but treated in the same manner with spirit of wine, gives over nothing. The spirit of castor, formerly kept in the shops, had none of the smell or virtues of the drug; whilst the water here directed proves, when fresh drawn, very strong of it.

It is remarkable, that the virtues of this animal substance reside in a volatile oil, analogous to the essential oils of vegetables. Some are reported to have obtained, in distilling large quantities of the drug, a small portion of oil, which smelt extremely strong of the castor, and disfused its ungrateful scent to a great distance.

This water is made use of in hysteric cases, and some nervous complaints, though it has not been found to answer what many people

expect,

expect from it. It loses much of its flavour in keeping.

AQUA CERASORUM NIGRORUM.

Błack cherry water.

Let any quantity of black cherries be bruised, so as that the stones may be broken, and then distilled according to art, with only a small proportion of water.

This is a very grateful water, and has long maintained a place in the shops. It has frequently been employed by physicians as a vehicle, in preference to the other distilled waters: and among nurses, and others who have the care of young children, has been the first remedy against the convulsive disorders to which children are so of-

ten subject.

This water has nevertheless of late been brought into difrepute, and by some looked upon as poifonous. They observe, that it receives its flavour principally from the cherry stones; and that these kernels, like many others, bear a refemblance in taste to the leaves of the lauro-cerafus, which have been discovered to yield, by infufion or distillation, the most sudden poison known. Some physicians of Worcester have found, by trial purposely made, that a distilled water very strongly impregnated with the flavour of the cherry kernels (no more than two pints being distilled from fourteen pounds of the cherry stones) proved in like manner poifonous to brutes: the committee of the London college repeated the fame experiment, and found the effects agreeable to those gentlemen's report.

It by no means follows from these trials, nor after such long experience can it be imagined, that black cherry water, when no stronger than the shops have been accustomed to prepare it, is unsafe. These kernels, as the committee observe, plainly resemble opium, and some other things, which poifon only when taken in too great a quantity; the water from the very laurel leaves is harmless when duly diluted; and even spirit of wine proves a poison of a kind not greatly different, if drunk to a certain degree of excess. Nor can it be concluded, from the trials with the strong black cherry water on dogs, &c. that even this will have the same effects in the human body; the kernels of many forts of fruits being in substance poisonous to brutes, though innocent to man.

It is possible, however, that this water in any degree of strength may not be altogether fafe to the tender age of infants, where the principles of life are but just beginning as it were to move; it is possible, that it may there have had pernicious effects, without being suspected; the symptoms it would produce, if it should prove hurtful, being such as children are often thrown into from the difease which it is imagined to relieve. On these confiderations, both the London and Edinburgh colleges have chofen to lay it aside; more especially as it has been too often counterfeited with a water distilled from bitter almonds, which are known to communicate a poisonous quality.

> AQUA CINNAMOMI SIMPLEX.

Simple cinnamon water.

Lond.

Take of

Cinnamon, one pound; Water, as much as will prevent burning.

Distil off one gallon.

AQUA CINNAMOMI SINE VINO.

Cinnamon water without wine.

Edinb.

Take of

Cinnamon, one pound:

Water

Water, a gallon and a half. Steep them together for two days; and then diffil off the water, till it ceases to run milky.

This is a very grateful and useful water, possessing in an eminent degree the fragrance and aromatic cordial virtues of the spice. Great care should be had, in the choice of the cinnamon, to avoid the too common imposition of substituting casta in its room. This latter yields a water much less agreeable than that of cinnamon, and whose flavour is manifestly empyreumatic. The two drugs may be easily distinguished from one another by the marks laid down under the respective articles in the second part of this work.

The virtues of all these waters depend upon their containing a portion of the oil of the subject. The oil of cinnamon is very ponderous, and arises more difficultly than that of any of the other vegetable matters from which simple waters are ordered to be drawn. This observation directs us, in the diftillation of this water, to make use of a quick fire and a low veffel. For the fame reason, the water does not keep fo well as might be wished; the ponderous oil, parting from it in time, and falling to the bottom, when the liquor loses its milky hue, its fragrant fmell, and aromatic taste. Some recommend a small proportion of fugar to be added, in order to keep the oil united with the water.

### AQUA CHAMÆMELI. Chamomile water. Edinb.

Take any quantity of chamomile flowers, and fo much water as will prevent burning. Diftil off the water to long as it proves fufficiently strong of the flavour of the flowers.

CHAMOMILE flowers were ordered in former editions to be fermented previously to the distillation, a treatment of which they fland little in need; for they give over, without any fermentation, as much as that process is capable of enabling them to do. In either cafe, the fmell and peculiar flavour of the flowers arise, without any thing of the bitterness; this remaining behind in the decoction: which, if duly depurated and inspissated, yields an extract fimilar to that prepared from the flowers in the common manner. The distilled water has been used in flatulent colics, and the like, but is at present held in no great esteem.

### AQUA FŒNICULI. Fennel water. Lond.

Take of

Sweet fennel feeds, one pound; Water, as much as is sufficient to prevent an empyreuma. Distil off one gallon.

## Edinb.

Take of Fennel leaves, fresh, any quantity; Water, three times as much. Diffil as long as the water runs

well flavoured.

THE first of these waters is a fufficiently grateful one, and the other is not unpleasant. The leaves should be taken before the plant has run into flower; for after this time, they are much weaker and less agreeable. Some have obferved, that the upper leaves and tops, before the flowers appear, yield a more elegant water, and a remarkably finer effential oil, than the lower ones; and that the oil obtained from the one fwims on water, whilst that of the other finks. finks. No part of the herb, however, is equal in flavour to the feeds.

# AQUA HYSSOPI. Hyssop water. Edinb.

This is distilled from the fresh leaves of hystop, after the same manner as the water of fennel leaves.

Hyssor water has been held by some in considerable esteem, as an uterine and a pectoral medicine. It was directed in a late edition of the Edinburgh pharmacopoeia, for making up the black pectoral troches, but is now exchanged for common water. Few at present expect any singular virtues from it, nor is it often made use of, or met with in the shops.

# AQUA MELISSÆ. Balm water. Edinb.

This is prepared by distilling the green leaves of balm, as in the foregoing process.

In former editions of the Edinburgh pharmacopæia, this water was ordered to be cohobated, or redistilled from fresh quantities of the herb. This management feems to have been taken from Boerhaave, who has a very high opinion of the water thus prepared. He fays, he has experienced, in himself, extraordinary effects from it, taken on an empty stomach; that it has scarce its equal in hypochondriacal and hysterical cases, the chlorosis, and palpitation of the heart, as often as these diseases proceed from a disorder of the spirits rather than from any collection of morbific matter.

For my own part, I have al-

gard to the cohobation of these liquors; and shall here only observe, that, whatever virtues are lodged in balm, they may be much more perfectly and advantageously extracted by cold insusion in aqueous or spirituous menstrua: in this process, the liquor suffers no injury from being returned on fresh parcels of the herb; a few repetitions will load it with the virtues of the subject, and render it very rich. The impregnation here is almost unlimited; but in distilled waters, it is far otherwise.

## AQUA MENTHÆ. Mint water. Edinb.

Take of

Spearmint leaves, fresh, any quantity;

Water, three times as much.

Distil as long as the liquor which comes over has any taste or smell of the mint.

## AQUA MENTHÆ VULGA-RIS SIMPLEX. Simple spearmint water.

Take of

Spearmint leaves, dried, a pound and a half;

Water, as much as is sufficient to prevent burning. Draw off by distillation one gallon.

THESE waters smell and taste very strong of the mint; and prove, in many cases, useful stomachics. Boerhaave commends them (cohobated) as a present and incomparable remedy, for strengthening a weak stomach, and curing vomiting proceeding from cold viscous phlegm; as also in lienteries.

## AQUA MENTHÆ PIPERI-TIDIS SIMPLEX.

Simple

Simple pepper mint water.

Take of

Peppermint leaves, dry, a pound and a half;

Water, as much as will prevent an empyreuma.

Draw off by distillation one gallon.

This is a very elegant and useful water. It has a warm, pungent tafte, exactly refembling that of the pepper-mint itself. A spoonful or two, taken at a time, warm the flomach, and give great relief in cold, flatulent colics. Some have substituted a plain infusion of the dried leaves of the plant, which is not greatly different in virtue from the distilled water.

> AQUA PETROSELINI. Parsley water.

This is distilled from the fresh leaves of parfley, after the fame manner as the aqua mentha.

This water is scarce ever called for, or kept in the shops. Parsley yields little virtue in distillation; and the leaves are not the part that yield most. The feeds give a confiderable share of flavour, which is not difagreeable.

AQUA PIPERIS JAMAICEN-

Water of Jamaica pepper.

Take of

Jamaica pepper, half a pound; Water, as much as will prevent burning. Distil off one gallon.

This distilled water is a very elegant one, and has come pretty much into use. The hospitals employ it as a succedaneum to the more costly spice waters. It is, however, inferior in gratefulness to

the fpiritous water of the fame spice hereafter directed.

AQUA PULEGII SIMPLEX. Simple penny-royal water.

Take of

Penny-royal leaves, dry, a pound and an half;

Water, as much as will prevent burning.

Draw off by distillation one gallon,

AQUA PULEGII. Water of penny-royal. Edinb.

Take of

Penny-royal leaves, fresh, any quantity;

Water, three times as much. Diftil as long as the water comes off well flavoured of the herb.

THESE waters posses, in a confiderable degree, the fmell, tafte, and virtues of the penny-royal. They are frequently taken in hyfleric cases, and not without good effects.

AQUA ROSARUM DAMAS-CENARUM.

> Damask roje water. Lond.

Take of

Damaik roles, fresh gathered, fix

Water, as much as will keep them from burning.

Distil off a gallon of the water.

Edinb.

Take three parts of water to one of the fresh roles; and distil as long as the water which comes over has any fmell of the flowers.

This water is principally valued on account of its fine flavour, which approaches to that generally admired in the rose itself. The purgative virtue of the roles remains mains entire in the liquor left in the still, which has therefore been generally employed for making the folutive honey and fyrup, instead of a decoction or infusion of fresh roses prepared on purpose : and this piece of frugality the college have now admitted. A distilled water of red rofes has been fometimes called for in the fhops: and supplied by that of damaik roles, diluted with common water. This is a very venial fubilitution; for the water drawn from the red rose has no quality which that of the damask does not possess in a far superior degree; neither the purgative virtue of the one, nor the aftringency of the other, arifing in distillation.

AQUA RUTE.

This is to be distilled from the fresh leaves of rue, and cohobated on fresh parcels of them, after the same manner as the aqua melissa.

Rue gives over in this process the whole of its smell, and great part of its pungency. The distilled water stands recommended in epileptic cases, the hysteric passion, for promoting perspiration, and other natural secretions.

AQUA SABINE. Savin water.

This is distilled from the fresh leaves of savin, after the same manner as aqua angelica.

This water is by fome held in confiderable efteem for the fame purposes as the distilled oil of favin. Boerhaave relates, that he has found it (when prepared by cohobation) to give an almost incredible motion to the whole nervous system, and that, when properly used, it proves eminently serviceable for promoting the menses and the hamorrhoidal flux.

AQUA SAMBUCI.

Elder-flower Water.

This is distilled from fresh elderflowers, after the same manner as the aqua angelicæ.

This water smells considerably of the slowers; but is rarely made use of.

## SECT. III.

Spirituous distilled waters and spirits.

HE flavour and virtues of distilled waters are owing, as observed in the preceding section, to their being impregnated with a portion of the essential oil of the subject from which they are drawn. Spirit of wine, considered as a vehicle for these oils, has this advantage above water, that it is their proper menstruum, and keeps all the oil, that rises with it, perfectly dissolved into an uniform limpid liquor.

Nevertheless, many substances, which, on being distilled with water, impart to it their virtues in great perfection; if treated in the same manner with spirit of wine, scarce give over to it any smell or taste. This difference proceeds hence: that spirit is not susceptible of so great a degree of heat as water. Liquids in general, when made to boil, have received as great a heat as they are capable of suspining:

taining: now, if the extent of heat between freezing and boiling water, as measured by thermometers, be taken for a standard, spirit of wine will be found to boil with less than four-fifths of that heat, or above one-fifth less than the heat of boiling water. It is obvious therefore, that substances may be volatile enough to rife with the heat of boiling water, but not with

that of boiling spirit.

Thus if cinnamon, for instance, be committed to distillation with a mixture of spirit of wine and water, or with a pure proof spirit, which is no other than a mixture of about equal parts of the two: the spirit will arise first, clear, colourless, and transparent, and almost without any taste of the fpice; but as foon as the more ponderous watery fluid begins to arise, the oil comes freely over with it, so as to render the liquor highly odorous, fapid, and of a milky hue.

The proof fpirits usually met with in the shops are accompanied with a degree of ill flavour; which, though concealed by means of certain additions, plainly discovers itfelf in distillation. This nauseous relish does not begin to arise, till after the purer spirituous part has come over; which is the very time that the virtues of the ingredients begin, also, most plentifully to diftil: and hence the liquor receives an ungrateful taint. To this cause principally is owing the general complaint, that the cordials of the apothecary are less agreeable than those of the same kind prepared by the distiller; the latter being extremely curious in rectifying or purifying the spirits (when designed for what he calls fine goods) from all ill flavour.

SPIRITUS VINI RECTIFICA-TUS.

Restified Spirit of wine.

Take any quantity of French brandy, and with a very gentle heat

distil it to one half.

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

Spirits distilled from malt liquors, or other fermented substances, after being rectified in the above method, require further purification; namely, repeated diffillation from an equal quantity of ipring water.

FRENCH brandy is rather too dear an article in this country, for distillation; nor is the spirit obtained from it any ways preferable to one procurable from cheaper liquors. The coarser inflammable spirits may be rendered perfectly pure, and fit for the nicest purposes, by the fol-

lowing method.

If the spirit be exceedingly foul, mix it with about an equal quantity of water, and diffil with a flow fire; discontinuing the operation as foon as the liquor begins to run milky, and discovers, by its nauseous taste, that the impure and phlegmatic part is arifing. By this treatment, the spirit leaves a confiderable portion of its foul oily matter behind it in the water, which now appears milky and turbid, and proves highly difagreeable in tafte. If the spirit was not very foul at first, this ablution is not necessary; if extremely so, it will be needful to repeat it once, twice, or oftener.

As vinous spirits arise with a less degree of fire than watery liquors, we are hence directed to employ, in the distillation of them, a heat less

than

than that in which water boils : and if due regard be had to this circumitance, very weak spirits may, by one or two wary distillations, be tolerably well freed from their aqueous phlegm; especially if the diftilling vessels be of such a height, that the spirit, by the heat of a water-bath, may but just pass over them. In fuch case, the phlegmatic vapours which arise for a little way along with the spirit, will condense and fall back again before they can come to the head. Very pompous instruments have been contrived for this purpole, and carried in a spiral or serpentine form to an extraordinary height. The spirit, ascending through these, was to leave all the watery parts it contained, in its passage, and come over perfectly pure and free from phelgm. But these instruments are built upon erroneous principles, their extravagant height defeating the end it was defigned to answer. If the liquor be made to boil, a confiderable quantity of mere phlegm will come over along with the spirit; and if the heat be not raised to this pitch, neither phlegm nor spirit will distil. The most convenient instrument is the common still, betwixt the body of which, and its head, an adopter or copper tube may be fixed.

The spirit being washed, as above directed, from its soul oil, and freed from the greatest part of the phlegm, by gentle distillation in a water bath; add to every gallon of it, a pound or two of pure, dry, sixt alkaline salt. Upon digesting these together for a little time, the alkali, from its known property of attracting water and oils, will imbibe the remaining phlegm, and such part of the disagreeable unctuous matter as

may still be left in the spirit, and fink with them to the bottom of the veffel. If the spirit be now again gently drawn over, it will arise entirely free from its phlegm and naufeous flavour; but fome particles of the alkaline falt are apt to be carried up with it, and give what the workmen call an urinous relish. This may be prevented by adding, previously to the last distillation, a small proportion of calcined vitriol, alum, or fal catharticus amarus; the acid of these falts will unite with, and neutralize the alkali, and effectually prevent it from arising; while no more of the acid of the falts is extricated than what the alkali absorbs.

The spirit obtained by these means is extremely pure, limpid, perfectly slavourless, and sit for the sinest purposes. It may be reduced to the strength commonly understood by proof, by mixing twenty ounces of it (by weight) with seventeen ounces of water. The distilled cordials made with these spirits, prove much more elegant and agreeable, than when the common rectified or proof spirits of the shops are made use of.

If the rectified spirit be distilled afresh from dry alkaline salt, with a quick fire, it brings over a considerable quantity of the salt, and in this state is supposed to be a more powerful menstruum, for certain substances, than the pure spirit. This alkalized spirit is called TAR-TARIZED SPIRIT OF WINE.

The general virtues of vinous spirits have been already mentioned in the preceding part. The spirits impregnated with the volatile oils of vegetables, to be treated

of in this chapter, have joined to those, the aromatic, cordial or other virtues which reside in the oils.

## ARTICLE I. Distilled Spirits.

AQUA MELISSÆ COMPOSITA.

Compound balm-water, commonly called Eau de carmes.

Take of

Balm in flower, fresh gathered and cleared from the stalks, two pounds;

Lemon-peel, fresh, as soon as pared from the fruit, four ounces;

Coriander seeds, eight ounces;

Nutmegs,

Cloves,

Cinnamon, each, bruifed, two ounces;

Angelica roots, dried and bruifed, one ounce;

Spirit of wine, highly rectified,

ten pints.

Steep the feveral ingredients in the spirit, four or five days; and then draw off, in the heat of a water-bath, ten pints. Rectify the distilled liquor by a second distillation in a waterbath, drawing off only about eight pints and three quarters.

This process is taken from the Elemens de pharmacie of M. Beaume, who observes, that all the aromatic spirits ought to be prepared in the fame manner. When the common spirits of this kind are rubbed on the hands, &c. they leave, after the more volatile parts have exhaled, a difagreeable empyreumatic smell; and when diluted with water, and taken medicinally, they leave in like manner a naufeous flavour in the mouth. To remedy these imperfections, he made many experiments, which shewed, that in order to obtain these liquors of the desirable qualities, the spirit must not only be perfectly pure at first, but that the liquor ought also to be rectified

after it has been distilled from the subjects. In this rectification, only the more volatile, fubtile, and aromatic parts of the ingredients arife. There remains behind a white liquor, acrid, bitter, loaded only with the groffer oil, and deprived of all the specific flavour of the subjects. Indeed the very imperfection complained of, naturally points out this fecond distillation for the remedy; as it shews the spirit to contain a grateful and ungrateful matter, the former of which exhales, while the other is left behind. The author fays, that when the aqua meliffe is prepared as above directed, it has fomething in it more perfect than any of the odoriferous spirits whose excellence is cried up, and which have the reputation of being the best.

Aromatic spirituous waters have in general less smell, when newly distilled, than after they have been kept about fix months. M. Beaumé fuspects that the preparations of this kind, which have been most in vogue, were fuch as had been thus improved by keeping; and found that the good effects of age might be produced in a short time by means of cold. He plunges quart bottles of the liquor into a mixture of pounded ice and sea salt. spirit after having suffered, for fix or eight hours, the cold hence refulting, proves as grateful as that which has been kept for feveral years. Simple waters also, after being frozen, prove far more agreeable than they were before, though they are always less so than those, which have been drawn with spirit, and exposed to a like degree of cold. This melioration of distilled waters by frost was taken notice of by Geoffroy, Hift. Acad. 1713.

SPIRITUS

SPIRITUS RORISMARINI. Spirit of rosemary.

Take of

Rosemary tops, fresh gathered, a pound and a half;

Proof spirit, one gallon.

Distil in the heat of a water-bath, till five pints are come over.

SPIRITUS RORISMARINI, vulgo AQUA REGINÆ HUNGARIÆ.

Hungary water [E.]

Take of

Rosemary flowers, just gathered, two pounds;

Rectified spirit of wine, eight pounds.

Put them together, and immediately distil in a water-bath.

It is generally brought to us from abroad.

This fpirit is very fragrant, infomuch as to be in common use as a perfume. That brought from abroad is superior in fragrance to fuch as is generally made among us. In order to prepare it in perfection, the vinous spirit should be extremely pure; the rofemary tops gathered when the flowers are full blown upon them, and committed immediately to distillation, particular care being taken not to bruise or press them. The best method of managing the distillation, is that formerly recommended for the diftillation of the more volatile effential oils and simple waters, viz. first to place the spirit in the still, and then fet in, above the liquor, either an iron hoop, with a hair cloth firetched over it, upon which the flowers are to be lightly spread, or rather a basket, supported on three pins, reaching down to the bottom. A gentle heat being applied, just fufficient to raife the spirit, its vapour, lightly percolating through the flowers, will imbibe their finer

parts, without making that difagreeable alteration, which liquors applied to fuch tender fubjects, in their grosser form, generally do. Probably the fuperiority of the French Hungary water, to that prepared among us, is owing to some skilful management of this kind, or to that recommended for the foregoing preparation, and employing a perfectly pure spirit.

In the Wirtemberg pharmacopœia, some sage and ginger are added, in the proportion of half a pound of the former, and two ounces of the latter, to four pounds

of the rolemary.

SPIRITUS LAVENDULÆ SIMPLEX.

Simple Spirit of lavender.

Take of

Lavender flowers, fresh gathered, a pound and a half; Proof spirit, one gallon.

Draw off, by the heat of a waterbath, five pints.

THE same cautions are to be observed here, as in the distillation of the foregoing spirit. Both of them, when made in perfection, are very grateful and fragrant: they are frequently rubbed on the temples, &c. under the notion of refreshing and comforting the nerves; and likewise taken internally, to the quantity of a tea-spoonful, as warm cordials.

SPIRITUS LAVENDULÆ COMPOSITUS. Compound Spirit of lavender. Lond.

Take of

Simple spirit of lavender, three

Spirit of rolemary, one pint; Cinnamon,

Nutmegs, each half an ounce; Red

Red faunders, three drams. Digest them together, and then strain out the spirit for use.

The compound spirit of lavender of a former London pharmacopæia is as follows.

Take of

Lavender flowers, one gallon; Sage flowers,

Rosemary flowers,

Betony flowers, each one handful;

Borage flowers, Bugloss flowers,

Lilies of the valley,

Cowflips, each two handfuls;

Balm leaves,

Feverfew leaves,

Orange tree leaves,

Orange flowers, Stæchas flowers,

Bay berries, each one ounce;

French brandy, four gallons.

Pour the brandy on the other ingredients fresh gathered, and, after fuitable digestion, draw off in a water-bath two gallons and a half. To this spirit add the fol-

lowing ingredients:

Citron peel,

Yellow faunders, each fix drams;

Cinnamon,

Nutmegs,

Mace,

Leffer cardamom feeds,

Cubebs, each half an ounce;

Aloes wood, one dram.

Digest these together for twentyfour hours; then filter the spirit, and fuspend in it the following ingredients (where they are judged proper) tied up in a thin linen cloth; viz. of

Mulk,

Ambergris,

Saffron, each half a scruple;

Red roses dried,

Red faunders, each half ounce.

In a former edition of the Edin-

burgh pharmacopæia, this spirit is thus directed.

Take of the distilled oils of

Lavender, an ounce and a half;

Rolemary, an ounce;

Marjoram, fix drams; Lemon-peel, half an ounce;

Nutmegs, three drams;

Cloves, two drams; Cinnamon, one dram.

Gradually drop these oils into three gallons of French brandy, occafionally ftirring them together. Distil the mixture in balneo mariæ to two-thirds; and in the spirit which comes over, suspend the following ingredients, tied up in a linen cloth; viz. of

Red faunders, two ounces;

English faffron,

Cochineal, each half an cunce; To which if you would have the

spirit perfumed, add of Ambergris, two scruples;

Musk, one scruple.

In the present pharmacopæia of Edinburgh, this medicine stands as follows.

Take of

The simple spirit of lavender, three pounds;

Spirit of rofemary, one pound;

Cinnamon, one ounce; Cloves, two drams;

Nutmeg, half an ounce;

Red faunders, three drams. Macerate for feven days, and strain

off the spirit.

THE red faunders is of no further use in these compositions, than as a colouring ingredient. If a yellow fpirit were liked, the yellow faunders would be an excellent article, as it not only communicates a fine colour, but likewise a considerable share of medicinal virtue. A spirit distilled from the flowers of lavender and fage, in due proportion, and digested in the cold for a little time with some cinnamon, nutmegs, and yellow faunders, proves a very elegant and grateful one. Where effential oils are employed, as in the third of the above processes, particular care must be had in the choice of them; for on their goodness that of the medicine depends. The digestion of the spirit with the spices, &c. should be performed without heat, otherwise the slavour of the

medicine will be injured.

All these spirits are grateful reviving cordials. The first, though confiderably the most simple, is not inferior in elegancy to either of the This medicine has long others. been held in great esteem, under the name of PALSY DROPS, in all kinds of languors, weakness of the nerves, and decays of age; for which reason, we have given the different forms of preparing it that have been followed for fome time past. It may be conveniently taken upon fugar, from ten to eighty, or a hundred drops.

An odoriferous spirit, called sweet honey water.

Take of
Coriander feeds,
Honey, each one pound;
Cloves, an ounce and a half;
Nutmegs,
Benzoine,
Storax, each an ounce;
Vanelloes, in number four;
Yellow rind of three lemons;
French brandy, one gallon.

Digest these ingredients together for forty-eight hours; and then distil off the spirit in balneo mariæ. To one gallon of this spirit, add

Oranga dou

Orange flower water, Rose water, of each one pound and a half;

Ambergris,

Musk, of each five grains. First grind the musk and ambergris with some of the water, and afterwards put all together, in a large matrass; shake them well, and let them circulate for three days and nights in a gentle heat; then suffer them to cool, filter the liquor, and keep it close stopt up for use.

Another.

Take of

Coriander feeds, one pound; Lemon peel, fresh, Nutmegs, each four ounces; Ambergris, Musk, each five grains;

Clean melasses spirit, two gal-

lons.

Bruise the nutmegs and coriander seeds, and put them, with the lemon peel and the spirit, into a small still placed in balneo mariæ: tie a thin cloth over the mouth, and sprinkle thereon the ambergris and musk, reduced into sine powder; lute on the head, let the whole stand in digestion for twelve hours, and then distil as much as a boiling heat of the bath can force over.

To this add, of Rose water, one pint; Orange slower water, half a pint.

THESE compositions are designed rather as perfumes than as medicines; though, for fuch as can bear their fragrance, they might be used to advantage. The musk and ambergris do not communicate fo much of their fmell as might be expected; and ferve chiefly to height. en the flavour of the other ingredients; which these persumes excellently do, when employed in very fmall proportion, to all the odoriferous simples, without imparting any thing perceptible of their own. Both the foregoing spirits are very agreeable; a few drops of either give a fine flavour to a large quantity of other liquor. Mr. Wilson, from whom the first is taken (Prast. Chem. pag 354) tells us, that he often made it for king James II. and that it gives one of the most pleafant scents that can be smelt. The other is formed on the same plan, by omitting fuch articles as appeared superfluous.

## SPIRITUS COCHLEARIA. Spirit of scurvygrass. Edinb.

Take of

Fresh scurvygrass, bruised, ten pounds;

Rectified spirit of wine, five pints.

Steep the herb in the spirit for twelve hours; then, with the heat of a water-bath, distil off five pints.

THIS spirit is very strong of the fcurvygrafs, and may be given in those cases where the use of this herb is proper, from twenty to one hundred drops. The virtues of scurvygrafs refide in a very fubtile, volatile oil, which arises in distillation both with water and pure spirit; and if the liquors be exposed to the air, foon exhales from both. The spirit, newly distilled, is extremely pungent, but if long kept, even in close vessels, becomes remarkably less fo.

The makers of this spirit have frequently added to the scurvygrass a quantity of horseradish root, and fometimes substituted for it one drawn entirely from the horseradish: the flavour of these two simples being fo much alike, that their distilled spirits are scarce distinguishable from one another. it may be observed, that though arum and dracunculus are usually ranked in the same class with the two foregoing vegetables, and looked upon as fimilar to them;

this process discovers a remarkable difference: whilst the former yield all their pungency in distillation both to water and spirit, the latter give over nothing to either, and yet their virtues are destroyed in the operation.

SPIRITUS COCHLEARIÆ AUREUS. Golden, or purging spirit of scurvygras.

Take of Spirit of scurvygrass, one pound. Gamboge, one ounce.

Dissolve the gamboge in the spirit, and if any fediment fall to the bottom, carefully decant the tinged liquor from it.

This spirit is otherwise made with feammony, or refin of jalap, in-

stead of gamboge.

This has been in great effeem among the common people, and strongly recommended by the venders, in all kinds of fcorbutic diforders. It is nevertheless a very indifferent medicine, and little deferves the pompous title given it. It may be taken from twenty to fixty drops, either upon fugar or mixed with fyrup.

### AQUA ANHALTINA. Anhalt water.

Take of Turpentine, fix ounces; Olibanum, one ounce; Aloes wood, three ounces; Cloves, Cinnamon, Cubebs, Rosemary flowers, Galangal, Mastich, Nutmegs, each fix drams; Saffron, two drams and a half; Bay berries, Fennel feeds, each half an ounce; Spirit of wine, five pints.

Pulverize those ingredients which require require fuch treatment, and digest the whole with the spirit for fix days; then diffil with an exceedingly gentle heat, in balneo mariæ: the liquor which runs clear is to be separated from the turbid, and kept by itself.

Where the addition of musk is required, fifteen grains thereof are to be tied in a bag, and fufpended in the head of the still.

WE have inferted this composition from the Brandenburgh pharmacopæia, on account of its being held, in some places, in great esteem. It is rubbed on weak or paralytic limbs, against catarrhs, old pains and aches, &c. and likewife given internally, in doses of half an ounce, for strengthening the stomach, discussing statulencies, relieving colicky pains, and promoting the uterine purgations. It is very unpleasant to the palate; the aromatics, though fufficiently numerous, and in confiderable quantity, not giving over near enough to cover the strong flavour of the turpentine; there are not many of them, indeed, that give over any thing confiderable at all. A more elegant spirit of this kind might be prepared from turpentine, rolemary, lavender and fage flowers; or by diffilling the spirit first from the turpentine alone, and then diffolving in it a proper quantity of any suitable essential oils.

## ARTICLE II. Distilled Spirituous Waters.

By distilled spirits are understood fuch as are drawn with a spirit that has been previously rectified, or which is reduced nearly to that strength in the operation; by spirituous waters, those in which the spirit is only of the proof strength, or contains an admixture of about an equal measure of water. These last have been usually called compound waters, even when distilled from one ingredient only; as those, on the other hand, which are drawn by common water, though from a number of ingredients, are named simple; the title simplex, here, relating not to simplicity in respect of composition, but to the vehicle's being plain water. The Edinburgh pharmacopæia denominates those waters simple which are drawn from a fingle ingredient, whether the vehicle be common water, or spirituous water, and all those compounds which are distilled from more than one.

General rules for the distillation of spirituous waters; from the Edinburgh Pharmacopæia.

The plants and their parts ought to be moderately and newly dried, except fuch as are ordered to be fresh gathered.

After the ingredients have been steeped in the spirit for the time prescribed, add as much water as will be fufficient to prevent an empyreuma, or rather more.

The liquor which comes over first in the 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 better to mix all the runnings together, without fining them, that the waters may possess the virtues of the plant entire; which is a circumftance Cc3

stance to be more regarded than their fineness or fightliness.

If the distillation be skilfully managed, the heat equable, and all along gentle, and no more drawn off than the quantity directed, most of the waters will appear fufficiently bright and fine : fome of them, which look turbid just after they are drawn, will, on standing for a few days, become clear and transparent. The practice here forbidden, of faving some of the first runnings apart, is certainly very injurious to the composition; the water being not only robbed by it of some of the more volatile parts of the ingredients, but likewise rendered permanently milky, as wanting the spirit which, by dissolving the oil of the ingredients that gives this appearance, would make the liquor transparent. Nor is the method of fining the turbid waters by alum, &c. less culpable; for these additions produce their effects only by feparating from the liquor what it had before gained from the ingredients.

In the distillation of these waters, the genuine brandy obtained from wine is directed. Where this is not to be had, take instead of that proof spirit, half its quantity of a well-rectified spirit prepared from any other fermented liquors. In this steep the ingredients, and then add fpring water enough, both to make up the quantity ordered to be drawn off, and to prevent burning.

By this method more elegant waters may be obtained, than when any of the common proof spirits, even that of wine itself, are made use of. All vinous spirits receive fome flavour from the matter from which they are extracted; and of this flavour, which adheres chiefly

to the phlegin or watery part, they cannot be divested without separating the phlegm, and reducing them to a rectified state.

AQUA ABSINTHII COMPOSITA. Compound wormwood water. Take of

Calamus aromaticus, Orange peel, fresh, Cinnamon, each four ounces; Roman wormwood, half a pound; Mint, three ounces; Leffer cardamoms, Mace, each one ounce; French brandy, two gallons.

Having bruised the seeds and spices, and cut the other ingredients, pour on them the brandy, and after steeping them together for the space of four days, distil off two gallons.

This water was formerly preferibed as a stomachie, along with bitter infusions; and for this purpose it is the least unfit (as being the most elegant and least unpleafant) of all the wormwood waters with which the shops were furnished. It is nevertheless too ungrateful an addition to the fine bitters of our new pharmacopœias; and cannot be supposed to contribute any thing to their virtue, which more agreeable spirituous waters would not equally do. Some have expected wormwood water to be itself a bitter; but only the smell and flavour of the wormwood arise in this process, those parts in which its bitterness resides remaining behind in the ftill.

In former editions of the London pharmacopœia there were two wormwood waters, which by fome are still held in esteem, and were proposed by the committee of the college to be continued at a late revifal, with some amendments.

AQUA ABSINTHII MINUS COM-

Wormwood water less compounded. Take of

Common wormwood leaves, dried, two pounds;

Leffer cardamom feeds, two

Coriander feeds, half a pound; French brandy, four gallons.

Let them steep together for some time, and then distil off four gallons.

## AQUA ABSINTHII MAGIS COM-

Wormwood water more compounded. Take of

Sea wormwood,

Common wormwood, each dried, one pound;

Sage, Mint,

Balm, each dried, two handfuls ;

Galangal, Ginger,

Calamus aromaticus, Elecampane roots, Sweet fennel seeds,

Coriander feeds, each three

drams;

Cinnamon, Cloves,

Nutmegs, each two drams; Lesser cardamom seeds, Cubebs, each one dram; French brandy, twelve pints.

Having cut or bruised the ingredients, which require that treatment, steep them for some time in the brandy, and afterwards draw off by distillation twelve pints.

## AQUA ALEXETERIA SPI-

Spirituous alexeterial water.

Lond.

Take of

Spearmint leaves, fresh, half a pound;

Angelica leaves, fresh,
Sea wormwood tops, fresh, each
four ounces;
Proof spirit, one gallon;
Water, as much as will prevent
burning.
Distil off one gallon.

This is a tolerably pleasant water. It is looked upon as an alexipharmac and stomachic, and in these intentions is not unfrequently made use of in juleps, &c.

AQUA ALEXETERIA
SPIRITUOSA cum ACETO.
Spirituous alexeterial water with
vinegar.
Lond.

Take of

Spearmint leaves,

Angelica leaves, each half a pound;

Sea wormwood tops, four ounces; Proof spirit, one gallon;

Water, as much as is sufficient

to prevent burning.

Vinegar, one pint.

Distil the fresh herbs with the spirit and water, drawing off one gallon; to which add the vinegar.

ANGELICA, after trial of fundry other materials, has been found the most effectually to remove the disagreeable slavour which the vinegar would otherwise communicate, and therefore this plant is ordered in a larger proportion here than in the other alexeterial waters. Perhaps it would be more eligible to add the vinegar occasionally; for when mixed with the liquor at first, it is apt to throw down, upon keeping, some of the more valuable parts which the water received from the herbs.

This water is given in the room of the AQUA THERIACALIS, OF CC4

treacle water, a medicine of some importance, which in a former Edinburgh pharmacopæia is thus directed.

Take of

Butterbur roots, one pound;
Angelica roots,
Masterwort roots, each half

Mallerwort roots, each half a

Zedoary, four ounces; Scordium leaves,

Rue leaves, each fix ounces; Theriaca, one pound;

French brandy, three gallons; Distilled vinegar, half a gallon.

Let the roots, leaves, and theriaca be steeped in the spirit for four days; then distil off two gallons and a half; to which add the distilled vinegar.

This water is ordered not to be drawn fo low as the other distilled waters, and with great judgment; for the addition of the vinegar confiderably weakens it, and if drawn low, renders it very unfightly. is left to the choice of the operator, to employ either Andromachus's or the Edinburgh treacle. The latter is the better of the two, but neither of them are proper subjects for distillation; for besides that three parts in four are honey, which yields nothing, they contain feveral other ingredients that afford as little.

The AQUA THERIACALIS of a former London pharmacopæia is as follows.

Take of

Juice of green walnuts, four pints; Rue, three pints; Carduus,

Balm, each two pints;
Butterbur roots, fresh, a pound
and a half;

Burdock roots, fresh, one pound; Angelica roots,

Masterwort roots, fresh, each half a pound

Scordium, fresh, four handfuls;
Venice treacle, and
Mithridate, kept for some time,
each eight ounces;
Lemon juice, two pints;
French brandy, a gallon and a
half.

Draw off by distillation three gallons and a half, then add half a gallon of distilled vinegar.

THE predominant flavour of this water is from the rue and angelica; the rest contribute only to render the whole more offenfive. What qualities it can receive from the numerous ingredients of the all-powerful theriaca may be estimated by this, that the whole species of that electary, employed in half an ounce of the water, its usual dose, amounts not to a fingle grain; the mithridate, with which our pharmacopoeia, by the advice of Sir Theodore Mayerne, had the honour of enriching the composition, being also just of the same importance.

THE college of Edinburgh has given the following amendment of this water, under the title of

# AQUA EPIDEMIA. Plague water. Edinb.

Take of

Masterwort roots, a pound and a half;

Angelica feed,

Elder flowers, each half a pound; French brandy, three gallons.

Digest for two days, then distil off two gallons and a half; to which add half a gallon of distilled vinegar.

THE foregoing compositions are the only distilled waters in which the heat of the spirit is tempered by the addition of vinegar, an ingredient which renders them serviceable viceable in many cases where spirituous liquors alone would be im-The treacle water has proper. long been held in great effeem as a fudorific and alexipharmac; and those which the London and Edinburgh colleges have now directed in the room of it, though far more fimple and elegant, are not inferior in efficacy.

AQUA SEMINUM ANISI COMPOSITA. Compound anifeed water.

Lond.

Take of

Anifeeds,

Angelica feeds, each half pound;

Proof spirit, one gallon;

Water, as much as is sufficient to prevent burning.

Draw off by distillation one gallon,

This is a very elegant anifeed water, the angelica feeds greatly improving the flavour of the anife. It is apt to turn out milky, if drawn fo low as here ordered.

AQUA CORTICUM AURAN-TIORUM SPIRITUOSA. Spirituous orange peel water.

Take of Outer rind of Seville orange peel, dried, half a pound; Proof spirit, one gallon; Water, as much as is sufficient to prevent an empyreuma. Diffil off one gallon.

This is confiderably stronger of the orange peel than the fimple water. It is used as a cordial, stomachic, and carminative.

AQUA BRYONIÆ COMPOSITA. Compound bryony water. Take of Bryony roots, one pound; Wild valerian root, four ounces;

Pennyroyal,

Rue, each half a pound; Mugwort leaves, Feverfew flowers, Savin tops, each one ounce; Orange peel, fresh, Lovage feed, each two ounces; French brandy, two gallons and a half.

Having cut or bruifed those ingredients which require fuch treatment, steep them in the brandy four days; then draw off by distillation two gallons and a half of liquor.

This composition, defigned as an antihysteric, is liable to considerable objections, not only in regard to its particular ingredients, but to the medicinal intention of the whole. Many, by the use of this and fimilar waters, under the notion of medicines, have been betrayed into the pernicious habit of drinking drams: whereas, however fpirituous liquors may give a temporary relief to the languors of hysterical and hypochondriacal perfons, none fuffer so soon the ill effects attending the constant use of them. The unpleasant flavour of this water renders it exceptionable also as a vehicle of other antihysteric medicines, which in general are of themselves sufficiently ungrateful. A small augmentation in the dose of the medicines themfelves (as the London committee observe) would abundantly compenfate any affiftance to be expected from this water, and leave room for the use of a more agreeable vehicle.

The college of London has therefore wholly omitted this water, without giving any thing of fimilar intention in its place. That of Edinburgh still retains it, but has improved the composition, and rendered it more simple, by the rejection of the more exceptionable

ingredients.

Pharmaceutical Preparations. Part III.

ingredients. The bryony root, from which the water receives its name, is the most exceptionable of them all. This being therefore now omitted, the water is diffinguished by the name of another of its ingredients, and is use. It contains the flavour of the directed as follows.

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### AQUA VALERIANÆ COM-POSITA.

Compound valerian water. Edinb.

Take of Wild valerian root, a pound and Lovage feed, half a pound; Pennyroyal leaves, four ounces; Savin tops, two ounces; French brandy, two gallons. Digest for two days, and then draw off by distillation two gallons.

#### AQUA SEMINUM CARDA-MOMI.

Cardamom feed water. Lond.

Take of Lesser cardamom seeds, freed from the hufks, four ounces; Proof spirit, one gallon; Water, as much as is sufficient to prevent burning. Distil off one gallon.

This water is a grateful cordial and carminative, the cardamom feeds giving over in this process the whole of their flavour. It is not perhaps very necessary to be at the trouble of separating the hulks, for these communicate nothing difagreeable. The only difference is, that if employed unhusked, a proportionably larger quantity of them must be taken.

## AQUA SEMINUM CARUI. Caraway water. Lond.

Take of Caraway feeds, half a pound;

Proof spirit, one gallon; Water, as much as will prevent burning. Distil off one gallon.

This is a cordial in common caraway feeds in perfection.

### AQUA CINNAMOMI SPIRI-TUOSA.

Spirituous cinnamon water. Lond.

Take of Cinnamon, a pound; Proof spirit, a gallon; Water, fo much as will prevent burning. Draw off by distillation one gallon.

#### AQUA CINNAMOMI CUM VINO.

Cinnamon water with wine. Edinb.

Take of Cinnamon, one pound; French brandy, one gallon. Let them steep together for two days, and then diffil off one gallon.

This is a very agreeable and useful cordial water, but not so firong of the cinnamon as might be expected; for very little of the virtues of the spice arises till after the pure spirituous part has diftilled. Hence, in former editions of the London pharmacopæia, the distillation was ordered to be protracted till two pints more, than here directed, were come over. By these means the whole virtue of the cinnamon was more frugally than judiciously obtained, for the difagreeable flavour of the feints of proof spirits, and the acidulous liquor arising from cinnamon as well as other vegetables, when their distillation is long continued, gave an ill relish to the whole; at the fame time that the oil which was extracted

extracted from the spice, was by

this acid thrown down.

In the pharmacopæia reformata, it is proposed to make this water, by mixing the aqua cinnamoni simplex with somewhat less than an equal quantity of rectified spirit. On shaking them together, the liquor loses its milky hue, soon becomes clear, and more elegant than the water distilled as above. It is equally strong of the cinnamon, and free from the nauseous taint with which the common proof spirits are impregnated.

## AQUA JUNIPERI COMPO-SITA.

Compound juniper water.

Lond.

Take of

Juniper berries, one pound;
Sweet fennel feeds,
Caraway feeds, each an ounce
and a half;
Proof fpirit, one gallon;

Water, as much as is fufficient to prevent burning.

Distil off one gallon.

This water, mixed with about an equal quantity of the rob of juniper berries, proves an useful medicine in catarrhs, debility of the stomach and intestines, and disficulty of urine. The water by itself is a good cordial and carminative. The service which this and other spirituous waters do in these intentions, is too commonly known; though the ill consequences that follow their constant use, be too little regarded.

### AQUA MENTHÆ PIPERITI-DIS SPIRITUOSA.

Spirituous peppermint water.
Lond.

Take of

Pepper-mint leaves, dry, a pound and a half; Proof spirit, a gallon; Water, as much as is sufficient to prevent an empyreuma. Draw off by distillation one gallon.

This water is made use of in slatulent colics and similar disorders; in which it oftentimes gives immediate relief. It smells and tastes strongly of the peppermint.

### AQUA MENTHÆ, VULGA-RIS SPIRITUOSA.

Spirituous Spearmint water. Lond.

Take of

Spearmint leaves, dry, a pound and a half;

Proof spirit, a gallon; Water, as much as will prevent

Distil off one gallon.

This water, if the spirit be good, turns out a very elegant one, and preferable, in weakness of the stomach, reaching to vomit, and the like, to many more elaborate preparations. Where the disorder is not accompanied with heat or in-slammation, half an ounce of this water may be given diluted with some agreeable aqueous liquor.

AQUA MIRABILIS.

Take of

Cinnamon, two ounces;
Lemon peel, one ounce;
Angelica feeds,
Leffer cardamom feeds,
Mace, each half an ounce;
Cubebs, two drams;
Balm leaves, fix ounces;
French brandy, one gallon.

Pour the brandy on the other ingredients bruised; and after digesting them for four days, draw off by distillation one gallon.

THE above composition of this celebrated water is that which was formerly followed. At a late reformation

formation it has received a confiderable improvement; the cardamoms, cubebs, and balm, are omitted, and an addition of pepper-mint introduced. The formula at prefent is as follows.

AQUA AROMATICA, vulgo MIRABILIS.

Aromatic water, commonly called aqua mirabilis. Edinb.

Take of

Cinnamon, two ounces; Fresh yellow rind of lemons, Angelica feeds, each one ounce; Mace, half an ounce; Pepper-mint, three ounces; French brandy, one gallon. Digest for two days, and then distil off one gallon.

This water is very rich of the fpices; and proves a pleafant, warm cordial and carminative. In those who have not, by frequent use, deprived themselves of the benefit of these kinds of liquors, it often gives prefent relief in languors, flatulencies, colicky pains,

and fimilar complaints.

The spices in these two compositions being rather too dear for the purposes of a common cordial water, the wholefale dealers, as I have been informed, generally fubflitute for them a cheaper spice from our own plantations, Jamaica pepper. A very elegant water is prepared also from that spice by itself, in the following proportions.

AQUA PIPERIS JAMAICENSIS SPIRITUOSA.

Spirituous famaica pepper water.

Take of

Iamaica pepper, half a pound; Proof spirit, three gallons; Water, a fufficient quantity to prevent an empyreuma.

Draw off by distillation three gallons.

This water is far more agreeable than a fimple water drawn from the fame spice; and has long had a place among the cordials both of the distiller and apothecary; though it has not yet been received into any public pharmacopœia.

## AQUA NUCIS MOSCHATÆ.

Nutmeg water. Lond.

Take of

Nutmegs, two ounces; Proof spirit, a galion; Water, as much as will prevent burning.

Draw off by distillation one gallon.

This water (with the addition only of some hawthorn flowers, an article of very little fignificance) was formerly celebrated in nephritic disorders, under the name of AQUA NEPHRITICA. At present, it is regarded only as an agreeable spirituous liquor, lightly impregnated with the nutmeg flavour.

## AQUA POEONIÆ COMPOSITA. Compound peony water.

Take of

Peony roots, two ounces; Wild valerian roots, an ounce and a half;

White dittany root, one ounce; Peony feeds, fix drams;

Lilies of the valley, fresh, four

Lavender flowers,

Rolemary flowers, each ounces;

Betony,

Marjoram,

Rue,

Sage, tops of each, one ounce; French brandy, a gallon and a half.

Cut or bruise those materials that require such treatment, steep them four days in the brandy, and then distil over a gallon and a half of liquor.

This water was formerly diffinguished by the title of AQUA ANTIEPILEPTICA; and recommended in all kinds of epilepsies and nervous complaints. For fome time past, it has had little regard paid to it, having rarely been prescribed any otherwise than as a vehicle, and as such not often. The ingredients from which it receives its name, the peony roots and feeds, communicate little or nothing to the water; whatever virtues these are possessed of, remain behind in the decoction; nor are thefe the only exceptionable articles; the dittany, betony, and fome others, though of the aromatic kind, afford so little, as not to deferve a place among more powerful materials.

The above formula is taken from a former edition of the Edinburgh pharmacopæia. It is here inferted for the fake of those who may still have some regard for forms so long received; and for the same reason, the peony water of a late London pharmacopæia is also subjoined. The committee endeavoured to amend it at a late reformation, by retaining only those ingredients to which a star is affixed.

Take of

Lilies of the valley\*, fresh gathered, one pound;
Lime flowers\*, half a pound;
Peony flowers\*, four ounces;
Male peony root\*, two ounces
and a half;
White dittany root,
Long birthwort, each half an
ounce;
Misletoe of the oak,
Rue\*, each two handfuls;
Peony seeds, husked, ten drams;
Rue seeds, three drams and a half;
Russia castor,

Cubebs \*, Mace \*, each two drams; Cinnamon \*, an ounce and a half; Rolemary flowers, fix pugils; Stæchas flowers, Lavendar flowers, each four pugils; Betony flowers, Clove-july-flowers, Cowslips, each eight pugils; Juice of black cherries, four pints; French brandy \*, two gallons and a half. After proper maceration, diffil off four gallons.

AQUA PULEGII SPIRITUOSA.

Spirituous penny-royal water.

Lond.

Take of

Penny-royal leaves, dry, a pound and a half; Proof fpirit, a gallon; Water, as much as will prevent burning.

This water has a good share of the flavour of the penny-royal, and is pretty much in use as a carminative and antihysteric.

Distil off one gallon.

### AQUA RAPHANI COMPO-SITA.

Compound horferadish water. Lond.

Take of
Garden feurvygrafs leaves, fresh,
four pounds;
Horseradish root, fresh,
Orange peel, fresh, each two
pounds;
Nutmegs, nine ounces;
Proof spirit, two gallons;
Water, sufficient quantity to prevent burning.
Draw off by distillation two gallons.

Edinb.

Take of Horseradish root,

Garden

Garden scurvygrass, fresh, each
three pounds;
Orange peel, fresh,
Juniper berries,
Canella alba, each four ounces;
French brandy, three gallons.
Steep the juniper berries and canella alba in the spirit, for two days; then add the other ingredients, and draw off three gallons.

Both these waters are very elegant ones, and as well adapted for the purposes of an antiscorbutic, as any thing that can well be contrived in this form. The committee of the London college observe, with regard to the first, that the horseradish and scurvygrass join very well together, giving a fimilar flavour, though not a little difagreeable; that the nutmeg fuppresses this flavour very successfully, without superadding any of its own; and to this, orange peel (no incongruous ingredient to the intention of the medicine) adds a flavour very agreeable. Arum root has generally had a place in this water, but is here deservedly thrown out; for it gives nothing of its pungency over the helm, notwithstanding what is afferted, by some dispensatory-writers, to the contrary. Mustard seed, though not hitherto, that I know, employed in these kinds of compositions, seems to be an excellent ingredient. It gives over the whole of its pungency, and is likewise less perishable than most of the other fubitances of this class. This feed wants no addition, unless fome aromatic material to furnish an agreeable flavour.

AQUA VULNERARIA, seu AQUA CATAPULTARUM.

Arquebusade water. Pharm. Argent.

Take of Comfrey, leaves and roots, Sage,

Mugwort, Buglofs, each four handfuls; Betony, Sanicle, Ox-eye daify, Common daify, Greater figwort, Plantane, Agrimony, Vervain, Wormwood, Fennel, each two handfuls: St. John's wort, Long birthwort, Orpine, Veronica, Lesser centaury, Milfoil, Tobacco, Mouse-ear, Mint, Hyffop, each one handful; Wine, twenty-four pounds.

Having cut and bruised the herbs, pour on them the wine, and let them stand together in digestion, in horsedung, or any other equivalent heat, for three days. Afterwards distil in an alembic with a moderate fire.

This celebrated water has been for fome time held in great efteem, in contusions, for resolving coagulated blood, discussing the tumours that arise on fractures and dislocations, for preventing the progress of gangrenes, and cleanfing and healing ulcers and wounds, particularly gun-shot wounds. Mr. Lemery has been at the pains of writing a whole treatile on it; in which he confiders each of the ingredients fingly, and supposes the water to possess their united virtues. In this, however, he miftakes; for the virtues of most of the herbs, admitting them to be as great as he would have them, refide in fuch parts as are not capable of being elevated in this process.

## CHAPTER VI.

Concentration of the medicinal parts of juices and infusions by evaporation.

WHEN vegetable juices, or watery or spirituous decoctions or insusions, are exposed to a continued heat; the sluid gradually evaporating, carries off with it such volatile matters as it was impregnated with, and leaves the more fixed united together into one mass. As the object of the preceding chapter was the collection of the volatile principle which exhales along with the sluid, that of the present is this re-union and concentration of the fixt matter. The mass which remains from the eva-

poration of the expressed juice of a plant, is called an inspissated juice; from watery decoctions or insusions, an extract; from spirituous tinctures, a resin, or essential extract. The term extract is frequently used also as a general appellation of all the three kinds. Inspissated juices and watery decoctions, particularly the former, when evaporated no further than to the consistence of oil or honey, are called rob or sapa; and spirituous tinctures, reduced to a like consistence, are called balsam.

## SECT. I.

## Inspissated juices.

7 HAT relates to the expression of juices, has already been delivered in chap. ii. with the most effectual means of preserving them in their liquid state, and a general account of what fubfiances do, or do not, give out their virtues with their juices. In the inspissation of juices, there is further to be confidered the volatility or fixity of their medicinal parts. If a plant lose its virtue, or part of its virtue, in being dried, it is obvious that the juice must lose as much in being inspiffated to dryness; how gentle soever the heat be, with which the infpiffation is performed. It is likewise to be observed, that the medicinal parts of some juices are kept in a

state of perfect solution by the watery sluid, so as to be completely retained by it after the liquor has been made fine by settling, straining, or other means; while the medicinal parts of others, not dissoluble by watery menstrua, are only dissufed through the liquor in the same manner as the seculencies are, and separate along with these on standing.

## ROB BACCARUM SAMBUCI.

Rob of elder-berries.

Lond.

Let the depurated juice of elderberries be inspissated with a gentle heat. Edinb.

Take two quarts of the juice of ripe elder-berries, and half a pound of white fugar. Evaporate over a gentle fire, or in a water-bath, to the confishence of honey.

This preparation, made with or without fugar, keeps well, and proves a medicine of confiderable importance, as an aperient, generally promoting the natural excretions by flool, urine or fweat. The dofe is, from a dram or two, to an ounce or more. A fpoonful, diluted with water, is usefully taken, in common colds, at bed-time.

SUCCUS PRUNORUM SIL-VESTRIUM, five ACACIA GERMANICA.

Inspissated juice of sloes, or German acacia. Edinb.

Let any quantity of the juice of unripe floes be inspissated over a gentle fire.

This juice is inspissated nearly to dryness, care being taken to prevent its burning, as directed in the following section for making extracts with water. It is a moderately strong astringent, similar to the Egyptian acacia, for which it has been commonly substituted in the shops. (See page 73.) It is given, in fluxes and other disorders where styptic medicines are indicated, from a scruple to a dram.

### EXTRACTUM PLANTAGI-NIS.

Extract of plantane.

Edinb.

Let any quantity of the juice of plantane leaves be depurated; either by fuffering it to fettle,

and then decanting off the clear liquor; or by straining; or clarification with whites of eggs. Afterwards evaporate the juice in a sand-heat, to the consistence of honey.

After the same manner, extracts may be made from all acid, cooling, styptic, juicy plants.

This is a method of treating plants very little practifed, but which promifes, if duly profecuted, to afford medicines of confiderable power. There are many common and neglected herbs, as plantane, chickweed, chervil, &c. whole juices in their dilute state, as well as the herbs in substance, seem to be altogether infignificant, but which, when the juice is well depurated from the feculent matter, and concentrated by the evaporation of the fluid, yield extracts, which discover to the taste no small activity. These extracts, like those prepared from the juices of most of the fummer fruits, if inspissated to dryness, grow moist again in the

Extractum cicutæ.

Extract of bemlock.

Take fresh hemlock leaves, gathered just before the plant begins to slower; which it commonly does in July, or about the latter end of June. Press out the juice; and immediately, without suffering it to settle, put it into a shallow glazed earthen pan, over a very gentle fire; keeping it continually stirring, to prevent its burning, till it is reduced to a thick greenish brown mass. This mass may be formed into pills with a little of the powder of the dried leaves of the plant.

This is the preparation of hemlock lately published at Vienna by

Dr.

Dr. Storck; who recommends it as a high refolvent in many obstinate diforders, where the common remedies avail nothing. He obferves, that fmall dofes should always be begun with, as two grains, made into a pill, twice a day; and that, by gradually increasing the dose, it may be given to two, three, or even four drams a day, and continued in fuch quantities for feveral weeks: that it may be used with safety, in infancy, old age, and pregnancy: that it neither accelerates nor disturbs the circulation; neither heats nor cools; nor affects the animal functions; that it encreases the secretions, and renders the mouth moift; feldom purges; very rarely vomits; fometimes augments perspiration; often produces a copious discharge of viscid urine; but, in many patients, does not increase any of the sensible evacuations: that it removes obstructions and their consequences; relieves rheumatic pains, though of long continuance; discusses schirrous tumours, both internal and external; and cures dropfies and confumptions proceeding from fchirrofities: that it often dissolves cataracts, or stops their progress, and has fometimes removed the gutta ferena: that inveterate cutaneous eruptions, scald heads, malignant ulcers, cancers, the malignant fluor albus and gonorrhea of long standing, obstinate remains of the venereal disease, and caries of the bones, generally yield to it: that for the most part it is necessary to continue this medicine for a very confiderable time, before the cure is effected, or much benefit perceived from it: that in some cases it failed of giving any relief, and that he met with some persons who could not bear its effects; and that confequently there must be some latent difference in the habit, the

diagnostic figns of which are at present unknown: that though it is by no means infallible, any more than other medicines in their respective intentions, yet the great number of deplorable cases that have been happily cured by it, is fufficient to recommend it to further trials. The efficacy of this medicine is confirmed by many eminent practitioners abroad; tho' the trials hitherto made of it in this country have not been attended with much fuccefs. Somewhat perhaps may depend upon the time of the plant's being gathered, and the manner of the preparation of the extract. Dr. Storck himself takes notice of some mistakes committed in this respect. Some have left the herb in a heap for several days, whence part of it withered, part rotted, and the juice became thick and mucilaginous. Others have taken a very large quantity of the juice, and boiled it down in copper vessels with a great heat, by which means a strong fetor was diffused to a confiderable distance, and the most efficacious parts dissipated. Others, with officious care, have clarified the juice, and thus obtained a black tenacious extract, retaining but a small degree of the fpecific smell of the plant. The extract duly prepared, according to the above prescription, is of a greenish brown colour, and a very difagreeable smell, like that of mice. But though there is reason to believe that much of the extract used here had been ill prepared, we can by no means admit that its general inefficacy was owing to this cause; for though there are few instances of its discovering any valuable medicinal powers, there are several of its having activity enough, even in fmall doses, to produce alarming fymptoms.

be made of ( blue wolfsbane. Aconitum, or deadly night-Belladonna, shade. henbane, &c. Hyofciamus,

#### ELATERIUM.

Lond.

Slit ripe wild cucumbers, and having very lightly prefied out the juices, pass it through a fine hair fiève into a glazed earthen vessel. After standing for some hours, the thicker part will fall to the bottom; from which the thinner is to be poured off, and what liquid matter is still left, is to be separated by filtration. The remaining thick part is to be covered with a linen cloth, and exposed to the fun, or other gentle heat, till grown thoroughly dry

WHAT happens in part in the foregoing preparation, happens in this comepletely, the spontaneous separation of the medicinal matter of the juice on standing for a little time: and the case is the same with the juices of feveral other vegetables, as those of arum, iris, and bryony roots. Preparations of this kind have been commonly called FOECU-LÆ. The filtration above directed for draining off such part of the watery fluid as cannot be separated by decantation, is not the common filtration through paper, for this does not succeed here: the grosser parts of the juice, falling to the bottom, form a viscid cake upon the paper, through which the liquid cannot pass. The separation is to be attempted in another manner, so as to drain the fluid from the top. This is effected by placing one end of fome moistened strips of woollen cloth, skains of cotton, or the like,

After the same manner, extracts may in the juice, and laying the other end over the edge of the veffel, fo as to hang down lower than the furface of the liquor. By this management the feparation fucceeds in perfection.

> The Edinburgh pharmacopæia directs the wild cucumbers to be gathered before they have grown fully ripe; and no more of the juice to be taken, than that which iffues fpontaneously upon flitting them. After fettling, the fluid part is ordered to be poured away; and the thick residuum, without any further draining or filtration, to be exficcated in the fun.

THE juice of the unripe fruit is faid to operate with greater violence than of that which is ripe. The foregoing prescriptions do not perhaps differ fo much in regard to the degree of maturity, as in the manner of expressing it; both feeming to intend the fruit to be taken just before it was grown fo thoroughly ripe, as to burst and shed its juice on being touched. If any pressure be used, it should be exceeding gentle, otherwise some of the inactive pulpy matter of the fruit will be forced out with the juice, and render the strength of the elaterium precarious; a point of primary confequence to be avoided, in a medicine of fuch powerful operation, and limited to fo fmall a dole.

Elaterium is a strong irritating cathartic, and oftentimes operates also as an emetic. It is never to be ventured on but in indolent phlegmatic habits, as in dropfies, in which it is by some particularly recommended. Two or three grains are in general a sufficient dofe.

## SECT. II.

## Extracts with Water.

THESE extracts are prepared, by boiling the subject in water, and evaporating the strained decoction to a thick consistence.

This process affords us some of the more active parts of the plants, free from the useless, indissoluble, earthy matter, which makes the largest share of their bulk. There is a great difference in vegetable substances, with regard to their fitness for this operation; some yielding to it all their virtues, and others scarce any. Those parts in which the fweet, glutinous, emollient, cooling, bitter, austere, aftringent virtues reside, are for the most part totally extracted by the boiling water, and remain almost entire upon evaporating it: whilft those which contain the peculiar

odour, flavour, and aromatic quality, are either not extracted at all, or exhale along with the menstruum. Thus gentian root, which is almost simply bitter, yields an extract possessing, in a small volume, the whole tafte and virtues of the root: wormwood, which has a degree of warmth and strong flavour joined to the bitter, loses the two first in the evaporation, and gives an extract not greatly different from the foregoing: the aromatic quality of cinnamon is dislipated by this treatment, its astringency remaining; whilst an extract made from the flowers of lavender and rofemary, discovers nothing either of the tafte, fmell, or virtues of the flowers.

## General Rules for making Extracts with Water.

1. It is indifferent, in regard to the medicine, whether the subject be used fresh or dry: since nothing that can be preserved in this process, will be lost by drying. In regard to the facility of extraction, there is a very considerable disference; vegetables in general giving out their virtues more readily, when moderately dried, than when fresh.

flould be reduced into exceeding fmall parts, previous to the effusion of the menstruum.

3. The quantity of water ought to be no greater than is necessary for extracting the virtues of the subject. A difference herein will sometimes occasion a variation in the quality of the product; the

larger the quantity of liquor, the longer fire will be requifite for evaporating it, and confequently more of the volatile parts of the subject will be dissipated. A long continued heat likewise makes a considerable alteration in the matter which is not volatile: sweet substances, by long boiling with water, become nauseous; and the drastic purgatives lose their virulence; though without any remarkable separation of their parts,

4. The decoctions are to be depurated by colature; and, afterwards, suffered to stand for a day or two, when a considerable quantity of sediment is usually found at the bottom. If the liquor, poured off clear, be boiled down a little, and afterwards suffered to cool again, it

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will deposit a fresh sediment, from which it may be decanted before you proceed to finish the evaporation. The decoctions of very resinous substances do not require this treatment, and are rather injured by it; the resin subsiding along with the inactive dregs.

veniently performed in broad shallow vessels; the larger the surface of the liquor, the sooner will the aqueous parts exhale. This effect may likewise be promoted by agi-

tation.

6. When the matter begins to grow thick, great care is necessary to prevent its burning. This accident, almost unavoidable if the quantity be large, and the fire applied as usual, under the evaporating pan, may be effectually prevented, by carrying on the inspiffation, after the common manner, no further than to the confistence of a fyrup, when the matter is to be poured into shallow tin or earthen pans, and placed in an oven, with its door open, moderately heated; which acting uniformly on every part of the liquid, will foon reduce it to any degree of confishence required. This may likewise be done, and more securely, in balneo mariæ, by fetting the evaporating veffel in boiling water; but the evaporation is here exceedingly flow and tedious.

7. Extracts are to be sprinkled with a little spirit of wine, to prevent their growing mouldy [L.] They should be kept in bladders moistened with sweet oil. [E.]

## EXTRACTUM ABSINTHII. Extract of wormwood. Edinb.

Boil dried wormwood leaves in water, supplying fresh water occasionally, till the herb have given out all its virtues to the liquor. Strain the decoction through a woollen cloth, and evaporate it, in a fand-heat, to the confiftence of honey.

THIS extract is almost simply bitter; the peculiar flavour of the wormwood being dislipated in the evaporation. The chemists usually prepare the extract of wormwood from the decoction which remains in the still after the distillation of the effential oil: and, provided the still has been perfectly clean, and the liquor not flood too long in it after the distillation, this piece of frugality is not to be disapproved of; fince, whether we catch the exhaling vapour, or fuffer it to be dissipated in the air, the remaining extract will be the same.

## EXTRACTUM CENTAURII MINORIS.

Extract of lesser centaury.

Edinb.

This is directed to be prepared in the same manner as the preceding. It is the oldest extract we have any account of: its preparation is very accurately and circumstantially fet down, in a book usually ascribed to Galen, de virtute centaurea. The author of that treatife recommends the extract as a medicine of excellent fervice in many cases; and looks upon centaury as a specific against the bite of a mad dog and other venomous animals. It is doubtless an useful bitter, possesfing the general virtues of the fubstances of that class; but cannot well be supposed to have any others.

### EXTRACTUM CHAMÆMELI Extract of chamomile. Edinb.

This extract is prepared from the flowers of chamomile, in the fame manner as those of the leaves of the two preceding plants. Nor is it greatly different from those extracts in quality; the specific flavour of the chamomile exhaling in the evaporation. The chemists commonly prepare it, like that of wormwood, from the decoction remaining after the distillation of the essential oil.

## EXTRACTUM ENULÆ CAMPANÆ.

Extract of elecampane.

Lond.

Boil the roots of elecampane in water, press and strain the decostion, and set it by to settle; then pour off the clear liquor, and boil it down to a pilular confistence; taking care, towards the end, to prevent its burning to the vessel.

This extract retains a considerable share of the virtues of the root. Its taste is somewhat warm, and not ungratefully bitterish. It is given, from a scruple to a dram, in a lax state of the sibres of the stomach, and in some disorders of the breast.

## EXTRACTUM GENTIANÆ. Extract of gentian.

This extract is prepared from the roots of gentian, in the fame manner as the foregoing extracts. It is of a reddish brown colour, and an intensely bitter taste, being one of the strongest of the vegetable bitters.

### EXTRACTUM GLY-CYRRHIZÆ. Extract of liquorice. Lond.

Lightly boil fresh liquorice roots in water, press the decoction through, astrainer, and, after the feces have subsided, evaporate it until it no longer sticks to the fingers; taking care, towards the end of the operation, to prevent an empyreuma.

IT is convenient, before boiling the root, to cut it transversely into imall pieces, that it may more readily give out its virtues by light coction. If the boiling be long continued, the rich fweet tafte, for which this preparation is valued, will be greatly injured. For the fame reason, the quantity of water ought to be no larger than is abfolutely necessary to extract the virtues of the root: a quart, or at the most three pints, will be fully fufficient for a pound of liquorice. It would be of confiderable advantage to the preparation, and probably (when made in quantity) less expensive to the preparer, to use, instead of the decoction, juice of liquorice, pressed out betwixt iron rollers, after the manner practifed abroad for obtaining the juice of the fugar-cane.

Large quantities of extract of liquorice have been usually brought to us from Spain, and other foreign countries; but it is very rarely met with in the shops in perfection; the makers of this commodity, both at home and abroad, being either very flovenly in its preparation, or defignedly mixing it with fand, and other impurities. When made with care, it is exceedingly fweet, not at all bitterish or nauseous, more agreeable in taffe than the root itfelf, of a pleafant smell, a reddish brown colour, and, when drawn out into ftrings, of a bright golden colour; totally foluble in water, without depositing any feces.

This preparation would be very convenient for many purposes in the shops, if kept in a somewhat softer consistence than that of an extract. The only inconvenience attending this soft form is, its be-

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ing apt in a short time to grow mouldy: this may be effectually prevented, by the addition of a fmall portion of spirit of wine.

### EXTRACTUM HELLEBORI NIGRI.

Extract of black hellebore. L. E.

This extract is prepared from the roots of black hellebore, in the same manner as that of elecampane roots above described. It purges with confiderably lefs violence than the hellebore in substance; and appears to be one of the best preparations of that root when intended to act only as a cathartic. The dose is from eight or ten grains to fifteen or more.

### EXTRACTUM LIGNI CAM-PECHENSIS.

Extract of logwood. Lond.

Take of logwood, reduced to powder, one pound. Boil it in a gallon of water till half the liquor be confumed, repeating the coction with fresh water four times or oftener. The feveral decoctions are to be mixed together, passed through a strainer, and evaporated to a due confistence.

This wood very difficultly yields its virtue to watery menstrua, and hence the reducing it into fine powder is extremely necessary. The Edinburgh dispensatory directs spirit of wine to be called in aid; fee

the following fection.

The extract of logwood has been used for a considerable time in some of our hospitals, but is now received into the pharmacopæia. It has an agreeable sweet tafte, with fome degree of aftringency; and hence becomes ferviceable in diarrheas, for blunting the acrimony

of the juices, and moderately constringing the intestines and orifices of the imaller vessels; it may be given from a scruple to half a dram, and repeated five or fix times a day to advantage. During the use of this medicine, the stools are frequently tinged red by it, which has occasioned some to be alarmed, as if the colour proceeded from blood: the prescriber thereof ought to caution the patient against any jurprize of this kind.

### EXTRACTUM CORTICIS PERUVIANI,

molle et durum.

Extract of Peruvian bark, foft and hard.

Lond.

Boil a pound of powdered bark in five or fix quarts of water, for an hour or two, and pour off the liquor, which, whilst hot, will be red and transparent, but on growing cold becomes yellow and turbid. The remaining bark is to be boiled again in the same quantity of water as before, and this process repeated till the liquor remains transparent when cold. All the decoctions, strained and mixed together, are to be evaporated over a very gentle fire to a due confistence, care being taken to prevent the matter from burning.

This extract is directed to be kept in the shops, both in a soft and hard form. The first of a proper confistence, for making into pills; the other fit for being re-

duced into powder.

PERUVIAN bark is a refinous drug: the refin melts out by the heat, but is not perfectly diffolved by the water; hence, in cooling, it feparates, renders the liquor turbid, and in part falls to the bottom, as appears manifestly upon examining

the

the fediment by spirit of wine, (fee the account of this article in p. 197.) This extract might be made to better advantage by the affiftance of spirit of wine, after the same manner as that of jalap; and this method the Edinburgh college have directed. But, as the committee obferve, all the fpirits which can be expected to be employed for this process among us, are accompanied with fome degree of a bad flavour. This adheres most strongly to the phlegmatic part of the fpirit, which evaporating last, must communicate this ill flavour to the extract; a circumitance of very great confequence; as this medicine is defigned for flomachs too weak to bear a due quantity of bark in fubstance. Ten or twelve grains of the hard extract are reckoned equivalent to about half a dram of the bark itself.

EXTRACTUM ligni GUAIACI, molle et durum.

Extract of guaiacum wood, foft and hard.

Lond.

Boil a pound of shavings of guaiacum in a gallon of water, till half the liquor be wasted, repeating the operation four times, or oftener, with the same quantities of fresh water. The several decoctions, passed through a strainer, are to be mixed and inspissated together; when the aqueous parts are almost entirely exhaled, a little rectified spirit of wine is to be added, that the whole may be reduced into an uniform and tenacious mass. This extract is to be prepared, as the foregoing, in a foft and hard form.

HERE the refinous parts of the wood, which were hoiled out with the water, are apt to separate to-

wards the end of the inspissation: hence an addition of spirit becomes necessary, to keep them united with the rest of the matter. The extract agrees in virtue with the wood.

## EXTRACTUM RUTÆ. Extract of rue.

Lond.

This is prepared from the leaves of rue, in the same manner as the extract of elecampane roots already described. It retains a confiderable share of the warmth and pungency of the rue; for though the principal virtues of rue reside in an essential oil, yet the oil of this plant, as formerly observed under the head of those preparations, is not of a very volatile kind.

# EXTRACTUM SABINÆ. Extract of favin. Lond.

This extract is prepared from the leaves of favin, in the fame manner as the preceding. It does not retain fo much, as that extract does, of the virtues of its subject, the oil of favin being more volatile than that of rue.

# GUMMI et RESINA ALOES. Gum and refin of aloes. Lond.

Boil four ounces of Socotorine aloes in two pints of water, till as much as possible of the aloes be dissolved. The solution suffered to rest for a night, will deposit the resin to the bottom of the vessel: after which, the remaining liquor, strained, if needful, is to be evaporated, that the gum may be left.

THE gum of aloes is somewhat less purgative, and considerably less disagreeable than the crude juice. This alteration is not owing, as might be supposed, to the separation D d 4

tion of the refin; for the pure refin of aloes is fill left difagreeable, and less purgative, even than the gum; fome have denied that it has any purgative virtue at all, and others ascribe to it an astringent quality. I have exhibited this refin, divided by trituration with the testaceous powders, in the dofe of a fcruple, without observing any effect from it. The gum feems to be the only part here intended for medicinal use. If the refin be required, it ought to be further purified by folution in spirit of wine; for as it is obtained by precipitation from an aqueous folution of impure aloes, all the impurities of the drug, that are not foluble in water, will precipitate along with it

PILULÆ, feu EXTRACTUM, RUDII.

The pills or extract of Rudius. Edinb.

Take of Black hellebore roots, Colocynth, Socotorine aloes, each two oun-

Scammony, one ounce;

Vitriolated tartar, two drams;

Distilled oil of cloves, one dram. Bruife the colocynth and hellebore, pour on them two quarts of water, and boil to the consumption of half the liquor : pass the decoction through a strainer, and evaporate it to the confistence of honey, adding the aloes and feammony, reduced into fine powder.

When the mass is taken from the fire, mix into it the vitriolated tartar, and distilled oil.

THIS preparation is a medicine of great importance as a cathartic, fimilar to one described hereafter, under the title of Extractum catharticum. Water appears to be a better menstruum, than spirituous liquors, both for the colocynth and the hellebore; the watery extracts being much less irritating than the spirituous, though not perhaps less effectual purgatives.

ROB BACCARUM JUNIPERI. Rob of juniper berries.

Let juniper berries, thoroughly bruised, be boiled in a sufficient quantity of water, the liquor strained, and inspissated to the confishence of honey.

This preparation may be made also from the decoction that remains after the distillation of the essential oil of the berries. It has a fweet balfamic taste, accompanied with a greater or less bitterness, according as the feeds of the berry were more or less thoroughly bruised. This elegant preparation, though not received in our pharmacoposias, feems not unworthy of a place in the shops. Hoffman has a great opinion of it in debilities of the flomach and intellines, and in the difficulties of urine, familiar to perfons of an advanced age.

## SECT. III.

## Extracts with rectified Spirit.

D ECTIFIED Spirit of wine disfolves the effential oils and refins of vegetables, and does not readily carry off the oil in its exhalation; the heat fufficient to exhale pure spirit, being much less than that in which water confiderably evaporates, or most essential oils diffil. Hence a refinous or spirituous extract of wormwood, contrary to that made with water, contains the warmth and flavour, as well as bitterness, of the herb; one made from cinnamon possesses its aromatic virtue, as well as its altringency; and one from lavender and rofemary flowers retains great part of their flavour and virtues; the volatile parts, which are carried off by water in its evaporation, being left behind by spirit.

The spirit employed for this purpole should be perfectly free from any ill flavour; which would be communicated, in part, to the preparation; and from any admixture of phlegm or water, which would not only vary its dissolving power, but likewise, evaporating towards the end of the inspissation, would promote the diffipation of the volatile parts of the subject. Hence alfo the subject itself ought always to be dry. Those substances, which lose their virtue by drying, lose it equally on being submitted to this treatment with the purest spirit.

The inspissation should be performed, from the beginning, in the gentle heat of a water-bath. It is not needful to suffer the spirit to evaporate in the air. Greatest part of it may be recovered by collecting the vapour in the common diftilling vessels. (See chap. v.) If the distilled spirit be found to have brought over any flavour from the subject, it may be advantageously reserved for the same purposes

again.

It is observable, that though rectified spirit be the proper menstruum of the pure volatile oils, and of the groffer refinous matter of vegetables, and water of the mucilaginous and faline; yet thefe principles are, in almost all plants, so intimately combined together, that whichever of these liquors be applied at first, it will take up a portion of what is directly soluble only in the other. Hence fundry vegetables, extremely refinous, and whose virtues consist chiefly in their refin, afford nevertheless very useful extracts with water, though not equal to those which may be obtained by a prudent application of spirit. Hence, also, the extracts made from most vegetables by pure spirit are not mere refins; a part of the gummy matter, if the subject contained any fuch, being taken up along with the refin, an admixture of great advantage to it in a medicinal view. The spirituous extracts of feveral vegetable substances, as mint-leaves, rhubarb, faffron, dissolve in water as well as in spirit.

Pure refins are prepared by mixing, with spirituous tincture of very resinous vegetables, a quantity of water. The resin, incapable of remaining dissolved in the watery liquor, separates and falls to the bottom; leaving in the menstruum such other principles of

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the plant as the spirit might have extracted at first along with it.

## RESINA JALAPPÆ. Resin of jalap. Edinb.

Take any quantity of jalap root very well bruifed. Pour upon it fo much rectified spirit of wine as will cover it to the height of four fingers; and digest them together in a fand-heat, that the fpirit may extract the virtue of the root. Filter the tincture through paper, put it into a glass cucurbit, and distil off one half of the spirit. Add to the remainder a proper quantity of water, and the refin will precipitate to the bottom. Divide it into little cakes, and dry it with a very gentle heat.

This preparation is a pure refin ; fuch gummy parts as the spirit might have taken up, remaining fuspended in the liquor. Its indiffolubility in any aqueous fluid, and its tenacious quality, by which it adheres to the coats of the inteftines, and occasions great irritation and gripes, forbid its being ever given by itself. It is fitted for use, by thoroughly triturating it with testaceous powders; by grinding it with almonds or powdered gum, and making the compound into an emulfion with water; or by diffolving it in spirit of wine, and mixing the folution with a proper quantity of syrup, or of mucilage. Six or eight grains, managed in either of these ways, prove powerfully cathartic, and generally without griping or greatly difordering the body.

It has been faid, that refin of jalap is frequently adulterated with common refin; and that this abuse may be discovered by spirit of wine, which dissolves the former, without

touching the latter. This criterion, however, is not to be relied on; for there are many cheap refins which are foluble in spirit of wine as well as that of jalap; and there is not any one which may not be artfully rendered so.

## RESINA SCAMMONII. Resin of scammony. Edinb.

This refin is prepared in the fame manner as the preceding; with which it agrees also in its general qualities; occasioning vehement gripes if taken by itself, and operating generally with sufficient safety when properly divided. Scammony is doubtless a valuable purgative; but what advantage there is in thus separating the purgative refin from its natural corrector, the gummy part, is not so clear.

## RESINA GUAIACI. Resin of guaiacum. Edinb.

This refin is prepared in the fame manner as the two preceding, either from the wood of guaiacum, or from what is called gum guaiacum. It is obtained most commodiously from the latter.

The virtue of guaiacum confifts wholly in its refin; and the refin of the wood, and of the gum fo called, is perfectly one and the same; the gum being the natural exudation from the tree. If this exudation could be had pure, there would be no occasion for any artificial preparation of this kind; but it always contains a large proportion of earthy matter, to as to stand greatly in need of this method of purification. Sixteen ounces of the best gum guaiacum do not yield above twelve onnces of pure refin. The fame quantity of the wood yields about three ounces, more or less, according to its goodness. The bark is somewhat less resinous than the wood.

## RESINA CORTICIS PERU-VIANI.

Resin of Peruvian bark. Edinb.

This refin is made in the same manner as the foregoing, and proves an elegant preparation of the bark, much stronger in taste than the watery extract described in the preceding fection. It is nearly equivalent to about ten times its quantity of the bark in substance. There does not, however, appear to be any advantage in separating the pure refin by the addition of water, either in this or in the other articles. In regard to the bark particularly, it is more advisable to endeavour to unite into one compound all that can be extracted from it by watery and spirituous menstrua; and accordingly the Edinburgh college has received a preparation of this kind, which is described in the following section.

Extract of faffron.

Pharm. Brandenburg.

Digest saffron in fresh quantities of pure spirit of wine, so long as the spirit extracts any colour from it. Mix the several tinctures together, and distil off the spirit, in a tall glass vessel, by the heat of a water-bath, till the residuum appear of the consistence of oil or balsam.

This is a general process, for the preparation of extracts from aromatic and other odorous substances;

which extracts have been commonly distinguished by the name of effential, for the same reason that the volatile oils are fo called, their retaining the specific odour and flavour of the subjects. In making the extracts of this class, the inspissation should never be carried much lower than the confistence above directed; for when the matter has become thick, the spirit exhales more difficultly than before, and is more apt to carry off with it some of the volatile parts. If the preparation be wanted in a folid or confiftent form, it is more advisable to mix with it a fuitable quantity of any appropriated powdery matters, than to hazard the loss of its virtue by a further evaporation. If any addition be wanted for giving confiftence to the extract of faffron, faffron in substance appears to be the best.

The effential extract of faffron is an elegant and high cordial. Boerhaave fays, it possesses such exhilarating virtues, that if used a little too freely, it occasions an almost perpetual and indecent laughing: he observes, that it tinges the urine of a red colour; and that it mingles with water, spirit, and oils, but is most conveniently taken in a glass of Canary or other rich wine. A few drops are a sufficient The diffilled spirit contains also some share of the virtue of the faffron, though far less than the extract. It is faid to have an advantage above most other cordial spirits, of disposing the patient to fweat. It may be taken, properly diluted, from a dram to half an ounce.

#### SECT. IV.

### Extracts with Spirit and Water.

HERE are fundry vegetables, particularly those of a refinous nature, which are treated, to better advantage, with a mixture of water and spirit, than with either of them fingly. The virtues of refinous woods, barks, and roots, may indeed be in great part extracted by long boiling in fresh portions of water; but at the same time they fuffer a confiderable injury from the continued heat necessary for the extraction, and for the subsequent evaporation of fo large a quantity of the fluid. Rectified spirit of wine is not liable to this incohvenience. But the extracts obtained by it, from the substances here intended, being almost purely refinous, are less adapted to general use than in those in which the resin is divided by an admixture of the gummy matter, of which water is the direct menstruum.

There are two ways of obtaining thefe compound or gummy-refinous extracts: one, by using proof spirit, that is, a mixture of about equal parts of spirit and water, for the menstruum; the other, by digesting the subject first in pure spirit and then in water, and afterwards uniting into one mass the parts which the two menstrua have separately extracted. In some cases, where a fufficiency of gummy matter is wanting in the subject, it may be artificially supplied, by inspissating the spirituous tincture to the confiftence of a balfam, then thoroughly mixing with it a thick folution of any fimple gum, as mucilage of gum Arabic, and exficcating the

compound with a gentle heat. By this method are obtained elegant gummy refins, extemporaneously miscible with water into milky liquors.

# EXTRACTUM JALAPII. Extract of jalap. Lond.

Upon powdered jalap pour some rectified spirit of wine, and, with a gentle heat, extract a tincture: boil the remaining jalap in fresh parcels of water. Strain the first tincture, and draw off the spirit, till what remains begins to grow thick. Boil the strained decoction also to a like thickness: then mix both the inspissated matters together, and with a gentle fire reduce the whole to a pilular confishence.

Edinb.

Take of

Jalap root, one pound; Rectified spirit of wine, four pounds.

Digest them together four days, and pour off the tincture; and put to the remaining magma ten pounds of water; boil it to two pounds, and pass it through a strainer, and evaporate to the consistence of a thin honey. Distil off the spirit from the tincture, till the remainder be of the same consistence. Then mix the two inspissated liquors well together; and evaporate to the consistence of an extract.

This extract is an useful purgative, preferable to the crude root,

as being of more uniform strength, and as the dose, by the rejection of the woody parts, is rendered smaller. The mean dose is twelve grains. If the spirituous tincture were inspiffated by itself, it would afford a refinous mass, which, unless thoroughly divided by proper admixtures, occasions violent griping, and yet does not prove fufficiently cathartic; the watery decoctions yield an extract, which operates exceeding weakly : both joined together, as in this preparation, compose an effectual and safe purge. This method of making extracts might be advantageously applied to fundry other refinous substances, as the dry woods, roots, barks, &c. A fmall quantity of spirit takes up the refin, and much less water than would otherwise be necessary, extracts all the other foluble parts.

In a former edition of the Edinburgh pharmacopæia, a little fixt alkaline falt was ordered to be added to the water in which the jalap is boiled after the action of spirit; on a supposition, that this would enable the water to extract more from the root than it could by itself. But, fo far as the quantity of the alkaline falt could go, it had the opposite effect; impeding the action of the water. The refinous parts of the jalap are dissolved by the spirit; and little other than the gummy matter remains for water to extract. Now, if pure gum Arabic be put into water along with any alkaline falt, the falt will render the water incapable of diffolving the gum. If the gum be dissolved first, the addition of any alkaline falt will precipitate it.

EXTRACTUM CORTICIS
PERUVIANI.

Extract of Peruvian bark.

Edinb.

The college of Edinburgh has

directed the extract of bark to be made with water and spirit, in the fame manner as the preceding. In the bark we may distinguish two kinds of taftes, an aftringent and a bitter one; the former of which feems to refide in the refinous matter, and the latter chiefly in the gummy. The watery extract is moderately strong in point of bitterness, but of the astringency it has only a small degree. The pure refin, on the other hand, is strong in aftringency, and weak in bitterness. Both qualities are united in the present extract; which appears to be the best preparation of this kind that can be obtained from this valuable drug.

#### EXTRACTUM LIGNI CAM-PECHENSIS.

Extract of logwood.

This extract is directed in the Edinburgh pharmacopæia to be prepared as the foregoing; and the same treatment is judiciously ordered for all the resinous drugs in general.

#### EXTRACTUM CATHARTI-CUM.

Cathartic extract.

Take of

Socotorine aloes, an ounce and a half;

Colocynth, fix drams;

Scammony,

Leffer cardamoms, husked, each half an ounce;

Proof spirit, one pint.

Having cut the colocynth small, and bruised the seeds, pour on them the vinous spirit, and digest with a gentle heat for sour days. Press out the tincture, and dissolve therein the aloes and scammony, first separately reduced to powder. Then draw

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off the spirit, and inspissate the remaining mass to a pilular consistence.

This composition answers very effectually the intention expressed in its title, so as to be relied on in cases where the patient's life depends on its taking place. dose is from fifteen grains to half a dram. The proof spirit is a very proper menstruum for the purgative materials; dissolving nearly the whole substance of the aloes and fcammony, except the impurities; and extracting from the colocynth, not only the irritating refin, but great part of the gummy matter. The purgative virtue of this last article appears indeed to be fufficiently got out by water; and the watery extract to operate with greater mildness than that with proof spirit, though in general effectually: the Edinburgh college have accordingly preferred water, in making a preparation, of the same intention with this. In our former pharmacopæias, three spices were employed in this composition, cinnamon, mace, and cloves: the cardamom feeds, now introduced, are preferable, on account of their aromatic matter being of a lets volatile nature; though a confiderable part of the flavour, even of thefe, is diffipated during the evaporation of the phlegmatic part of the proof ipirit.

#### CONFECTIO CARDIACA.

Cordial confection. Lond.

Take of

Rosemary tops, fresh, Juniper berries, each one pound;

Lesier cardamom seeds, husked, Zedoary,

Saffron, each half a pound.

Extract a tincture from these ingredients with about a gallon and a half of proof spirit: let the tincture be strained off, and reduced by a gentle heat to the weight of about two pounds and a half; then add the following ingredients, very finely pulverized, and make the whole into an electary.

Compound powder of crabs claws, fixteen ounces;

Cinnamon,

Nutmegs, each two ounces;

Cloves, one ounce;

Double-refined fugar, two pounds.

THIS confection is composed of the more unexceptionable ingredients of a composition formerly held in great efteem, and which was called, from its author, CONFEC-TIO RALEIGHANA. The committee, appointed for reforming the London pharmacopæia, observe, that the original confection is composed of no less than five and twenty particulars; each of which they examined apart, except one, ros folis; the flower of which is too small to be gathered in sufficient quantitity for the general use of the medicine, and the plant is possessed of hurtful qualities, as is experienced in cattle that feed where it grows. In this examination, many of the extracts came out so very nauseous, that it was impossible to retain them, confistent with any due regard to the taste of the composition. But fome few, of equal efficacy with any of the rest, being of a tolerable tafte and flavour, were compounded in different proportions; and when, after many trials, a composition was approved, the quantity of each material, that would yield the proportion of extract which entered that composition, was calculated, and thence the proportions collected, as now fet down; after which the compound extract was made, and found to answer expectation.

The confection, as now reformed, is a sufficiently grateful, and

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moderately warm cordial; and frequently given in that intention, from eight or ten grains to a scruple or upwards, in boluses and draughts. The extract retains a confiderable share of the flavour and virtue of the ingredients, though not near fo much as if a rectified spirit had been employed. The operator should be particularly careful to extract as much from the ingredients as the spirit will take up; otherwise the inspissated matter turns out fo thin, and of fo little tenacity, that the powders are apt to separate and subfide from it in keeping. The crabs-claw powder does not appear to be very necessary, and is inferted rather in compliance with the original, than from its contributing any thing to the intention of the medicine.

ELECTARIUM CARDIACUM vel CONFECTIO CARDIACA.

Cordial Confection. Edinb.

Take of

Conferve of orange-peel, three ounces;

Candied nutmegs, one ounce and a half;

Candied ginger, fix drams;

Cinnamon, powdered, half an ounce;

Syrup of orange-peel, as much as is sufficient to make an electary, according to art.

### SECT. V.

Extracts by long Digestion.

TN the foregoing part of this chapter, it has been observed, that the virtues of vegetable decoctions are altered by long boiling. Decoctions or infusions of draftic vegetables, by long continued boiling or digestion, lose more and more of their virulence; and at the fame time deposit more and more of a gross sediment, resulting probably from the decomposition of their active parts. On this foundation it has been attempted to obtain fafe and mild preparations from fundry virulent drugs; and fome of the chemists have strongly recommended the process, though without specifying, or giving any intimation of, the continuance of boiling requifite for producing the due mildness in different subjects. M. Baumé, in his Elemens de pharmacie, lately published, has given a particular account of an extract of opium prepared on this principle; the substance of which is as follows.

Extract of opium prepared by long digestion.

Let five pounds of good opium, cut in pieces, be boiled about half an hour, in twelve or fifteen quarts of water. Strain the decoction, and boil the remainder once or twice in fresh water, that fo much of the opium as is dissoluble in water may be got out. Evaporate the strained decoctions to about fix quarts; which being put into a tin cucurbit, placed in a fand bath, keep up fuch a fire as may make the liquor nearly boil, for three months together, if the fire be continued day and night, and for fix months, if it be intermitted in the night : filling up the velfel with water in proportion to the evaporation; and fcraping, the bottom with a wooden spatula from time to time, to get off the fediment which begins to precipitate after some days digettion.

gestion. The sediment needs not to be taken out till the boiling be sinished; at which time the liquor is to be strained when cold, and evaporated to an extract, of a due consistence for being formed into pills.

THE author observes, that by keeping the liquor frongly boiling, the tedious process may be considerably expedited, and the fix months digestion reduced to four months: that in the beginning of the digestion, a thick, viscous, oily matter rifes to the top, and forms a tenacious skin as the liquor cools; this is supposed to be analogous to effential oils, though wanting their volatility: that the oil begins to difappear about the end of the first month, but still continues sensible till the end of the third, forming oily clouds as often as the liquor cools: that the refin at the fame time fettles to the bottom in cooling, preserving for a long while its refinous form, but by degrees becoming powdery, and incapable of being any longer foftened, or made to cohere by the heat: that when the process is finished, part of it still continues a perfect refin, dissoluble in spirit of wine, and part an indiffoluble powder: that when the digested liquor is evaporated to about a quart, and fet in the cold till next day, it yields a brownish earthy-faline matter, called the effential falt of opium, in figure nearly like the fedative falt obtained from borax, intermingled with fmall needled crystals. He gives an account of his having made this preparation fix or feven times. The veffel he made use of was about two inches and a half diameter in the mouth : the quantity of water evaporated was about twenty-four ounces a day, and from a hundred and thirty to a hundred and forty

quarts during the whole digestion. Out of fixty-four ounces of opium, seventeen ounces remained undiffolved in the water: the quantity of resinous matter, precipitated during the digestion, was twelve ounces: from the liquor, evaporated to a quart, he obtained a dram of essential salt, and might, he says, have separated more; the liquor being then further evaporated to a pilular consistence, the weight of the extract was thirty-one ounces.

It is supposed, that the narcotic virtue of opium resides in the oily and refinous parts; and that the gummy extract, prepared by the above process, is endowed with the calming, fedative, or anodyne powers of the opium, divested of the narcotic quality as it is of the fmell, and no longer productive of the disorders, which opium itself, and the other preparations of it, frequently occasion. A case is mentioned, from which the innocence and mildness of the medicine are apparent; fifty grains having been taken in a day, and found to agree well, where the common opiate preparations could not be borne. But what share it possesses of the proper virtues of opium, is not so clear; for the cure of convulfive motions of the stomach and vomitings, which at length happened after the extract had been continued daily in the above doles for several years (pinsieurs années) cannot perhaps be afcribed fairly to the medicine.

If the theory of the process, and of the alteration produced by it in the opium, be just; a preparation equivalent to the above may be obtained in a much shorter time. If the intention be to separate the resinous and oily parts of opium, they may be separated, by means of pure spirit of wine, in as many hours as the digestion requires months.

months. The feparation will also be as complete, in regard to the remaining gum, though some part of the gum will in this method be lost, a little of it being taken up by the spirit along with the other principles.

In what particular part of opium its peculiar virtues reside, has not perhaps been incontestably ascertained; but thus much seems clear from experiment, that the pure gum, freed from all that spirit can

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There are grounds also to prefume, that by whatever means we destroy or diminish what is called the narcotic, soporisic, virulent quality of opium, we shall destroy or diminish likewise its salutary operation. For the ill effects, which it produces in certain cases, seem to be only the necessary consequences of the same power, by which it proves so beneficial in others.

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### CHAPTER VII.

Empyreumatic Oils.

VEGETABLE and animal fub-flances, and mineral bitumens, on being urged with a red heat, have their original properties destroyed, and are resolved or changed into products of a different nature from what pre-existed in the fubject. By burning them in the open air, a part is changed into ashes, a part into foot, and a part is dissolved by the air. Exposed to the fire in close vessels (as in those called retorts, having receivers adapted to them for detaining the volatile parts), they are refolved into fetid oils, and different kinds of faline fubiliances, which rife into the receiver; and a black coal, which remains behind, and which, though no further alterable in close vessels, on admitting air, burns into white ashes. The oils. called from their fetid burnt smell, empyreumatic, are the objects of the present chapter. Some of these however, being obtained in the fame process with certain faline bodies of more importance than themselves, are referred to the head of Saline Preparations.

# OLEUM BUXI. Oil of box. Lond.

Distil pieces of box wood in a retort, with a sand-heat gradually increased. The oil will come over along with an acid spirit, which is to be separated by a funnel.

# OLEUM GUAIACI. Oil of guaiacum. Edinb.

Put any quantity of chips of guaiacum into an earthen long-neck, or a glass retort, and distil 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.

Oils may be obtained after the fame manner from every kind of wood.

THE retort may be filled almost up to the neck with chips or fmall pieces of bex or guaiacum, the refuse of the turner. Lute on a glass receiver with a paste made of linfeed meal and water: fet the retort on the bottom of a deep iron pot, with a little fand under it; and fill up the space, betwixt it and the fides of the pot, with more fand. Apply at first a gentle fire, and gradually increase it to the utmost that the furnace is capable of giving. Particular care must be had not to raise the heat too fait when the first reddish oil begins to come over; for at this time, a large quantity of elastic vapour is extricated from the wood, which, if the fire be urged, or if it be not allowed an exit, will burft the veifels. When

When the distillation is finished, and the veffels grown cool, unlute the receiver, and feparate the oil from the acid liquor. The method of performing this by the funnel, as directed in the first of the above processes, is as follows: Pour the feveral liquors into a glass funnel, whose stem is stopt by the finger. The ponderous black oil finks lowermost; fuffer this to run out; then close the stem again, and afterwards feparate the acid liquor from the lighter oil, in the same manner. They are more perfectly separated, by pouring them into a hollow cone of filtering paper, moistened with water, and placed in a funnel: the acid liquor passes through, and the oil remains on the paper.

The oils obtained by this treatment from different woods and plants, are nearly of the fame qualities: they have all a very difagreeable acrid tafte, and a burnt stinking smell; without any thing of the peculiar flavour, tafte, or virtues of the subject which afforded them. The present practice rarely employs those oils any otherwise than for external purposes, as the cleanfing of foul bones, for the tooth-ach, against some kinds of cutaneous eruptions, old pains and aches, and the like; and for thefe not very often.

# OLEUM LATERITIUM. Oil of bricks. Lond.

Heat bricks red hot, and quench them in oil olive, till they have foaked up all the oil: then break them into pieces small enough to be conveniently put into a retort; and distil with a sand-heat gradually increased. An oil will arise, together with a spirit, which is to be separated from it as in the foregoing process.

THIS preparation has had a place in most dispensatories, under the pompous names of oleum philosophorum, fanctum, divinum, benedictum, and others, as improper as that under which it stands above. It is really oil olive, rendered strongly empyreumatic by heat. The spirit, so called, is no more than phlegm, or water, tainted with the burnt flavour of the oil. It has been celebrated for fundry external purpofes, particularly against gouty and rheumatic pains, deafness and tingling of the ears, &c. and has fometimes been given inwardly. But common practice seems to have now entirely rejected this loathfome remedy; and the college of Edinburgh have expunged it from their book.

#### OLEUM PETROLEI BARBA-DENSIS.

Oil of Barbadoes tar.
Lond.

Distil Barbadoes tar with a fandheat. An oil will arise, together with a spirit, which is to be separated from it.

Dr. Pemberton observes, that this oil will be more or lefs thin. according to the continuance of the distillation; that the tar will at last be reduced to a black coat and then the oil will be pretty deep in colour, though perfectly fluid; that this oil has a property fimilar to that of the tincture of nephritic wood in water, appearing blue when looked upon, but of an orange colour when held betwixt the eye and the light. By long keeping, I have observed it to lose this property. It is fomewhat lefs difagreeable than the foregoing oils, though very acrid and stimulating.

Ee2 OLEUM

OLEUM TEREBINTHINÆ ÆTHEREUM; et empyreumaticum five BALSAMUM.

The ethercal oil of turpentine, and the empyreumatic oil or balfam.

Lond.

Distil the essential oil of turpentine in a retort, with a very gentle sire, until what remains has acquired the consistence of a balsam.

Balfam of turpentine may likewife be obtained from the yellow refin left after the distillation of the essential oil. Upon distilling this in a retort, at first a portion of thin oil arises, which is to be kept by itself, and afterwards a thick balfam. There remains in the retort a blackish refin, called colophony.

#### Edinb.

Melt any quanity of turpentine, over a gentle fire, and pour it into a glass retort, of which it may fill one half : then lute on a receiver, and distil in a fandbath. Apply at first a gentle heat, upon which an acid spirit will come over; and on gradually increasing the fire, a limpid oil, commonly called ethereal spirit of turpentine; at length a yellow oil will arise. In the bottom of the retort, there remains a refinous 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 finks through the other liquors to the bottom of the receiver.

THESE processes are tedious, and accompanied with a good deal of danger; for unless the luting be very close, some of the vapour will be apt to get through, which if it

catch fire, will infallibly burst the vessels. The oil here called ethereal, does not considerably differ in specific gravity, smell, taste, or medical qualities, from the cheaper one obtained by the addition of water in the common still: nor are the empyreumatic thin oil and balsam of any great esteem in practice.

#### OLEUM COPAIVÆ COMPO-SITUM.

Compound oil of balfam of copaiva.

Take two pounds of balfam of copaiva, and four ounces of gum guaiacum. Distil them in a retort, continuing the operation till a pint of oil come over.

THIS mixture, undiffilled, proves a medicine of confiderable efficacy in rheumatic cases, &c. -In distillation, the guaiacum gives over little, ferving chiefly for the fame purpose that bricks do in the oleum lateritium. The balfam distilled in a retort, with or without the gum, yields first a light coloured oil, fmelling confiderably of the subject; this is immediately followed by a darker coloured oil, and afterwards by a blue one, both which have little other smell than the empyreumatic one that diffinguishes the oils of this class: their tafte is very pungent and acrimo-This ballam distilled with water, yields as much effential oil, as above of empyreumatic.

# OLEUM CERÆ. Oil of wax. Edinb.

Melt yellow bees wax with twice its quantity of fand, and diffil in a retort placed in a fand furnace. At first an acid liquor arises, and afterwards a thick oil, which sticks in the neck of the retort, unless it be heated by applying a live coal. This may be rectified

fied into a thin oil, by distilling it several times, without addition, in a fand-hear.

BOERHAAVE directs the wax, cut in pieces, to be put into the retort first, so as to fill one half of it; when as much fand 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 fand, before they are put into the retort. Boerhaave greatly commends this oil for roughness and chaps of the fkin, and fimilar purpofes: the college of Strafburg speak also of its being given internally, and fay it is a powerful diuretic (ingens diureticum) in doses of from two to four and more drops; but its difagreeable fmell has prevented its coming into use among us.

OLEUM ANIMALE DIPPELIS.

Dippel's animal cil.

Take any quantity of the empyreumatic oil distilled from animal fubitances, as that of hartshorn (the preparation of which is described along with that of the volatile falt and spirit, in the following chapter). Put it into a glass retort, and having fitted on a receiver, distil in a fand-heat The oil will arise paler coloured and less fetid; and a black coaly matter will remain behind. Repeat the diftillation in fresh retorts, till the oil cease to leave any feces, and till it lose its ill smell, and acquire an agreeable one.

THE quantity of oil employed in this process should be considerable; for it leaves so much black matter behind in the several distillations, that it is reduced, at last, to a small portion of its original quantity. The distillation must

be repeated, at least, twelve times; and frequently the requisite subtilization will scarcely be obtained with less than twenty distillations. It is faid, that the effect may be expedited, by mixing the oil with quicklime into a soft paste; the lime keeping down more of the gross matter, than would remain without such an addition.

Animal oils thus recified, are thin and limpid, of a subtile, penetrating, not difagreeable fmell and taste. They are strongly recommended as anodynes and antispasmodics, in doles of from fifteen to thirty drops. Hoffman reports, that they procure a calm and iweet fleep, which continues often for twenty hours, without being followed by any languor or debility, but rather leaving the patient more alert and chearful than before: that they procure likewise a gentle iweat, without increasing the heat of the blood : that given to twenty drops or more, on an empty stomach, fix hours before the accession of an intermittent fever. they frequently remove the diforder: and that they are likewise a very generous remedy in inveterate and chronical epilepsies, and in convultive motions, especially if given before the usual time of the attack, and preceded by proper evacuations.

The empyreumatic oils of vegetables, rectified in the same manner by repeated distillations, fuffer a like change with the animal; lofing their dark colour and offenfive smell, and becoming limpid, penetrating, and agreeable. In this state they are supposed, like the animal oils, to be anodyne, antispasmodic, and diaphoretic, or sudorific. It is observable, that all the empyreumatic oils dissolve in spirit of wine, and that the oftener they are rectified or redistilled, they E e 3 diffolve dissolve the more readily: a circumstance in which they differ remarkably from essential oils, which, by repeated distillations, become more and more difficult of solution.

How far these preparations really possess the virtues, that have been ascribed to them, has not yet been sufficiently determined by experience; the tediousness and trouble of the rectification having prevented their coming into general use, or being often made. They are liable also to a more material inconvenience in regard to their medicinal use, precariousness in their quality: for how perfectly soever they be rectified, they gradually lose, in keeping, the qualities they had received from that process, and return more and more towards their original fetidness.



#### CHAPTER VIII.

Salts and Saline Preparations.

#### SECT. I.

Fixt alkaline Salts.

HE ashes of most vegetables, steeped or boiled in water, give out to it a saline substance, separable in a solid form by evaporating the water. This kind of salt never pre-exists in the vegetable, but is always generated during the burning. It is called fixt alkaline salt.

# SAL TARTARI. Salt of tartar, Lond.

Let any kind of tartar be wrapt up in strong brown paper, first made wet, or included in a proper veffel, and exposed to the fire, that its oil may be burnt out: then boil it in water, filter the solution, and evaporate it, till there remain a dry salt; which is to be kept in a vessel closely stopt.

#### Edinb.

Wrap up any quantity of white tarter in wetted paper, and calcine it in a reverberatory furnace till it become exceedingly white. Then dissolve it in warm water, filter the solution, and evaporate it in a clean iron vessel, till a salt be left behind, perfectly dry, and white as snow; observing 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 be required, let the white salt be melted in a crucible, with the most intense degree of heat, and reverberated for some hours, till it have acquired a greenish or blue colour.

The white and red forts of tartar are equally fit for the purpose of making fixt salt; the only difference is, that the white affords a somewhat larger quantity than the other; from fixteen ounces of this fort, upwards of sour ounces of fixt alkaline salt may be obtained. The use of the paper is to prevent the smaller pieces of the tartar from dropping down into the ash-hole, through the interstices of the coals, upon first injecting it into the surrance.

The calcination of the falt (if the tartar was fufficiently burnt at first) does not increase its strength, fo much as is supposed: nor is the greenish, or blue colour, any certain mark either of its strength, or of its having been long exposed to a vehement fire: for if the crucible be perfectly clean, close covered, and has flood the fire without cracking, the falt will turn out white, though kept melted and reverberated ever fo long; whilit, on the other hand, a flight crack happening in the crucible, or a spark of coal falling in, shall in a few minutes Ee4

minutes give the falt the colour admired. The colour, in effect, is a mark rather of its containing fome inflammable matter, than of its strength.

This falt has a pungent hery tafte; and occasions in the mouth a kind of urinous flavour, probably from a resolution which it produces in the faliva. It readily diffolves in water, and deliquiates in the air, but is not acted upon by pure vinous spirits. Instead of being diffolved by vinous spirits, if a faturated folution of it in water be dropt into the pure spirit, it will not mix therewith, but fall diffinct to the bottom; if water be mixed with the spirit, the addition of fixt alkaline falt will imbibe the water, and form with it, as in the other cafe, a diffinct fluid at the bottom. This property affords a commodious method of dephlegmating vinous spirits, or feparating their watery part, as we have already feen.

Salt of tartar, or folutions of it in water, raise an effervescence on the admixture of acid liquors, and deffroy their acidity, the alkali and acid uniting together into a compound of new qualities, called neutral. Earthy substances, and most metallic bodies, previously disfolved in the acid, are precipitated from it by the alkali. The alkaline falt changes the colours of the blue flowers of plants, or their infutions, to a green. It has the fame effect on the bright red flowers, and on the colourless infusions of white ones; but in many of the dark red, as those of the wild poppy, and of the yellow ones, it produces no fuch change.

Solutions of this falt liquefy all the animal juices, except milk;

corrode the fleshy parts into a kind of mucous matter; concrete with animal fats, and vegetable oils, into foap; and diffolve fulphur into a red liquor; especially if affifted by a boiling heat, and mingled with quicklime, which greatly promotes their activity. On pure earths and stones, these liquors have no fenfible action; but if the earth or stones be mixed with four or five times the weight of the dry falt, and urged with a strong fire, they melt along with it, and become afterwards perfectly foluble both in water and by the moisture of the air. With a smaller proportion of the falt, as an equal weight, they run into an indiffolu-

ble glaffy matter.

The medical virtues of this falt are, to attenuate the juices, resolve obstructions, and promote the natural fecretions. A dilute folution of it, drunk warm in bed, generally excites fweat. If that evacuation be not favoured, its fenfible operation is by urine. It is an excellent remedy in costive habits, especially if a few grains of aloes be occasionally interposed; with this advantage above other purgatives and laxatives, that when the complaint is once removed, it is not apt to return. Where acidities abound in the first passages, this falt abforbs the acid, and unites with it, into a mild aperient neutral falt. As one of its principal operations is to render the animal fluids more thin, it is obvious, that where they are already colliquated, as in scurvies, and in all putrid disorders in general, this medicine is improper. The common dofe of the falt is from two or three grains to a fcruple; in some circumstances it has been extended to a dram, in which case it must always be largely diluted with watery liquors.

SAL ABSINTHII. Salt of wormwood. Edinb.

Let any quantity of wormwood, either fresh gathered or moderately dried, be put into an iron pan, and with a gentle fire, reduced into white ashes. these with a sufficient quantity of fpring water, filter the liquor, and evaporate it till a dry falt be left behind. This proves of a brown colour: by repeated 10lution, filtration, and inspissation, it becomes at length pure and white.

It is generally expected of a brown colour in the shops, and diflinguished by this mark from the purer alkali of tartar. If required to be white, the means above recommended will fcarcely render it fo; the remains of the oil of the plant, on which the brown colour depends, not being effectually feparable without firong calcination. If the ashes have been fully calcined before the affusion of water, the falt will turn out white at once.

Let the ashes of wormwood with which the shops are usually supplied from the country] be put into an iron pot, or any other convenient veifel, and kept redhot over the fire for some hours, often flirring them that what oily matter remains may be burnt out; then boil the ashes in water, filter the ley through paper, and evaporate it till a dry falt remains; which is to be kept in a veffel close stopt.

After the same manner a fixt alkaline falt may be prepared from all those vegetables which yield this kind of falt [L.] as beanstalks, broom, &c. [E.]

THESE falts are obtained to greater advantage from dry plants than

from green ones; they must not however be too dry or too old; for in such case they afford but a small quantity of falt. The fire should be fo managed, as that the subject may burn freely, yet not burst into violent flame. This last circumstance would greatly lessen the yield of the falt; and a very close smothering heat would have this effect in a greater degree. Hence the ashes of charcoal scarce yield any falt, whilft the wood it was made from, if burnt at first in the open

air, affords a large quantity.

If the ashes be not calcined after the burning, a confiderable portion of the oil of the subject remains in them unconfumed: and hence the falt turns out impure, of a brown colour, and fomewhat faponaceous. Tacheneus, Boerhaave, and others, have entertained a very high opinion of these oily salts, and endeayour as much as possible to retain the oil in them. They are nevertheless liable to a great inconvenience, uncertainty in point of flrength, without promifing any advantage to counterbalance it. If the common alkalies be required to be made milder and less acrimonious (which is the only point aimed at in the making of these medicated falts, as they are called) they may be occasionally rendered so by fuitable additions. Pure alkalies, united with a certain quantity of expressed oil, compose (as we shall fee hereafter) a perfect foap, in which the pungent tafte of the alkaline falt is totally suppressed. It is obvious, therefore, that on the fame principle the pungency may be covered in part, and this proportionably to the quantity of oily matter combined. But we may obtain more elegantly, by a proceis described in page 427 (under the title of Sal alkalinus salis marini) a perfectly pure white alkaline falt,

falt, of all the mildness that can be wished.

The shops were formerly burthened with a great number of these falts, which are now very judicioully rejected; those here retained being abundantly sufficient to anfiver all the ufeful purpoles that can be expected from these kinds of preparations. All first alkaline falts, from whatever vegetable they may be obtained (those of certain marine plants excepted, which partake of fea fait or its alkali) are nearly one and the fame thing, and not diffinguishable from each other, at least in their effect as medicines; and hence the college of London, in most of the compositions wherein these forts of falts are ingredients, allow any fixt alkaline falt to be used.

Some differences indeed are obferved in them as usually prepared; but their depend upon the manner in which the process for obtaining them is conducted, or on some saline matters of a different kind, which either pre-existed in the vegetable, or were produced in the process, remaining mixed with the alkali. A variation in the heat by which the plant is burnt or calcined, occasions a difference in the acrimony of the produce: the more vehement and lasting the fire (to a certain degree) the more acrid is the falt. The circumstances of using the ashes fresh burnt, or after they have been long exposed to the air, and of applying the water hot or cold to the ashes, likewise make a confiderable variation. By long expolure to the air, even the alkalies that have been made caustic by quicklime, lofe all the adventitious acrimony which they had received from that treatment; the chemists affirm, that they imbibe also from the air, in a length of time, a portion of vitriolic acid, by which a part of them is converted into a neutral falt, the same with the tartarus vitriolatus of the shops; and it is certain, that such a falt is often found among the ashes of vegetables; though it does not, perhaps, arise from that origin. Boiling water takes up this neutral falt from the ashes; whilst cold water extracts from them only the pure alkaline salt, unless it be used in too large a quantity, or suffered to stand too long upon them. Boiling water diffolves also more than cold, of the oily parts of the subject, if any remained unconfumed.

## Natrum fixum. Fixt nitre.

Take of

Powdered nitre, four ounces; Charcoal in powder, five drams.

Mix them thoroughly together, by rubbing them in a mortar, and inject the mixture, by a little at a time, into a red-hot crucible. A deflagration, or a bright flame with a hissing noise, happens on each injection. The whole quantity being thus deflagrated, continue the fire strong for half an hour.

NITRE is composed of the common vegetable fixt alkaline falt, and a peculiar acid. In this procefs, the acid is destroyed or changed to another nature; and the remaining falt proves merely alkaline, not different in quality from the fal tartari, except that a very minute portion of the nitre generally remains unchanged; the falt is purified by folution in water, filtration, and evaporation. It may be observed, that the salt receives no fensible addition from the vegetable coal employed for the deflagration; for the ashes of charcoal have very little faline matter; and the quantity of charcoal above directed, yields only a grain or two of ashes.

SAL ALKALINUS SALIS MARINI.

The alkaline falt of fea falt.

Take of

Cubical nitre (prepared as hereafter described in sect. vi. of this chapter) four ounces;

Charcoal, five drams.

Mix and deflagrate as in the preceding process.

CUBICAL nitre is composed of the nitrous acid united with the alkaline basis of sea falt : the acid being here separated in the deflagration, that alkali remains nearly pure. It possesses the general properties of the foregoing preparation; changing blue flowers, green; dissolving oils, falts, and fulphur; bringing earths and stones into fufion, and forming with them, according to its quantity, either a vitreous, or foluble compound; effervelcing with acids, precipitating earths, and metals diffolved in them, and uniting with the acid into a neutral falt. It differs from the foregoing alkalies, in being much milder in talte; not fo readily disiolving in water; not at all deliquiating in the air; eafily affuming, like neutral falts, a cryftalline form; and yielding, with each of the common acids, compounds very lenfibly different, both in their form and qualities, from those which result from the coalition of the vegetable alkalies with the respective acids. The crystals of this falt itself are prismatic, greatly relembling those of the falt called fal mirabitex (See the fection of neutral falts.) Exposed to a warm air, they fall into a porous, friable mais, and lose above twothirds of their weight.

How far this falt differs in medical virtue from the other alkalies, is not well known. It apparently possesses the same general virtues;

and, as it is far milder, may be given in more confiderable dofes.

A falt of the same nature with this, but less pure, as containing an admixture of the common vegetable alkali, is prepared at Alicant, and some other places, from the ashes of certain marine plants, called kali; which plants are supposed to have given rise to the name alkali. The salt of the kali plants is called soda or bariglia: it has been long used medicinally in France, and is now introduced into practice in this country; but the above pure alkali extracted from sea salt, is doubtless preferable to it.

LIXIVIUM TARTARI [L.]
Liquamen falis tartari, vulgo Oleum tartari per deliquium [E.]

Ley of tartar.

Or oil of tartar per deliquium.

Lond.

Let tartar, calcined to whiteness, be set in a moist place, that it may liquefy.

Edinb.

Put any quantity of falt of tartar in a flat glass dish, and expose it to the air, for some days, in a moist place. It will run into a liquor, which is either to be filtered through paper, or separated from the seces by decantation.—

The higher the salt has been calcined, the more readily will it relent in the air.

THE folutions of fixt alkaline falts, effected by exposing them to a moist air, are generally looked upon as being purer than those made by applying water directly: for though the falt be repeatedly dissolved in water, filtered and exfectated; yet, on being liquested by the humidity of the air, it will still deposit

deposit a portion of earthy matter : but it must be observed, that the exficcated falt leaves always an earthy matter on being dissolved in water, as well as on being deliquiated in the air. Whether it leaves more in one circumstance than in the other, I have not examined. The deliquiated lixivium is faid to contain nearly one part of alkaline falt to three of an aqueous fluid. It is indifferent, in regard to the lixivium itself, whether the white ashes of tartar, or the salt extracted from them be used: but, as the athes leave a much greater quantity of earth, the separation of the ley proves more troublesome.

### LIXIVIUM SAPONARIUM.

Soap leys.

Take of

Russia pot-ash,

Quicklime, each equal weights. Gradually sprinkle on them as much water as will flake the lime; then pour on more water, flirring the whole together, that the falt may be dissolved : let the lev fettle, pour it off into another veffel, and, if there be occasion, filter it. A wine pint of this ley, measured with the greatest exactness, ought to weigh just fixteen ounces troy. If it prove heavier, for every dram that it exceeds this weight, add to each pint of the liquor an ounce and a half of water by measure : if lighter, boil it till the like quantity be wasted, or pour it upon fresh lime and ashes.

QUICKLIME greatly increases the strength of alkaline salts; and hence this ley is much more acrimonious, and acts more powerfully as a menstruum on oils, sats, &c. than a solution of the pot-ass alone. The lime should be used fresh from the kiln; by long keeping, even in close vessels, it loses much of its strength: such should be made choice of as is thoroughly burnt or calcined, which may be known by its comparative lightness.

All the instruments employed in this process, should be either of wood, earthen ware, or glass. The common metallic ones would be corroded by the ley, so as either to discolour, or communicate disagreeable qualities to it. If it should be needful to filter or strain the liquor, care must be taken that the filter or strainer must be of vegetable matter: woollen, silk, and that fort of filtering paper which is made of animal substances, are quickly corroded and dissolved by it.

The liquor is most conveniently weighed in a narrow-necked glass bottle, of such a size, that the measure of a wine pint may arise some height into its neck; the place to which it reaches being marked with a diamond. A pint of the common leys of our soft soapmakers weighs more than sixteen ounces. It has been found that their soapley will be reduced to the standard here proposed, by mixing it with something less than an equal measure of water.

RIUM POTENTIALE.

The septic stone, or potential cautery.

Edinb.

Take of Pot-ash,

Quicklime, each equal

weight of both.

Macerate for two days, occasionally stirring them, then filter the ley, and evaporate it to dryness. Put the dry mass into a crucible, and urge it with a strong fire, till it slow like oil: then pour it out

upon a flat plate made hot; and, while the matter continues foft, cut it into pieces of a proper fize and figure, which are to be kept in a glass vessel closely stopt.

This preparation is a strong and fudden caustic. It has an inconvenience of being apt to liquefy too much upon the part to which it is applied, so that it is not easily confined within the limits in which it is intended to operate: and indeed the suddenness of its action depends on this disposition to liquefy.

## CAUSTICUM COMMUNE FORTIUS.

The stronger common caustic.
Lond.

Boil any quantity of the foap leys before described, to one-fourth part; then, whilst it continues boiling, some lime, that has been kept for several months in a glass vessel stopt with a cork, is to be sprinkled in by little and little, till it has absorbed all the liquor, so as to form a kind of paste; which keep for use in a vessel very closely stopt.

HERE the addition of lime in fubstance renders the preparation less apt to liquely than the foregoing, and consequently more eafaly confinable within the intended limits, but proportionably flower in its operation. The design of keeping the lime is, that its acrimony may be somewhat abated.

It is observable, that both these caustics, and the soap leys, that is, alkaline salts increased in their power by quicklime, do not effervesce or emit air bubbles, at least in any considerable degree, on the admixture of acids; though this effervescence has been commonly reckoned one of the principal distinguishing characters of alkaline salts. Exposed long to the air, they gradually resume their power of effervescence, and lose proportionably the additional activity which the quicklime had produced in them.

#### CAUSTICUM COMMUNE MITIUS.

The milder common caustic.

Lond.

Take

Fresh quicklime,
Soft soap, of each equal parts.
Mix them well together, at the time
of using.

This caustic, notwithstanding the lime be used fresh, proves much milder than the former; the acrimony of the salt being here covered by the oil and tallow, by which it is reduced into soap.

### SECT. II.

#### Volatile alkaline Salts.

A Shixt alkalies are produced in the burning of vegetables, and remain behind in the aftes; volatile ones are produced by a like degree of heat from animal substances, and rise in distillation along with the other volatile principles; the admission of air, necesfary for the production of the former, is not needful for the latter. These salts are obtainable also from some vegetable matters; and from vegetable and animal soot. Though a strong sire be requisite for their production, yet, when once completely formed, they are dissipated

by the gentlest warmth: in distillation, they rife fooner than the most highly rectified spirit of wine. They are produced in urine, by putrefaction, without fire; and without fire also they exhale from it.

#### SPIRITUS, SAL, et OLEUM CORNU CERVI.

Spirit, falt, and oil of hartsborn.

Distil pieces of hartshorn by a fire gradually raised almost to the highest; a spirit, salt, and oil will afcend.

If the oil be separated, and the fpirit and falt diffilled again together, with a very gentle heat, they will both rife more pure, If this be carefully repeated feveral times, the falt will become exceedingly white, the spirit limpid as water, and of a grateful odour.

The falt, separated from the spirit, and sublimed first from an equal weight of pure chalk, and afterwards from a little rectified fpirit of wine, becomes the fooner pure.

Calcined hartshorn is generally made by burning the horns left after this distillation.

After the fame manner, a fpirit, falt, and oil, may be obtained from every kind of animal fubstance.

Edinb.

Put pieces of hartshorn into a large iron pot furnished with an earthen head; and having fitted on a capacious receiver, and luted the junctures, distil in an open fire gradually increased. At first a phlegm arises, then a spirit, and afterwards a volatile falt, accompanied with an oil. The oil that comes over first is of a yellowish colour, but, on protracting the diffillation, there succeeds a reddith one verging to black. In the

bottom of the iron pot there remains a black coal, which, being burnt to whiteness in the open air, is called calcined hartshorn.

Having poured out of the recipient, all the different matters which have come over in it, they may be separated from one another in the following manner. The oil feparates from the phlegm and spirit in filtration : the two latter will pais through, and the oil remain on the filter. The phlegm may be separated from the spirit by distillation in a tall veffel, with a gentle heat: the spirit will come over into the recipient, and the phlegm remain at the bottom of the distilling

The spirit may be divided into a volatile falt and phlegm, by diffilling it in a very tall and narrow cucurbit; the falt will arise, and adhere to the head in a dry form; the phlegm remaining behind.

The falt may be freed from the oil, by fubliming it from twice its quantity of pot-ash; for the oil is kept down by the pot-ash, whilft the falt rifes.

The spirit also is rendered purer, by adding, to every pint, two ounces of pot-ath, and diftilling in a glass retort.

The remaining pot-ash may be again purified for use, by calcining it in an open fire, fo as to burn out the oil it had absorbed from the falt or spirit.

A spirit, salt, and oil, may be obtained in the fame manner from all the folid parts of ani-

THE wholefale dealers have very large pots for the distillation of hartthorn, with earthen heads almost like those of the common still. For receivers, they use a couple of oil jars, the mouths of which are luted together; the pipe that comes from the head enters the lowermost jar, through a hole made on purpose in its bottom. When a large quantity of the subject is to be distilled, it is customary to continue the operation for several days successively; only unluting the head occasionally, 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 surnaces, may be employed; an iron head being sitted to it. The receiver ought to be large, and a glass, or rather tin adopter, inferted betwixt it and the pipe of the head.

The diffilling veffel being charged with pieces of the horn, a moderate fire is applied, which is flowly increased, and raised at length almost to the utmost degree. At first, a phlegmatic liquor arises; the quantity of which will be lefs or greater, according as the horns were more or lefs dry : this is fucceeded by the falt and oil. The falt at first dissolves, as it comes over, in the phlegm, and thus forms what is called spirit. When the phlegm is faturated, the remainder of the falt concretes in a folid form to the fides of the recipient. If it be required to have the whole of the falt folid and undiffolved, the phlegm should be removed as foon as the falt begins to anife, which may be known by the appearance of white fumes: and, that this may be done the more commodioully, the receiver should be left unluted, till this first part of the process be finished. The white vapours which now arife, fometimes come with fuch vehemence, as to throw off or burst the receiver. To prevent this accident, it is convenient to have a small hole in the

luting; which may be occasionally stopt with a wooden peg, or opened, as the operator shall find proper. After the salt has all arisen, a thick, dark coloured oil comes over: the process is now to be discontinued, and the vessels, when grown cold, unluted.

All the liquid matters being poured out of the receiver, the falt which remains adhering to its fides is to be washed out with a little 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 wetted paper. The salt and spirits are then to be further purified, as before directed.

The spirit of hartshorn met with in the shops, is extremely precarious in point of strength; the quantity of falt contained in it (on which its efficacy depends) varying according as the distillation, in rectifying it, is continued for a longer or shorter time. If, after the volatile falt has arisen, so much of the phlegm or watery part be driven over after it, as is just fusicient to diffolve it, the spirit will be fully faturated, and as strong as it can be made. If the process be not at this instant flopt, the phlegm, continuing to arife, must render the spirit continually weaker and weaker. The distillation therefore ought to be discontinued at this period, or rather whilft some of the falt still remains undiffolved. The spirit will thus prove always equal, and the buyer be furnished with a certain criterion of its strength. Very few have taken any notice of the above-mentioned inconvenience of these kinds of spirits; and the remedy is first hinted in the Pharmacopæia Reformata. The purity of

the

the spirit is casily judged of from its clearness and grateful odour.

VOLATILE alkaline falts, and their folutions called spirits, agree, in many respects, with fixt alkalies and their folutions or leys; as in changing the colour of blue flowers to a green; effervescing with and neutralifing acids; liquefying the animal juices, and corroding the fleshy parts, so as, when applied to the skin, and prevented from exhaling by a proper covering, to act as caustics; and dissolving oils, and fulphur, though less readily than the fixed alkalies, on account, probably, of their not being able to bear any confiderable heat, by which their activity might be promoted. Their principal difference from the other alkalies feems to confist in their volatility. They exhale or emit pungent vapours, in the coldest state of the atmosphere; and by their stimulating smell they prove ferviceable in languors and faintings. Taken internally, they discover a greater colliquating as well as stimulating power; the blood drawn from a vein, after their use has been continued for some time, being found to be remarkably more fluid than before. They are likewise more disposed to operate by perspiration, and to act on the nervous fystem. They are particularly useful in lethargic cases; in hysterical and hypochondriacal disorders, and in the languors, headachs, inflations of the flomach, flatulent colics, and other fymptoms which attend them. They are generally found more ferviceable to aged persons, and in phlegmatic habits, than in the opposite circumstances. In some severs, particularly those of the low kind, accompanied with a cough, hoarfeness, redundance of phlegm, and fiziness of the blood, they are of

great utility; liquefying the viscid juices, raising the vis vitæ, and exciting a falutary diaphorefis; but in putrid fevers, scurvies, and wherever the mass of blood be thin and acrimonious, they do harm. As they are more powerful than the fixt falts, in liquefying fizy blood and tenacious humours; fo they prove more hurtful, where the fluids are already in a colliquated state. In vernal intermittents, particularly those of the flow kind, and where the blood is denfe or fizy, they are often the most efficacious remedy. Mr. Biffet observes, in his Essay on the medical constitution of Great Britain, that, though many cases occur which will yield to no other medicine than the bark, he has met with many that were only suppressed from time to time by the bark, but were completely cured by alkaline spirits: that these spirits will often carry off vernal intermittents, without any previous evacuation; but that they are generally more effectual, if a purge be premifed; and in plethoric or inflammatory cases, or where the fever personates a remittent, venefection.

These salts are most commodiously taken in a liquid form, largely diluted; or in that of a bolus, which should be made up only as it is wanted. The dose is from a grain or two to ten or twelve. Tendrops of a well-made spirit, or saturated solution, are reckoned to contain about a grain of the salt. In intermittents, afteen or twenty drops of the spirit are given in a tea-cup sull of cold spring water, and repeated sive or six times in each intermission.

THE volatile falts and spirits prepared from different animal substances, have been supposed capable of producing different effects

upon the human body, and to receive specific virtues from the subject. The falt of vipers has been esteemed particularly serviceable in the diforders occasioned by the bite of that animal; and a falt drawn from the human scull, in diseases of the head. But modern practice acknowledges no fuch different effects from these preparations, and chemical experiments have shewn their identity. There is indeed, when not fufficiently purified, a very perceptible difference in the fmell, tafte, degree of pungency, and volatility of these salts; and in this state their medicinal virtues vary confiderably enough to deferve notice: but this difference they have in common, according as they are more or less loaded with oil, not as they are produced from this or that animal substance. As first diftilled, they may be looked upon as a kind of volatile foap, in which the oil is the prevailing principle; in this state, they have much less of the proper alkaline acrimony and pungency, than when they have undergone repeated distillations, and fuch other operations as difengage the oil from the falt; for, by these means, they lose their saponaceous quality, and acquiring greater degrees of acrimony, become medicines of a different class. These preparations, therefore, do not differ near fo much from one another, as they do from themselves in different states of purity. which may be added, that, when we confider them as loaded with oil. the virtues of a diffilled animal oil itself are likewise to be brought-into the account.

These oils, as first distilled, are highly setid and offensive, of an extremely heating quality, and of such activity, that, according to Hossman's account, half a drop, dissolved in a dram of spirit of wine, is sufficient to raise a copious sweat. By repeated rectifications they lose their offensiveness, and at the same time become mild in their medicinal operation. The rectified oils may be given to the quantity of twenty or thirty drops, and are faid to be anodyne and antispasmodic, to procure a calm fleep and gentle fweat, without heating or exagitating the body. It is obvious, therefore, that the falts and spirits must differ, not only according to the quantity of oil they contain, but according to the quality of the oil itself in its different states.

The volatile falts and spirits, as first distilled, are of a brown colour, and a very offensive smell. By repeated rectification, as directed in the processes above set down, they lose great part of the oil on which these qualities depend, the falt becomes white, the spirit limpid as water, and of a grateful odour; and this is the mark of sufficient rec-

tification.

It has been objected to the repeated rectification of these preparations, that, by separating the oil, it renders them fimilar to the pure falt and spirit of fal ammoniac. which are procurable at an eafier rate. But this is by no means the case. The intention is not to purify them wholly from the oil, but to separate the grosser part, and to subtilize the rest, so as to bring it towards the fame state as when the oil is rectified by itself. I have repeated the rectification of spirit of hartshorn twenty times successively, and found it still to participate of oil, but of an oil very different from what it was in the first distillation.

The rectified oils, in long keeping, become again fetid. The falts and spirits also, however carefully rectified, suffer, in length of time, the same change, resuming their original brown colour and ill smell;

F f a proof

Part III.

a proof that the rectification is far from having divested them of oil.

SPIRITUS, SAL, et OLEUM FULIGINIS:

Spirit, falt, and oil of foot.

Distil foot after the same manner as directed before for hartshorn: but here more labour is required to render the spirit and falt pure.

THE volatile falt and spirit of foot are, when sufficiently purified, not different in quality from those of animal fubstances; though fome have preferred them in nervous complaints, particularly in epileptic cases.

SPIRITUS et SAL VOLATILIS SALIS AMMONIACI.

The volatile falt and spirit of fal ammoniac.

Lond.

Take a pound and a half of any fixt alkaline falt, a pound of fal ammoniac, and four pints of water. Diftil off, with a gentle heat, two pints of spirit.

The volatile falt is made from a pound of fal ammoniac mixed with two pounds of pure chalk, and fet to fublime in a retort,

with a strong fire.

Edinb.

Take equal parts of fal ammoniac and falt of tartar : grind them feparately to powder, then mix, and put them into a glass retort, pouring on gradually as much water as will dissolve the falts. Diffil, with a gradual fire, in a fand-bath: the falt rifes first, and concretes in the receiver. If the falt be wanted in a dry form, remove the receiver, before any water come over. If afpirit be wanted, continue the distillation, till so much water have arisen as

is sufficient to dissolve the falt, taking care to protract it no longer.

Sal ammoniac is a neutral falt, composed of volatile alkali and marine acid. In these processes, the acid is abforbed by the fixt alkali or chalk; and the volatile alkali is of

courie fet at liberty.

The fixt alkali begins to act upon the fal ammoniac, and extricates a pungent urinous odour, as foon as they are mixed. Hence it is most convenient not to mix them till put into the diffilling veffel: the two falts may be dissolved feparately in water, the folutions poured into a retort, and a receiver immediately fitted on. An equal weight of the fixt falt is fully, perhaps more than, fufficient, to ex-

tricate all the volatile.

Chalk does not begin to act upon the fal ammoniac, till a confiderable heat be applied. Hence thefe may be without inconvenience, and indeed ought to be, thoroughly mixed together, before they are put into the retort. The furface of the mixture may be covered with a little more powdered chalk, to prevent fuch particles of the fal ammoniac, as may happen to lie uppermost, from fubliming unchanged. Though the fire must here be much greater than when fixt alkaline falt is used, it must not be too strong, nor too fuddenly raised; for, if it be a part of the chalk (though of itfelf not capable of being elevated by any degree of heat) it will be carried up along with the volatile falt. M. du Hamel experienced the justness of this observation: he relates, in the Memoirs of the French academy of sciences for the year 1735, that he frequently found his volatile falt, when a very strong fire was made use of in the sublimation, amount to more, fometimes one half more,

more, than the weight of the crude fal ammoniac employed; and that, though it be certain that not three-fourths of this concrete are pure volatile falt, the fixt earthy matter, thus once volatilized by the alkali, arose along with it again upon the gentlest resublimation, dissolved with it in water, and exhaled with it in the air.

When all the falt has sublimed, and the receiver grown cool, it may be taken off, and luted to another retort charged with fresh materials. This process may be repeated, till the recipient appear lined with volatile salt to a considerable thickness. The vessel must then be broken in order to get out the salt.

The volatile falt and spirit of fal ammoniac are the purest of all the medicines of this kind. They are fomewhat more acrimonious than those produced directly from animal fubitances, which always contain a portion of the oil of the fubject, and receive thence some degree of a faponaceous quality. These last may be reduced to the fame degree of purity, by combining them with acids into ammoniacal falts; and afterwards recovering the volatile alkali from these compounds by the processes before directed.

The matter which remains in the retort, after the distillation of the spirit, and sublimation of the falt, of fal ammoniac, is found to confift of marine acid united with the fixt alkali or chalk employed. When fixt alkaline falt has been used as the intermedium, the refiduum, or caput mortuum, as it is called, yields, on folution and crystallization, a falt exactly similar to the spiritus falis marini coagulatus hereafter described; and hence we may judge of the extraordinary virtues formerly attributed to this falt, under the names of fal antibyftericum, antihypochondriacum, febrifugum, digestivum sylvii, &c.

The caput mortuum of the volatile falt, where chalk is employed as an intermedium, exposed to a moist air, runs into a pungent liquor, which proves nearly the same with a folution of chalk made directly in the marine acid. It is called by some, oleum cretæ, oil of chalk. If calcined thells or other animal limes be mingled with fal ammoniac, a mass will be obtained, which likewise runs in the air, and forms a liquor of the same kind. This liquor feems to be the fecret of fome pretenders to a diffolvent of the calculus.

#### SPIRITUS VOLATILIS CAUSTI-

CUS.

Volatile caustic Spirit.

Take of fal ammoniac, one pound; Quicklime, a pound and a half;

Water, four pints.

Quench the lime in the water; and, having put this mixture into a retort, add to it the powdered falt. Immediately adapt a recipient, and with a very gentle heat draw off two pints.

This spirit is commonly called, from the intermedium, spirit of fal ammoniae with quicklime. The effect of the quicklime on the fal ammoniac, is very different from that of the chalk and fixt alkali in the foregoing process. Immediately on mixture, a very penetrating vapour exhales; and, in diffillation, the whole of the volatile falt arises in a liquid form; no part of it appearing in a concrete state, how gently foever the liquor be redistilled. This spirit is far more pungent than the other, both in fmell and tafte; and, like fixt alkalies rendered caustic by the same intermedium, it raifes no effervefcence on the admixture of acids.

Ff2 This

This spirit is held too acrimonious for internal use, and has therefore been chiefly employed for smelling to in faintings, &c. though, when properly diluted, it may be given inwardly with safety. It is an excellent menstruum for some vegetable substances, as Peruvian bark, from which the other spirit extracts little.

Some have mixed a quantity of this with the officinal spirits both of fal ammoniac and of hartshorn: which thus become more pungent, so as to bear an addition of a confiderable quantity of water, without any danger of discovery from the taste or smell. This abuse would be prevented, if what has been formerly laid down as a mark of the strength of these spirits (some of the volatile salt remaining undiffolved in them) were complied with. It may be detected by adding to a little of the suspected spirit about

one-fourth its quantity or more of rectified spirit of wine; which, if the volatile spirit be genuine, will precipitate a part of its volatile salt, but occasions no visible separation or change in the caustic spirit, or in those which are sophisticated with it.

Others have substituted for the fpirit of fal ammoniac, a folution of crude fal ammoniac and fixt alkaline falt mixed together. This mixture deposits a faline matter on the addition of spirit of wine, like the genuine spirit; from which however it may be distinguished, as the falt, thus separated, is not a volatile alkaline, but a fixt neutral falt. The abuse may be more readily detected by a drop or two of folution of filver made in aqua-fortis; which will produce no change in the appearance of the true spirit, but will render the counterfeit turbid and milky.

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## Combination of Alkalies with Oils and inflammable Spirits.

SAPO AMYGDALINUS.

Almond foap.

Lond.

AKE any quantity of fresh-drawn oil of almonds, and thrice its quantity by measure of the foregoing foap leys. Digest them together in fuch a heat, that they may but just boil or fimmer, and in a few hours they will unite : after which, the liquor in boiling will foon become ropy, and in good measure transparent: a little of it suffered to cool, will appear like jelly. When this happens, throw in by little and little fome common falt, till the boiling liquor lofe its ropiness; and continue the coction, till, on receiving fome drops on a tile, the soap is found to coagulate, and the water freely separates from it. The fire being then removed, the soap will gradually rise to the surface of the liquor. Take it off before it grows cold, and put it into a wooden mould or frame, which has a cloth for its bottom: afterwards take out the soap, and set it by till sufficiently dried.

After the same manner, a soap may likewise be made with oil olive; but the purest oil must be used, that the soap may be as little ungrateful as possible either to the palate or stomach.

This process is so fully described, as to render any further directions unnecessary. unnecessary. The general virtues of foaps have been already delivered. That prepared after this manner is not different in quality from the hard fort before mentioned. The strength of foaps varies considerably with their age, and the manner in which they have been kept. Fresh foap, though apparently of a good confistence, loses, upon being thoroughly dried, near one-third of its weight; the whole of which loss is mere water; a circumstance to be particularly attended to, in the exhibition of this medicine.

Soap is decompounded (or the alkaline falt and oil, of which it is composed, separated from one another) by all acids; and hence it does not lather with waters that contain any acid unneutralized. In pure water, it dissolves into a milky liquor, which, on dropping in some oil of vitriol, forms a kind of coagulum. On adding more of the acid, the liquor becomes clear, the oil of the foap rifes to the furface, its alkali uniting with the acid, and forming faline concretions at the bottom. The oil, carefully collected, proves remarkably purer than when it first entered the composition of the soap; and, like the essential oils of vegetables, dissolves in spirit of wine : it may possibly be applicable to some useful purposes, as it seems to be freed from its groffer matter, extremely pure, and is void of the pungency of effential oils.

It follows from the above experiments, that no kind of acid ought to be used along with soap; all acids absorbing the alkaline salt of the soap from the oil. Neutral salts have not this effect, their acid being already satiated with an alkali; but salts composed of an acid and an earthy or metallic body, as the purging bitter salt, vitriol, &c. de-

compound the foap equally with pure acids; acids quitting an earth or metal, to unite with an alkali brought in contact with them.

Soap dissolves likewise, but in small quantity, in pure spirit of wine: it is observable of this solution, that, if exposed to a degree of cold, a very little greater than that in which water begins to freeze, it congeals into a solid pellucid mass.

The menstruum which dissolves foap most perfectly, and in greatest quantity, is a pure proof spirit. The common proof spirits have a flight acidity, not indeed distinguishable by the taste or by the usual ways of trial, but sufficient to give somewhat of a milky hue to folutions of foap made in them. This may be corrected by the addition of a little alkaline falt. Mr. Geoffroy observes, in the Memoirs of the French academy, that twenty-eight parts of good proof spirit, with the addition of one part of falt of kali, will dissolve ten parts of good hard foap into a periectly limpid liquor. The common alkaline falts, as that of tartar, anfwer equally in this respect with that of kali; but the latter, being much less acrimonious, seems preferable, where the folution is intended for medicinal use.

This facility of the decomposition of soap by acids, renders it an useful criterion of low degrees, of unneutralized acidity in waters, &c. The limpid solution of soap in proof spirit, dropt into any liquor that contains either a pure acid, or a salt composed of an acid, with an earth or metal, renders the liquor immediately milky, more or less, in proportion to the quantities with which it is impregnated.

Sapo purificatus.

Purified foap.

Slice one pound of dry, hard, GeFf3 noa,

noa, Alicant, or any other oilfoap, into a clean pewter vessel, and pour upon it two gallons of rectified spirit of wine. Place the veffel in a water-bath, and apply such a degree of heat as may make the spirit boil, when it will foon dissolve the soap. Let the veffel stand close covered, in a warm place, till the liquor grow perfectly clear; if any oily matter fwim upon the furface, carefully fcum it off. Then decant the limpid liquor from the feces, and distil off from it all the spirit that will arise in the heat of a water-bath. Expose the remainder to a dry air for a few days, and it will become a white, opake, and somewhat friable mafs. Pract. chem.

SOAP thus purified has little or no fmell, and proves, upon examination, not in any degree acrimonious, but quite mild and foft, and confequently well fitted for medicinal purpofes.

> SAPO TARTAREUS. Scap of tartar.

Take any quantity of falt of tartar, very well calcined, and reduced into powder whilst hot. Immediately pour upon it, in a broad glass vessel, twice its quantity of oil of turpentine : and let them stand together in a cellar for fome weeks, till the oil has penetrated the falt : then add more oil by degrees, till the falt have absorbed thrice its own quantity, and both appear united into a foap; which, if the matter be every day stirred, will happen in a month or two. The effect fucceeds fooner, if the containing veffel be fixed to the fail of a windmill, or any other machine that turns round with great velocity.

This tedious process, which is taken from a former edition of the Edinburgh pharmacopæia, might be finished in a very little time, by duly attending to a circumstance which our chemists, and the pharmaceutical writers, have in general overlooked; and which many have supposed to be a means even of preventing fuccess. If the oil be poured upon the pulverized falt whilst very hot, they will immediately unite, with a hiffing noise; and, by rubbing for a few minutes in a hot mortar, form a truly saponaceous mass, the medicine here intended. If the falt be suffered to grow cold before the addition of the oil, it is fearce possible to unite them, as the committee of the London college observes, without the addition of a little water, which in this case promotes the effect. The regular, uniform motion above recommended, does not answer so well as agitation or rubbing in a mortar; the different degrees of centrifugal force which the oil and falt acquire when moved circularly, tending to keep them apart. The falt does not retain fo much of the oil as might be expected; far the greatest part of this volatile siuid being dissipated in the process. Mr. Baumé relates, in his Manuel as chemie, that experiments have convinced him the foap confitts of only the refinous part of the oil united with the alkali; that the more fluid and well rectified the oil is, the less soap is obtained; and that, by adding a little turpentine in substance to the mixture, the preparation is confiderably accelerated.

This medicine has been greatly celebrated as a diuretic, in nephritic complaints, and as a corrector of certain vegetable substances, particularly opium; it was for some time a great fecret in the hands of its

its first preparer, Starkey, under the names of philosophic soap, the vegetable corrector, &c. Its virtues, however, have not been sufficiently warranted by experience; nor does the present practice pay any regard to it. Accordingly both the London and Edinburgh colleges have rejected it at a late reformation of their pharmacopæias.

# LOTIO SAPONACEA. Saponaceous lotion. Lond.

Take of

Damask rose water, three quarters of a pint;

Oil olive, one quarter of a pint; Ley of tartar, half an ounce by

Grind the ley of tartar and the oil together, until they unite; then gradually add the rose water.

This is defigned for external use, as a detergent wash; and, like other soapy liquors, answers this purpose very effectually. Where it is required to be more detersive, it may be occasionally rendered so, by the addition of a small quantity of a solution of any fixt alkaline salt.

#### LINIMENTUM SAPONA-CEUM.

Saponaceous liniment.

Take of

Spirit of rolemary, one pint; Hard Spanish soap, three ounces; Camphor, one ounce.

Digest the soap in the spirit of rosemary, until it is dissolved; then add the camphor.

BALSAMUM SAPONACEUM, vulgo OPPODELDOCH.

Saponaceous balfam, commonly called opodeldoc. Edinb.

Take of Spanish soap, ten ounces; Camphor, two ounces;
Effential oil of rolemary,
Effential oil of origanum, each
half an ounce;
Rectified spirit of wine, four

pints.

Digest the soap in the spirit of wine, with a gentle heat, till it be disfolved; then add the camphor and the oils, and shake the whole well together, that they may be persectly mixed.

THESE compositions also are employed chiefly for external purposes, against rheumatic pains, sprains, bruises, and other like complaints. Soap acts to much better advantage, when thus applied in a liquid form, than in the solid one of a plaster.

#### BALSAMUM ANODYNUM, vulgo BATEANUM.

Anodyne balfam, commonly called Bates's balfam. Edinb.

Take of

White foap, two ounces;
Crude opium, half an ounce;
Camphor, fix drams;
Essential oil of rosemary, one
dram;
Rectified spirit of wine, eighteen

ounces.

Digest the spirit with the soap and opium, in a gentle sand-heat, for three days: then strain the liquor, and add to it the camphor and essential oil.

This composition is greatly commended for allaying pains, and is said to have been sometimes used with benefit even in the gont; a cloth dipt in it being laid on the part. It is sometimes likewise directed to be taken inwardly, in the same disorder, as also in nervous colics, jaundices, &c. from twenty

to fifty drops or more; though furely, in gouty cases, the use of opiate medicines requires great caution. One grain of opium is contained in about ninety drops of the balsam.

## LINIMENTUM VOLATILE. Volatile liniment.

Lond.

Take of

Oil of almonds, one ounce by measure;

Spirit of fal ammoniac, two drams by weight.

Stir them together in a widemouthed phial, until they perfectly unite.

# EPITHEMA VOLATILE. Volatile epithem. Lond.

Take of

Common turpentine, Spirit of fal ammoniac, each

equal weights.

Stir the turpentine in a mortar, gradually dropping in the spirit, until they unite into a white mass.

# EMPLASTRUM VOLATILE. Volatile plaster. Edinb.

Take of

Venice turpentine, Spirit of Sal ammoniac, each one ounce.

Pour the spirit gradually into the turpentine, stirring them diligently together in a mortar.

THE three foregoing are very acrid, stimulating compositions, and are principally applied against rheumatic and ischiadic pains. The epithem or plaster was formerly made of a stiffer consistence, and more adhesive, by an addition of tacamahaca; which is here judi-

ciously omitted, since it prevented the application from being so expeditiously got off from the part, as its great irritating power made sometimes necessary.

#### SPIRITUS SALIS AMMONI-ACI DULCIS.

Dulcified Spirit of Sal ammoniac.

Take half a pound of any fixt alkaline falt, four ounces of fal ammoniac, and three pints of proof spirit of wine. Distil off, with a gentle heat, a pint and a half.

THIS spirit has come much into esteem, both as a medicine and a menstruum. It is a solution of volatile falt in rectified spirit of wine; for though proof spirit be made use of, its phlegmatic part does not arife in the distillation, and serves only to facilitate the action of the pure fpirit upon the ammoniacal falt. Rectified spirit of wine does not dissolve volatile alkaline falts by fimple mixture : on the contrary, it precipitates them, as has been already observed, when they are previously dissolved in water: but by the present process, a considerable proportion of the volatile alkali is combined with the spirit. It might perhaps, for some purposes, be more advisable, to use in this intention the volatile spirit made with quicklime: for this may be mixed at once with rectified spirit of wine, in any proportions, without the least danger of any separation of the volatile alkali.

# SPIRITUS VOLATILIS FŒTIDUS. The volatile fetid spirit.

Take of

Any fixt alkaline falt, a pound and a half;

Sal ammoniac, one pound;
Afafætida,

### Chap. 8. Combination of Alkalies with Spirit, &c. 441

Afafætida, four ounces;
Proof spirit of wine, fix pints.
Draw off, with a gentle heat, five pints.

This spirit is designed as an antihysteric, and is undoubtedly a very elegant one. Volatile spirits, impregnated for these purposes with different setids, have been usually kept in the shops. The ingredient here made choice of, is the best calculated of any for general use, and equivalent in virtue to them all. The spirit is pale when newly distilled, but acquires a considerable tinge in keeping.

## SPIRITUS VOLATILIS AROMATICUS.

Volatile aromatic spirit.

Lond.

Take of

Effential oil of nutmegs,

Essence of lemons, each two drams;

Effential oil of cloves, half a

Dulcified spirit of sal ammoniac, one quart.

Distil them with a very gentle fire.

#### SPIRITUS VOLATILIS OLEO-SUS, vulgo SALINUS AROMATICUS.

Volatile oily spirit, commonly called faline aromatic spirit.

Edinb.

Take of

Dulcified spirit of sal ammoniac, eight ounces;

Essential oil of rosemary, one dram and an half;

Essence of lemon-peel, one dram. Mix them together, that the oils may be dissolved.

WOLATILE falts, thus united with aromatics, are not only more

agreeable in flavour, but likewise more acceptable to the stomach, and less acrimonious, than in their purestate. Both the foregoing compositions turn out excellent ones, provided the oils be good, and the distillation skilfully performed. The dose is from sive or six drops to sixty or more.

Medicines of this kind might be prepared extemporaneously, by dropping any proper essential oil into the dulcissed spirit of sal ammoniac, which will readily dissolve the oil without the assistance of distillation, as in the following compositions; in which Jamaica pepper is chosen for the aromatic material, as being a cheap and sufficiently elegant one, and very well adapted to general use.

SPIRITUS VOLATILIS OLEOSUS EXTEMPORANEUS.

Extemporaneous volatile oily spirit.

Take of

Dulcified spirit of sal ammoniac, one pint;

Essential oil of Jamaica pepper, two drams.

Mix them together, that the oil may be dissolved.

Or,

Take of

Spirit of wine, highly rectified, Spirit of fal ammoniac, each half a pint;

Essential oil of Jamaica pepper, two drams.

Dissolve the oil in the spirit of wine, and mix this solution with the spirit of sal ammoniac: a white coagulum will be immediately formed, which, in a warm place, soon resolves into a transparent liquor, depositing a quantity of a volatile oily salt.

By either of these methods, a volatile oily spirit may be made occasionally, and adapted, at pleasure, to particular purposes, by chusing

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an effential oil proper for the intention. Thus in hysterical diforders, where the uterine purgations are deficient, a preparation of this kind made with the oils of rue, favin, penny-royal, or fimilar plants, proves an useful remedy: for weakness of the stomach, oil of mint may be taken; where a cephalic is required, oil of majoram, lavender, or rofemary; in coldness and faintings, oil of cinnamon; in cases of flatulencies, the oils of anifeeds and fweet fennel feeds. Thefe lait greatly cover the pungency of the volatile spirit, and render it supportable to the palate. The fpirits thus made by simple mixture, are no wife inferior, in medicinal efficacy, to those prepared by diffillation, though the tinge, which they receive from the oil, may render them to some persons less fightly.

SPIRITIS VOLATILIS SUCCINA-

Succinated volatile Spirit.

Take of

Rectified oil of amber, from twelve to fixty drops;

Rectified spirit of wine, one

ounce;

Volatile spirit of sal ammoniac prepared with quicklime, twelve ounces.

Mix them together, and distil in a retort with a moderate hre.

This composition is extremely penetrating, and has come into esteem, particularly for smelling to in lownesses and faintings, under the name of Eau de luce. It has been hitherto brought from France. It is not quite limpid, for the oil of amber distolves only imperfectly in the spirit. If the volatile spirit be not exceedingly firong, fcarcely any of the oil will be imbibed.

### SECT. IV.

### Acid Spirits.

SPIRITUS VITRIOLI tenuis, et fortis (oleum dictus E.) atque COLCOTHAR.

Weak Spirit, and Strong Spirit or oil, of vitriol, and colcothar. Lond.

ET calcined vitriol be distilled in earthen vessels, with a reverberatory fire, for three days without intermission. What remains in the veffels is called colcothar of vitriol.

Put the distilled liquor into a glass retort, and place it in a fand furnace. The weak spirit will come oves, the firong (improperly called oil of vitriol) remaining behind.

Edinb.

Take any quantity of green vitriol, calcined to a flight yellow colour, and reduced into powder. Fill therewith one half of an earthen retort, place it in a reverberatory furnace, fit on a very large receiver, and lute well the junctures. Then proceed to diftillation, gradually increasing the fire to the utmost degree, which is to be kept up as long as any vapours arise.

The phlegm, spirit, and oil improperly fo called, may be feparated from each other, by committing the whole to distillation in a retort placed in a fand furnace.

The

The phlegin (which will be in little quantity if the vitriol have been duly calcined) will arise with a small degree of hear, and the spirit with a stronger, leaving the oil behind.

THE vitriol should be calcined till it acquire a yellowish colour inclining to red. If calcined only to whiteness, as has been commonly directed, it will change in the diftilling vessels into a hard compact mais, from which the due quantity of acid can never be obtained, though urged with the most vehement fire for a great length of time. A retort is an inconvenient inftrument for performing the distillation. It requires an extraordinary expence of fuel and time to elevate the ponderous acid of vitriol, fo high as the figure of this veffel demands. The veffels usually employed are fo contrived, that the vapour passes out laterally, without any afcent; these are called long-necks: the junctures of them with the receivers may be luted with Windfor loam, moistened with a folution of any fixt alkaline falt, and then beaten up with a small quantity of horse dung. If the fire be fufficiently strong, the distillation will be finished in much less than three days, though vapours will not cease to appear long after this period. When the process has been continued for a certain time, which Boerhaave limits to eighteen hours, the spirit that arises will not pay the expence. Regard however must be had herein to the fize of the furnace, the quantity of vitriol in each diffilling veffel, and the degree of heat employed. Those who make this commodity in quantity, continue the operation no longer than till the fumes which iffue from the long-necks, at the greatest diftance from the fire, begin to leffen,

and the recipients grow fomewhat clear.

This process is not practicable to advantage without a very large apparatus. Hence it is become a diffinct branch of the chemical bufiness; and confiderable works have been erected for it, in fach parts of the kingdom as fuel can be most easily procured in; some of the furnaces are so large as to contain a hundred earthen long-necks. or diffilling veffels, at once. The metallic part of the vitriol, or colcothar, which remains after the diffillation, is ground down in mills, edulcorated with water, and employed as a pigment. In medical virtue, it is not different from fome of the calces of iron, to be spoken of hereafter.

The acid spirit, as it arises in the first distillation, appears of a dark or blackish colour, and contains a considerable portion of phlegm. In the fecond distillation, the phlegmatic parts arife first, together with the lighter acid, which are kept apart, under the name of weak spirit. At the same time, the remaining strong spirit, or oil as it is called, lofes its black colour, and becomes clear; and this is the usual mark for discontinuing the distillation. Methods of further purifying this acid for the nicer uses, are described in Practical Che-

mistry.

The spirit of vitriol is the most ponderous of all the liquids we are acquainted with; and the most powerful of the acids. If any other acid be united with a fixt alkaline salt or earth; upon the addition of the vitriolic, such acid will be dislodged, and arise on applying a moderate heat, leaving the vitriolic in possession of the alkali; though without this addition, it would not yield to the most vehement fire. Mixt with

water,

water, it instantly conceives great heat, infomuch that glass vessels are apt to crack from the mixture, unless it be very flowly performed. Exposed to the air, it imbibes moisture, and soon acquires a notable increase of weight. In medicine, it is employed chiefly as fubservient to other preparations. It is likewise not unfrequently mixed with juleps and the like, in fuch quantity as will be sufficient to give the liquor an agreeable tartness in the intentions of a cooling antiseptic, restrigent, and stomachic.

#### SPIRITUS SULPHURIS

per campanam.

Spirit (commonly called Oil) of fulphur by the bell.

Lond.

Let the fulphur be fet on fire, under a glass vessel fitted for this use, called a bell: and let the acid spirit, which trickles down from the sides of the bell, be received in a glass dish placed underneath.

Edinb.

Take any quantity of sulphur; melt it in an earthen dish, and dip into it twifted strips of linen, fo as to form a fulphurated match. Fasten this in the mouth of a vial, which is to be fet in the bottom of a glass or earthen dish, in a moist place screened from the wind. Then kindle the fulphur with a red hot iron; and hang over it a glass bell, at fuch a diffance that the flame may not touch it. The vapour of the fulphur will condense in the bell by the cold, and drop down from its fides, like water, into the vessel placed underneath.

THE glass usually employed for this purpose by the chemists differs considerably from the bell shape. Its belly is spherical, and has a rim

at the bottom turned inwards a little; the upper part ends in a long open stem: a large receiver, with a hole cut in its bottom, and a long tube inferted into its mouth, would answer as well. If the fulphur happen to burn dull, the glass is taken off, and the matter flirred with an iron wire, or clean tobacco-pipe: as it confumes, fresh quantities are supplied, till all the fulphur designed for this use be burnt. The condensation of the fumes depends in great measure upon their imbibing aqueous moisture: hence in wet weather, or a damp place, the operation succeeds best. In dry weather, it is customary to moisten the bell, by suspending it for a little time over the Ream of boiling water.

This process is sufficiently troublesome, and the yield of acid spirit obtained by it extremely small; greatest part of the sumes escaping into the air, partly at the bottom, and partly through the upper aper-

ture of the bell. Several contrivances have been made for preventing these inconveniences. One of the best commonly known, is that described in vol. 5. art. 14. of the Edinburgh essays. Instead of the bell, a large retort is employed, having a tubulated receiver (with the pipe turned uppermost) adapted to its neck. Initead of the large aperture in the bottom of the bell, a small one is made in the bottom of the retort : and thus by diminishing the aperture, enlarging the capacity of the vessels, and lengthening the passage of the fume, a considerably larger quantity of the fumes are detained than in the common instruments.

This apparatus may be greatly improved, by cutting the hole in the fide of the retort, and pouring into the bottom an ounce or two of

warm water, in the middle of which is placed a shallow stone cup containing the fulphur. The heat of the burning fulphur is foon communicated to the water, so as to keep it continually rifing in steam. With this aqueous vapour, the fumes of the brimitone are effectually blended as they ascend; and detained in confiderable quantity, in a much less proportion of phlegm than when the common methods are purfued: for here, the bufiness of rectification or dephlegmation is carrying on, at the same time that the acid is collecting.

This affair is capable of being much further improved. In the common method by the bell, in the most favourable circumstances, scarce above two drams of acid spirit are obtained from fixteen ounces of fulphur: by the fecond apparatus, an ounce may be obtained from the same quantity; and by the other, about two ounces. It appears however, from experiments related by Stahl and others, that out of fixteen ounces of fulphur, at least fifteen ounces are pure acid, of fuch strength as to require being diluted with above an equal weight of water, to reduce it to the pitch of common spirit of sulphur. It follows, therefore, that if we could contrive a method of burning fulphur, fo as to preserve all the fumes, we might obtain from it much more than its own weight, of an acid of the ordinary strength.

The acid obtained from sulphur is in all respects similar to that of vitriol. The acid of sulphur, united with iron or copper, forms a true vitriol; and the acid of vitriol, combined with inflammable matters, produces sulphur, not distinguishable from pure common brimstone. The identity of these acids is well known to some parti-

DILLIE

cular persons, who supply us with almost all that is now fold under the name of oil of vitriol, prepared from the fumes of burning fulphur. The method by which they obtain the acid fo plentifully, and at fo cheap a rate, from this concrete, which has hitherto yielded it so sparingly, differs from the processes above described. Instead of an open bell, or a retort with the mouth open, they use, for burning the fulphur, very large fpherical glass vessels blown on purpose. of the fize of a hoghead or more. with only one aperture, through which the fulphur is introduced. and 'which is afterwards immediately closed, till the fumes have fublided and incorporated with the vapour of the warm water placed in the lower part of the veffel.

### AQUA SULPHURATA.

Sulphurated water, usually called gas sulphuris.

Lond.

Take a quart of water, and half a pound of sulphur. Let part of the sulphur be set on fire in an iron ladle, and suspended over the water in a close vessel. As soon as the sumes subside, some more of the sulphur is to be fired in the same manner; and this repeated till the whole quantity be burnt.

A convenient way of managing this process is, to put the water into a glass receiver, placed on its side; and to have the ladle, containing the burned sulphur, fixed to a plug, made to go freely into the neck of the vessel. The use of the plug is to keep the ladle from dipping into the water. The sumes which issue betwixt it and the glass may be confined by a cloth thrown round the neck.

The water is impregnated, in this process, with a subtile volatile acid, different in many respects from the foregoing spirits of fulphur and of vitriol. The acid may likewise be obtained in the same volatile state, both from vitriol and fulphur, without water. If the retort or long neck, during the distillation of oil of vitriol, happen to crack in the fire, all the acid that rifes afterwards is found to be thus volatilized. If cloths, moistened with a solution of fixt alkaline falt, be suspended over burning brimstone, the acid fumes will be imbibed by the alkali, and form with it a neutral falt. If this neutral falt be rubbed off from the cloths, and fome common oil of vitriol poured upon it, the volatile acid it had imbibed from the fulphur will be immediately extricated again, and may be collected by distillation. The acid proves in all thefe cases fo volatile, as to distil in a heat scarcely greater than that which the hand can fupport. It has a pungent suffocating smell, like that of the fumes of burning brimftone, but discovers to the talte very little acidity or corrolivenefs. Exposed for some time to the air, it loses these properties, and becomes a fixt acid, and corrolive, like common oil of vitriol.

The aqua sulphurata is liable to great uncertainty in point of ftrength; partly on account of the water's being impregnated with a greater or less quantity of the fumes, according as the process is more or less skilfully managed; and partly on account of the above change of the acid from a volatile to a fixt state. When newly prepared, it is highly volatile and pungent, fmelling like burning brimstone, but in tafte rather bitterish and auftere than acid: in keeping, the volatility and smell are lost, and

the liquor (fooner or later, according as the air is more or lefs admitted to it) becomes in all respects the fame as water acidulated with a little common oil of vitriol.

This preparation is faid to give relief in fits of the convultive afthma. It is taken to the quantity of a speonful or half an ounce, two or three times a day, in any fuitable

vehicle.

### SPIRITUS NITRI Glauberi. Glauber's spirit of nitre.

Take three pounds of nitre, and one pound of the strong spirit, or oil of vitriol. Mix them cautioufly and gradually together, under a chimney; and then diffil, at first with a gentle, and afterwards with a stronger heat.

Edinb.

Put two pounds of nitre into a glass retort; and add by degrees one pound of oil of vitriol diluted with an equal quantity of warm water. Distil in a fand heat, gradually increased, till the matter remains dry.

This spirit is rectified by a fecond diffillation, with the heat of a water-bath, in a glass cucurbit, with its head and receiver. The phlegm arifes, leaving the fpirit

behind.

HERE the vitriolic acid expels that of the nitre, in red corrolive vapours, which begin to iffue immediately upon mixture, and which the operator ought cautiously to avoid. A pound of oil of vitriol is fufficient to expel all the acid from about two pounds of nitre, not from more. Some direct equal parts of the two. The fpirit, in either cafe, is in quality the same; the difference in this respect affecting only the refiduum. When two

parts

parts of nitre are taken to one of oil of vitriol, the remaining alkaline basis of the nitre is completely faturated with the vitriolic acid, and the refult is a neutral falt, the same with vitriolated tartar; as we shall see hereaster. If more nitre be used, a part of the nitre in substance will remain blended with this vitriolated falt: if less nitre, it cannot afford alkali enough to faturate the vitriolic acid, and the residuum will be not a neutral falt, but a very acid one. In this last case there is one convenience; the acid falt being readily diffoluble in water, so as to be got out without breaking the retort, which the others are not.

The acid of nitre is next in strength to the vitriolic, and diflodges all but that from alkaline falts or earths. It differs from all the other acids in deflagrating with inflammable matters. If a folution of any inflammable fubflance, as hartshorn, &c. in this acid be fet to evaporate; as foon as the matter approaches to dryneis, a violent detonation enfues. chief use of this acid is as a menstruum for certain minerals, and as the basis of some particular preparations; of which hereafter. It has been given likewife diluted with any convenient vehicle, as a diuretic, from ten to fifty drops.

#### SPIRITUS SALIS MARINI Glauberi.

Glauber's Spirit of Sea Salt.

Take two pounds of fea falt, and the same quantity of strong spirit or oil of vitriol. Dilute the acid spirit with a pint of water, and pour this mixture, by little and little, on the falt under a chimney; then diffil, at first with a gentle, and afterwards with a stronger fire.

Edinb.

Put into a glass retort two pounds of sea salt decrepitated (that is, dried over the fire till it ceases to crackle), and pour thereon, by little and little, one pound of oil of vitriol diluted with an equal quantity of warm water. Place the retort in fand; and, with a fire gradually increased, distil to dryness. This spirit is rectified by a fecond distillation, in a glass cucurbit, with a head and receiver adapted to it; by the heat of a water-bath the phlegm will arife, leaving the spirit behind.

THE marine acid arises, not in red fumes like the nitrous, but in white ones. The addition of water is more necessary here than in the foregoing process. The marine vapours being so volatile, as scarce to condense without some adventitious humidity; and hence the rectification, directed in the fecond process, does not succeed so well as that of the nitrous acid, a part of the marine spirit arising along with the phlegm. The oil of vitriol is most conveniently mixed with the water in an earthen or stone-ware vessel: for unless the mixture be made very flowly, it grows fo hot as to endanger breaking a glass one.

The spirit of sea salt is the weakest of the mineral acids, but ftronger than any of the vegetable. It requires a greater fire to distil it than that of nitre, yet is more readily diffipated by the action of the air. It is used chiefly as a menstruum for the making of other preparations. Sometimes likewife it is given, properly diluted, as an antiphlogistics aperient, and diuretic, from ten to fixty or feventy

drops.

SPIRITUS

SPIRITUS SALIS. Spirit of Salt.

Take a pound of fea falt thoroughly dried, and three pounds of powdered bricks. Mix, and put them into an earthen retort, of fuch a fize that these may fill only one half of it. Place the retort in a reverberatory furnace, adapt to it a large receiver, and lute well the junctures. Let the fire be applied at first very sparingly, and afterwards increased by degrees, until all the spirits be 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 thephlegm, which will leave the spirit pure.

INSTEAD of brickdust, some have used bolar earths and clays. It has been supposed, that these substances act by discontinuing and dividing the particles of the falt, fo as to enable the fire to expel the spirit. If this were true, glass or fand would prove equally ferviceable, and the fame intermedium would answer as well for a number of times as at first; the reverse of which, experiments shew to be true. Brick-earth, and other fubstances of this kind, contain a fmall quantity of vitriolic acid, whose known property it is to difengage the acid of sea falt, and which is the only part of them of use in this process. The quantity of spirit, therefore, obtained by these intermedia, is only in proportion to that of the acid contained in them, which is extremely fmall. This has occasioned some to make use of vitriol, as containing a larger quantity of the vitriolic acid. But, though vitriol be in this respect greatly preferable to brickduit, or the argillaceous earths; yet, in another, it is found less eligible. Its metallic part so strongly adheres

to the marine acid, as to keep it down after it is separated from its basis, or else arises along with it, and defiles the product. Thefe methods therefore of extracting the spirit of salt have been for some time laid afide; the foregoing, in which the pure vitriolic acid itself is used, being in all respects more convenient and advantageous.

#### AQUA FORTIS. Lond.

Take of

Nitre, so at profit also Green vitriol uncalcined, each three pounds;

The same vitriol calcined, one pound and a half.

Mix them well together, and diftil with a very firong fire, as long as any red vapour arises.

#### AQUA FORTIS SIMPLEX. Single aquafortis. Edinb.

Take two parts of vitriol calcined to whiteness, and one part of powdered nitre. 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 in the fame manner as directed for spirit of falt.

THE vitriol here is not liable to the inconvenience mentioned in the foregoing remark; it only occasions a greater heat to be necessary than when the pure vitriolic acid is used, for the acid of the vitriol must be extricated before it can act on the nitre; the fire, however, must not be extremely strong, otherwise some of the metallic parts of the vitriol will be forced over along with the nitrous acid. The direction of thoroughly mixing the ingredients ought to be well attended to, for if this be neglected, or but flightly performed, the due quantity of acid will not be obtained. The produce of these processes is a spirit of nitre containing as much more phlegm, or watery moisture, than Glauber's spirit, as the vitriol employed in its preparation does more than an equivalent quantity of oil of vitriol.

#### AQUA FORTIS DUPLEX.

Double aquafortis.

Edinb.

Take of

Green vitriol calcined to whiteness,

Clay dried and powdered, Powdered nitre, of each equal

Mix them well together, and distil in an earthen retort as above.

This process is an unartful one. The clay appears to be of very little use, though the contrivers of the process seem, from the reduction of the vitriol, to have laid considerable stress on it. All it can do is to hinder the melting of the salts. It would doubtless be better to omit the clay, and increase the quantity of the vitriol; which, in order to make the aquasortis of the strength here intended, should undergo a further degree of calcination.

The great demand which there is in fundry businesses for aquafortis has occasioned the preparation of it to become a trade by itself. Hence larger and less expensive instruments than those mentioned before, have been contrived. The common distilling vessel is a large iron pot, with an earthen, or stoneware still-head, to which is adapted a large glass globe, or else a jar made of the same kind of clay as the head. The 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 foon liquefies, and mixes them together. The aquafortis, prepared after this manner, is extremely impure, and utterly unfit for many purposes, fuch in particular are the folution of mercury and of filver: the violence of the fire, employed in the operation, never fails to elevate fome of the metallic parts of the vitriol; the nitre is used rough or unrefined, which containing a portion of sea falt, sends over some of the marine along with the nitrous acid; nor are the ingredients free from bits of wood, or other vegetable matters, which, burning in the process, foul the spirit with an empyreumatic oil, giving it, at the fame time, an high colour. therefore common aquafortis be employed in any medicinal preparation, it ought to be previously purified; the most effectual method of doing which is the following.

AQUA FORTIS PURIFICATA.

Purified aquafortis.

Drop into the aquafortis a drop or two of folution of filver. If it become milky or cloudy, drop in a little more of the folution, till a fresh addition occasions no further change; allowing proper intervals for the white matter to fettle, that the effect of a new addition may be the better perceived. Then pour the liquor into a glass retort, and distil in a fand-heat to dryness.

THE milkiness produced by the solution of silver is a certain mark of marine or vitriolic acid in the aquasortis; the silver absorbing those acids, and forming with them a concrete which the liquor is incapable of holding dissolved. If the aquasortis be not made at all cloudy G g

by this folution, we may be certain of its having been previously free from the least admixture of those heterogeneous acids; and, when it ceases to become milky from a fresh addition, we may be equally certain, that how much foever it might have contained of them at first, they are now perfectly separated.

The folution of filver is to be made in aquafortis already purified. Where this cannot be had, the little quantity generally fufficient for the present purpose, may be made in the common impure fort of aquafortis, which will be purified during the diffolution itself. Put a thin bit of filver into a little of the aquafortis, and let the vial in a fand-heat. If the aquafortis be pure, numerous minute bubbles will iffue from the filver on all fides, and the metal will gradually diffolve without altering the transparency of the liquor. But, if the aquafortis contain marine or vitriolic acid, it will quickly become milky, those acids uniting with the filver, as in the above process, as fast as the nitrous acid dissolves it. As the white matter precipitates upon, and adheres to, the furface of the filver, fo as to impede the further action of the menstruum ; the liquor must be filtered and treated in the same manner with a bit of fresh filver. If any milkiness still ensue, the operation must be repeated with another piece of the metal, till all the foreign acids be separated, and the filver is found to dissolve clear. Good aquafortis takes up about half-its own weight of filver.

The filver may be recovered from the white fettlings, without any confiderable lofs, by the following

method.

Let the matter be thoroughly dried, then mixed with a little potath, and the mixture made into a paste with oil. Put this paste into a crucible, furrounding it every where with a little more potath. Set the crucible in a proper furnace, and gradually raife the fire fo as to bring the whole into fufion. When the crucible is grown cold, a lump of fine filver will be found in the bottom.

#### AQUA FORTIS COMPOSITA Compound aquafortis.

Take fixteen ounces of aquafortis, and one dram of lea falt. Diftil them to dryneis.

THIS is defigned as a menstruum for quickfilver, for the preparation of the red mercurial corrolive, or red precipitate, as it is called; which the marine acid in this compound liquor renders of a more fparkling appearance, and more beautiful to the eye, than when made with the nitrous acid alone.

#### AQUA REGIA. Edinb.

Put an ounce of powdered fal ammoniac into a large cucurbit, and add to it, by little and little at a time, four ounces of spirit of nitre, or double aquafortis. Let them stand together in a sandheat, till the falt be entirely diffolved.

THE glass in which the mixture is made thould be placed under a chimney (to carry up the offenfive vapour) and its orifice by no means ftopt till the falt is perfectly disfolved, and the fumes cease to arise Thefe cautions with impetuofity. are extremely necessary, if the procels be conducted according to the former directions. But if the fal ammoniac, finely powdered, be gradually gradually added to the acid spirit (which ought to be of a middle degree of strength between single aquafortis and strong spirit of nitre) the solution will proceed without any inconvenience; and may be sinished in a reasonable compass of time, provided the mixture be now and then stirred—The only use of aqua regia and the aqua fortis, is as menstrua for certain mineral substances.

ACETUM DISTILLATUM,
vel SPIRITUS ACETI.

Distilled vinegar, or spirit of
vinegar.
Lond.

Let vinegar be distilled with a gentle heat as long as the drops fall free from an empyreuma.

If some part of the spirit which comes over first be thrown away, the rest will be the stronger.

#### Edinb.

Put any quantity of the best vinegar into a large, shallow, glass vessel, and with a gentle heat, in a sand-bath, evaporate about one-fourth part of it: then distil the remainder in an alembic, with a glass head, gradually increasing the sire, as long as the spirit comes off clear.

This process may be performed either in a common still with its head, or in a retort. The better kinds of wine vinegar should be made use of: those prepared from malt liquors, however sine and clear they may seem to be, contain a large quantity of a viscous substance, as appears from the sliminess and ropiness to which they are very much subject; this not only hinders the acid parts from arising freely, but likewise is apt to make the vinegar boil over into the recipient, and at the same time dis-

poses it to receive a disagreeable impression from the fire. And indeed, with the best kind of vinegar, if the distillation be carried on to any great length, it is extremely difficult to avoid an empyreuma. The best method of preventing this inconvenience is, if a retort be made use of, to place the fand but a little way up its fides, and when fomewhat more than half the liquor is come over, to pour on the remainder a quantity of fresh vinegar, equal to that of the liquor drawn off. This may be repeated three or four times; the vinegar supplied at each time being previously made hot. The addition of cold liquor would not only prolong the operation, but also endanger breaking the retort. If the common still be employed, it should likewise be occasionally supplied with fresh vinegar, in proportion as the spirit runs off; and this continued, until the process can be conveniently carried no further. The distilled spirit must be rectified by a second distillation in a retort, or glass alembic; for though the head and receiver be of glass or stone-ware, the acid will contract a metallic taint from the pewter worm.

The refiduum of this process is commonly thrown away as ufeless, though if skilfully managed, it might be made to turn to good account; the most acid parts of the vinegar still remaining in it. Mixed with about three times its weight of fine dry fand, and committed to distillation in a retort, with a wellregulated fire, it yields an exceeding ftrong, acid fpirit; together with an empyreumatic oil, which taints the spirit with a disagreeable odour. This acid is, nevertheless, without any rectification, better for fome purposes (as a little of it will go a great way) than the pure spi-TIC : Gg2

rit; particularly for making the fal diureticus of the London difpensatory; for there the oily matter, on which its ill slavour depends, is burnt out by the calcination.

The spirit of vinegar is a purer and stronger acid than vinegar itfelf, with which it agrees in other respects. The medical virtues of these liquors may be seen in the section of acids, and under the article ACETUM. Their principal dif-

ference from the mineral acids confifts in their being milder, less stimulating, less disposed to affect the
kidneys, and promote the urinary
fecretions, or to coagulate the animal juices. The matter, lest after
the distillation in glass vessels,
though not used in medicine,
would doubtless prove a serviceable detergent, saponaceous acid;
and in this light it stands recommended by Boerhaave.

### SECT. V.

Combination of Acid with vinous Spirits.

A LL the mineral acids, on being mixed with spirit of wine, raise a great ebullition and heat. If the acid be in small quantity, it unites intimately with the vinous spirit, so as to arise with it in distillation. The taste, and all the characters of acidity, are destroyed; and the mixture acquires a grateful slavour, which neither of the ingredients had before.

# SPIRITUS VITRIOLI DULCIS. Dulcified spirit of vitriol. Lond.

Take of the strong spirit or oil of vitriol, one pound; of rectified spirit of wine, one pint. Cautiously mix them together by little and little at a time, and distil the mixture, with a very gentle heat, till a black froth begins to arise. Then immediately remove the whole from the sire, lest this froth should pass over into the recipient, and frustrate the operation.

Edinb.

Take of
The ethereal vitriolic liquor hereafter given, one part;

Rectified spirit of wine, two parts.

Mix them together.

THE different proportions of the acid spirit to the vinous in these processes, make no variation in the quality of the produce, provided the distillation be duly conducted; all the redundant acid being left in the residuum.

A good deal of caution is requifite in mixing the two liquors. Some direct the spirit of wine to be put first into the retort, and the oil of vitriol to be poured upon it all at once; a method of procedure by no means advisable, as a violent heat and ebullition always enfue, which not only distipate a part of the mixture, but hazard also the breaking of the vessel, to the great danger of the operator. Others put the oil of vitriol into the retort first, then by means of a funnel, with a long pipe that may reach down just to the furface of the acid, pour in the spirit of wine. If this be done with fufficient caution, the vinous spirit spreads itself on the surface of the oil of vitriol, and the two liquors appear diffinct; on flanding tor

for a week or two, the vinous spirit is gradually imbibed, without any commotion, and the veffel may be then fafely shaken, to complete the mixture. But if the spirit be poured in too hallily at first, or if the vessel be moved before the two liquors have in some degree incorporated, the same effect ensues as in the foregoing case. The only secure way is, to add the oil of vitriol to the spirit of wine by a little quantity at a time, waiting till the first addition is incorporated before another quantity is put in; by this management, the heat that enfues is inconfiderable, and the mixture is effected without any inconvenience.

The diffillation should be performed with an equable and very gentle heat, and not continued fo long as till a black froth begins to appear: for, before this time, a liquor will arise of a very different nature from the spirit here intended. The feveral products are most commodiously kept apart by using a tubulated receiver, fo placed, that its pipe may convey the matter which shall come over, into a vial fet underneath : the juncture of the retort and recipient is to be luted with a paste made of linseed meal, and further secured by a piece of wet bladder: the lower juncture may be closed only with some soft wax, that the vial may be occafionally removed with eafe.

The true dulcified spirit arises in thin subtile vapours, which condense upon the sides of the recipient in straight striæ. It is colourless as water, very volatile, inslammable, of an extremely fragrant smell, in taste somewhat aromatic.

After the fire has been kept up for some time, white sumes arise, which either form irregular striæ, or are collected into large round drops like oil. On the first appearance of these, the vial (or the receiver, if a common one be made use of) must be taken away. If another be substituted, and the distillation continued, an acid liquor comes over, of an exceeding pungent smell, like the sumes of burning brimstone. At length a black froth begins hastily to arise, and prevents our carrying the process further.

On the surface of the sulphureous spirit is found swimming a small quantity of oil, of a light yellow colour, a strong, penetrating, and very agreeable smell. This oil seems to be nearly of the same nature with the essential oils of vegetables. It readily and totally dissolves in rectified spirit of wine, and communicates to a large quantity of that menstruum the taste and smell of the aromatic or dulcified spirit.

The matter remaining after the distillation is of a dark blackish colour, and still highly acid. Treated with fresh spirit of wine, in the same manner as before, it yields the fame productions; till at length, all the acid that remains unvolatilized being fatiated with the inflammable oily matter of the spirit, the compound proves a bituminous, fulphureous mais; which exposed to the fire in open veffels, readily burns, leaving a confiderable quantity of fixt ashes; in close ones, explodes with violence; and with fixt alkaline falts, forms a compound, nearly fimilar to one composed of alkalies and fulphur.

Dulcified spirit of vitriol has been for some time greatly esteemed both as a menstruum and a medicine. It dissolves some resinous and bituminous substances more readily than spirit of wine alone, and extracts elegant tinctures from sundry vegetables: especially if rectified, as in the second of the above processes, from a little fixt alkaline salt, to se-

G g 3 parate

parate any redundant acidity. As a medicine, it promotes perspiration and the urinary fecretion, expels flatulencies, and in many cases abates spasmodic strictures, eases pains, and procures fleep. The dofe is from ten to eighty or ninety drops in any convenient vehicle. It is not effentially different from the celebrated anodyne liquor of Hoffman; to which it is, by the author himself, not unfrequently directed as a fuccedaneum.

#### LIQUOR ANODYNUS MINERALIS HOFFMANNI.

Hoffman's mineral anodyne liquor. Into half a pound of concentrated oil of vitriol, placed in a large glass retort, pour by little and little, through a long-stemmed funnel, one pint and a half of highly rectified spirit of wine. Stop the mouth of the retort, digest for fome days, and then distil with a very gentle heat. At first a fragrant spirit of wine will arise; and after it, a more fragrant volatile spirit, to be caught in a fresh receiver. The receiver being again changed, a fulphureous, volatile, acid phlegm comes over; and at length a faveet oil of witriol, which should be immemediately separated, lest it be abforbed by the phlegm. Mix the first and second spirits together, and in two ounces of this mixture dissolve twelve drops of the fweet oil. If the liquor has any fulphureous fmell, rediftil it from a little falt of tartar. Parif.

WHETHER this be the exact preparation, fo much recommended and so often prescribed by Hossman. as an anodyne and antispasmodic, we cannot determine. We learn from his own writings, that his anodyne liquor was composed of the dulcified spirit of vitriol, and the

aromatic oil which arises after it; but not in what proportions he mixed them together. The college of Wirtemberg feem to think that all the oil was mixed with all the spirit obtained in one operation, without regard to the precise quantities.

#### AQUA RABELLIANA. Eau de Rabel.

Take four ounces of oil of vitriol, and twelve ounces of rectified spirit of wine. Pour the vinous fpirit gradually into the acid, and digest in a close matrass. Parif.

THIS liquor has been greatly celebrated in France as a restringent, and for the same purposes as the dulcified spirit; from which it differs in having a confiderable aci-

#### LIQUOR ÆTHEREUS VI-TRIOLICUS.

The etherial vitriolic liquor. Edinb.

Take of

Rectified spirit of wine, Oil of vitriol, of each thirty-two

Pour the spirit into a glass retort, that will bear the sudden heat, and pour the acid, at once, upon it. Mix them gradually and cautiously together, by gently shaking the retort; and immediately distil by a fand-heat, prepared before hand for that purpole, the recipient being placed in a veffel of fnow or water. The fire should be so regulated that the liquor may boil as foon as possible, and continued to boil till fixteen ounces are diftilled, when the retort is to be removed.

To the diffilled liquor add two drams of the ftronger common cauftic; and distil again, from a very high retort, with a very gentle fire,

### Chap. 8. Combination of acid with vinous Spirits. 455

the recipient being placed as before in a refrigeratory. Continue the distillation till ten ounces are drawn off.

To the acid residuum, after the distillation, if you pour sixteen ounces of rectified spirit of wine, and repeat the distillation, more etherial liquor may be obtained; and this process may be repeated several times.

The preparation of this fingular fluid has hitherto been confined to few hands; for though feveral processes have been published for obtaining it, the fuccess of most of them is precarious, and fome of them are accompanied with danger to the operator. Where the dulcified spirit only is the object, the method, as before directed for it, fucceeds to perfection: but when it is made with a view to the ether, a variation is necessary, for only a imall quantity of ether can be feparated from the spirit so prepared. There, the distillation is performed with an equable and gentle heat: here, the fire should be hastily raised, fo as to make the liquor boil; for on this circumstance the produce of ether principally depends. (See a paper on this subject by Dr. Morris, in the fecond volume of the Medical Observations and Inqui-

Ether or ethereal spirit is the lightest, most volatile, and instammable, of all known liquids. It is lighter than the most highly rectified spirit of wine, in the proportion of about 7 to 8. A drop, let fall on the hand, evaporates almost in an instant, scarcely rendering the part most. It does not mix, or only in a small quantity, with water, spirit of wine, alkaline lixivia, volatile alkaline spirits, or acids; but is a powerful dissolvent for oils, balsams, resins, and other

analogous substances. It has a fragrant odour, which in consequence of the volatility of the fluid, is diffused through a large space. Its medical effects are not as yet much known, though it is not to be doubted that a fluid of fo much fubtilty must have considerable effects. It has often been found to give eafe in violent head-achs, by being applied externally to the part, and to relieve the tooth-ach, by being laid on the afflicted jaw. It has been given also internally, with benefit, in whooping coughs, and hysterical cases, from two or three drops to five and twenty, in a glass of wine or water; which should be swallowed as quick as possible, as the ether fo speedily exhales.

# SPIRITUS NITRI DULCIS. Dulcified spirit of nitre. Lond.

Take a quart of rectified spirit of wine, and half a pound of Glauber's spirit of nitre. Mix them, by pouring the nitrous spirit into the other; and distil with a gentle heat, as long as the liquor which comes over does not raise any effervescence with lixivial salts.

#### Edinb.

Take of

Rectified spirit of wine, three pounds;

Nitrous acid, one pound.

Pour the rectified spirit of wine into a large bolt-head, placed in a vessel of cold water, and add by degrees the acid, carefully shaking the vessel: set it in a cool place, lightly stopped, for seven days; afterwards distil the liquor in a water-bath, the receiver being placed in a vessel silled either with water or snow, as long as any spirit arises.

HERE

HERE the operator must take care not to invert the order of mixing the two liquors, by pouring the vinous spirit into the acid; for if he should, a violent effervescence and heat would enfue, and the matter be dispersed in highly noxious red fumes. The most convenient and fafe method of performing the mixture feems to be, to put the inflammable spirit into a large glass body with a narrow mouth, placed under a chimney, and to pour upon it the acid, by means of a glass funnel, in very small quantities at a time; shaking the vessel as soon as the effervelcence enfuing upon each addition ceases, before a fresh quantity is put in. By these means, the glass will heat equally, and be prevented from breaking. During the action of the two spirits upon one another, the veffel should be lightly covered; if close stept, it will burft: and, if left entirely open, fome of the more valuable parts will exhale. Lemery directs the mixture to be made in an open veffel: by which unscientifical procedure he usually lost, as he himfelf observes, half his liquor: and we may presume that the remainder was not the medicine here intended.

The liquors, mixed together, should be fuffered to rest for at least twelve hours, that the fumes may entirely subside, and the union be in fome measure completed. The distillation should be performed with a very flow and well regulated fire; otherwise the vapour will expand with fo much force as to burst the vessels. Wilson seems to have experienced the justness of this obfervation; and hence directs the juncture of the retort and receiver not to be luted, or but flightly. If a tubulated recipient, with its ppright long pipe, be made use of,

and the distillation performed with the heat of a water-bath, the vessels may be luted without any danger. This method has likewise another advantage, as it ascertains the time when the operation is finished. Examining the distilled spirit every now and then with alkaline salts, as directed before, is sufficiently troublesome: whilst in a water-bath, we may safely draw over all that will arise, for this heat will elevate no more of the acid than what is dulcished by the vinous spirit.

Dulcified spirit of nitre has been long held, and not undefervedly, in great esteem. It quenches thirst, promotes the natural fecretions, expels flatulencies, and moderately strengthens the stomach. It may be given from twenty drops to a dram, in any convenient vehicle. Mixed with a small quantity of spirit of hartshorn, the spiritus volatilis aromaticus, or any other alkaline spirit, it proves a mild, yet efficacious, diaphoretic, and often notably diuretic; especially in some febrile cases, where such a salutary evacuation is wanted. A fmall proportion of this spirit, added to malt fpirits, gives them a flavour approaching to that of French brandy.

#### SPIRITUS SALIS DULCIS.

Dulcified Spirit of Salt.

Edinb.

This is made with spirit of falt, after the same manner as dulcified spirit of nitre.

THE dulcification of the spirit of salt does not succeed so perfectly, as that of the two foregoing acids, only a minute portion of it uniting with the spirit of wine, and, unless the process be skilfully managed, scarce any. Some have held

against weakness of the stomach, is not often made use of or kept in indigestion, and the like, following the shops,

held this fpirit in great esteem from hard drinking; at present it

#### SECT. VI.

#### Neutral Salts.

WHEN any acid and alkaline falts are mixed together, in fuch proportion that neither of them may prevail, they form by their coalition a new compound, called NEUTRAL. In all the combinations of this kind (except some of those with vegetable acids) the alkali and acid are so strongly retained by one another, that they are not to be difunited by any degree of fire. How volatile foever the acid were by itself, if combined with a fixt alkali, it proves almost as fixt as the pure alkali. If the alkali be of the volatile kind, the compound proves also volatile, subliming in its whole substance, without any separation of its parts. There are, however, means of procuring this difunion, by the intervention of other bodies, as we have already feen in the feparation of the volatile alkali of fal ammoniac, and of the acids of nitre and fea falt, But, in all cases of this kind, only one of the ingredients of the neutral falt can possibly be obtained by itself, the separation of this happening folely in virtue of the fuperadded body's uniting with the other.

There is another kind of compound falts, formed by the coalition of acids with earthy and metallic bodies. These salts differ from the true neutral ones in feveral obvious properties; some of them change blue vegetable juices to a green like alkalies, and others to a red like acids, while neutral falts make no change in the colour: mixed with boiling milk, they coagulate it, while neutral falts rather prevent its coagulation. From most of them, the acid is difunited by fire, without the intervention of any additional matter, of which we have feen an instance in the distillation of the acid of vitriol. But the most diftinguishing, and universal, character of these salts is, that solutions of them, on the addition of any fixt alkali, grow turbid, and deposit their earth or metal. It were to be wished that custom had appropriated fome particular name to the falts of this class, to prevent their being confounded, which feveral of them have often been, with the perfect neutral falts\_

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A STATE OF THE PARTY OF	VITRIOLIC	NITROUS	MARINE	Acetous
The Walter of	ACID.	ACID.	ACID.	ACID.
COMMON FIXT	Vitriolated tartar.	Common nitre.	Regenerated fea falt.	Sal diure- ticus.
ALKALI OF SEA SALT.	Glauber's falt.	Cubical nitre.	Sea Cale	A falt fimilar to fal diuret.
VOLATILE ALKALI.	Philosophic fal ammon.	Volatile nitre.	Sal ammo- niac.	Spiritus Mindereri.
CALCAREOUS EARTH.	Selenites.	Calcareous nitre.	Calcareous muriatic falt	A fubattrin- gent falt.
MAGNESIA.	Sal catharti- cus amarus.	Purging falts, not distinguished by any particular name.		
Soluble earth of CLAY.	Alum.	Astringent salts, not distinguished by any particular name.		

The preceding table exhibits, at one view, the feveral compound falts resulting from the union of each of the pure acids with each of the common alkalies and foluble earths; the acids being placed on the top, the alkalies and earths on the left hand, and the compound falts in the nespective intersections; and is thus to be understood. In the upright columns, under each of the acids, are feen the feveral compound falts refulting from the union of that acid with the respective alkalies and earths on the left fide. In the transverse columns, opposite to each particular alkali and earth, are feen the compound falts refulting from the union of that alkali or earth with the respective acids on the top; and conversely, of each of the compound falts expreffed in the table, the component parts are found on the top of the upright column, and on the left fide of the transverse column, in whose intersection that particular falt is placed. Some of these falts have been already treated of in the Materia medica; but it was thought proper to unite them here into one view, for the greater perspicuity in regard to their composition, and the different properties which their

not relieve

component parts assume in different combinations.

#### Crystallization of Salts.

This is a general operation on neutral and most of the other compound falts. It depends upon these principles: that water, of a certain degree of heat, disfolves, of any particular falt, only a certain determinate quantity: that, on increafing the heat, it diffolves more and more (except only in one instance, common falt) till it comes to boil, at which time both its heat and diffolving power are at their height: that, in returning to its first temperature, it throws off again all that the additional heat had enabled it to dissolve : that, independently of any increase or diminution of heat, a gradual evaporation of the fluid itself will occafion a proportional feparation of the falt: and that the particles of the falt, in this separation from the water, unless too hastily forced together by fudden cooling, or ftrong evaporation, or diffurbed by external causes, generally concrete into transparent and regularly figured maffes, called crystals. The feveral faits assume, in crystallization, figures figures peculiar to each. Thus the crystals of nitre are hexagonal prisms; those of sea falt, cubes; those of alum, octohedral masses; while sal ammoniac shoots into thin

fibrous plates like feathers.

The use of preparing falts in a crystalline form is not merely in regard to their elegance, but as a mark of, and the means of fecuring, their purity and perfection. From fubiliances not dissoluble in water, they are purified by the previous folution, and filtration: by crystallization, one falt is purified from an admixture of fuch other faline bodies as dissolve either more eafily or with more difficulty than itself. For, if two or more falts be dissolved together in a certain quantity of hot water, the falt, which requires the greatest heat for its folution in that quantity of water, will first begin to separate in cooling: and, if the water be kept evaporating, in an uniform heat, the falt which requires most water in that heat will be the first in cryftallizing. In all cases of this kind, if the process be duly managed, the first shootings are generally well figured and pure. The fucceeding ones, fooner or later, according to the quantity of the other falts in the liquor, retain an admixture of those falts, which they betray by their fmallness and figure.

In order to the crystallization of saline solutions, it is customary to boil down the liquor, till so much of the sluid have exhaled, as that the salt begins to concrete from it even while hot, forming a pellicle upon the surface exposed to the air. When this mark appears, the whole is removed into a cold place. This method seldom affords perfect crystals: for, when water is thus saturated with the salt in a boiling heat, and then suddenly cooled; the particles of the salt run hastily and ir-

regularly together, and form only a confused semitransparent mass. It is by flow concretion that most falts assume their crystalline form in perfection. The evaporation should be gentle, and continued no longer, than till some drops of the liquor, in a heat below boiling, being let fall upon a cold glass plate, discover crystalline filaments. The liquor is then immediately to be removed from the fire into a lefs warm, but not a cold place; and the veffel covered with a cloth to prevent the access of cold air, and the formation of a pellicle, which falling down through the fluid, would diffurb the regularity of the crystallization. This is the most essectual method for most falts; though there are fome, whose crystallization is to be effected, not by an abatement of the heat, but by a continued equable evaporation of the fluid; fuch in particular is fea falt.

Salts retain in crystallization a portion of the aqueous fluid, without betraying any marks of it to the eye; on this their crystalline form appears in great measure to depend. The quantity of phlegm or water varies in different falts; dry crystals of nitre were found, on feveral careful trials, to contain about one-twentieth of their weight; those of alum, one-fixth; fea-falt, one-fourth; borax, green vitriol, and the purging falts, no less than one half. The same falt appears always to retain nearly the fame quantity.

Some falts dissolve in spirit of wine; and here also, as in water, the solution is limited, though the salt is not easily recovered in a crystalline form. Such in particular are, combinations of the nitrous acid with volatile alkalies, and with calcareous earths; of the marine acid with all the soluble earths;

earths; of the acetous with fixt and volatile alkalies. Scarce any of the compound falts, whose acid is the vitriolic, are affected by vi-

nous spirits.

Salts differ greatly in their difposition to assume and retain a crystalline form. Many even of the compound kind imbibe humidity like fixt alkalies, fo as to cryftallize with difficulty, and, when crystallized, or exsiccated by heat, to deliquiate again in the air. Such are the combinations of the nitrous and marine acid with all the foluble earths, and of the acetous both with earths and alkalies. The vitriolic acid, on the other hand, forms, with all the substances it diffolves, permanent crystals; as do likewise the other mineral acids with all alkalies.

The crystallization of those falts, which are not dissoluble in spirit of wine, is generally promoted by a fmall addition of that fpirit; which abforbing the water, or weakening its dissolving power on the falt, disposes the falt to part from The operator it more freely. must be careful however not to add too much of the spirit, especially where the falt is composed of an earthy or metallic body united with the acid; left it abforb the acid as well as the water, and inflead of a gradual and regular cryftallization, haltily precipitate the earth or metal in a powdery form.

Mr. Roulle, of the French academy of sciences, has examined with great attention the phenomena of the crystallization of falts, and published the result of his obfervations in different volumes of the Memoirs of that academy. Among other curious particulars, he has given a general diffribution of falts, in regard to their crystallization, which will be of practical

atility to the artift.

He divides evaporation into three degrees; insensible evaporation, or that effected by the natural warmth of the atmosphere, from freezing, up to the heat of the summer's sun; mean evaporation, commencing with the fun's heat, and extending to that in which the exhaling steam is visible to the eye, and the liquor too hot to be endured by the hand; and frong evaporation, reaching from this period to boiling. He divides falts into fix classes; the distinctions of which are taken from the degree of evaporation in which they crystallize most perfectly, from the figure of their crystals, their disposition to remain single or unite in clusters, and their receiving an increase from a continuance of the crystallization.

I. The first class confists of falts which crystallize into fmall plates or very thin scales. The crystals are fingle. They are, of all falts, those which crystallize most frequently on the furface of their folutions, which retain least water in their crystals, and require most to diffolve in. They crystallize most perfectly by infenfible evaporation.

II. Salts whose crystals are cubes, cubes with the angles truncated, or pyramids of four or fix fides. They form fingle, and change their figure by new accretions. By infenfible evaporation they crystallize at the bottom, by mean evaporation at the furface, and by both kinds they prove perfect and regular. By firong

evaporation,

evaporation, the liquor contracts a pellicle, and in cooling yields few crystals, and those ill figured.

Borax. Cubical nitre. Seignett's

III. Salts whose crystals are tetrahedral, pyramidal, parellelopipeds, rhomboidal, and rhomboidal parellelopipeds; with the angles variously truncated, according to different circumstances. They form fingle (except that fome few unite by the bases) and change their figure by new accretions. They crystallize at the bottom, most perfectly by infenfible evaporation: by mean and strong evaporation, the liquor contracts a pellicle, and in cooling the crystals adhere to the pellicle, and prove confused and ill formed. They retain a large quantity of water.

IV. Salts whose crystals are flattened parallelopipeds, with the extremities terminating in two furfaces inclined to one another, fo as to form a point and acute angles with the large fides. They clufter together, uniting, by the bases, into tufts. The crystals are largest and most regular by infensible evaporation. mean and hafty evaporation, a pellicle is formed, and in cooling the crystals prove very fmall. They retain a large quantity of water in crystallization, and require little to diffolve in.

V. Salts whose crystals are very long, in form of needles, prisms, or columns of different furfaces. They shoot at the bottom, and cluster together into tufts of regular figures. By infenfible evaporation they fcarce ever crystallize well. By mean and strong evaporation, they give a pellicle, and in flow cooling, if the evaporation was not carried too far, they yield perfectly well formed crystals, which at first swim, but foon fall to the bottom. If the evaporation was too long continued, the crystals prove confused and ill formed.

Sal ammon. Philof. fal ammon. Nitre. Vol. nitre. Glauber's falt. Salt of amber. Vineg. united with chalk. Volat. vitri, acid united with fixt olk. Marine acid united with absorbent Nitrous acid united with absorbent earths.

VI. Salts whose crystals are in very small needles, or of other indeterminate None of them figures. crystallize by insensible evaporation, and few of them by the mean de-They require to be reduced, by strong evaporation, to a thick confistence; they then contract a pellicle, and crystallize with confusion. If the crystals be wanted regular, spirit of wine must be used, or some other medium, if the falt be foluble in spirit. They readily dissolve in water, and liquefy in the air.

NITRUM PURIFICATUM. Purified nitre.

Lond.

Boil nitre in water till it is diffolved; filter the folution through paper; and, then, after due evaporation.

alkali. Tartar united with volatile tartar. poration, fet it by in a cold place, that the nitre may shoot into crystals.

Edinb.

The liquor, which remains after the crystallization, may be further evaporated, and set to shoot as before; but this process must not be too long protracted.

COMMON nitre contains usually a confiderable proportion of sea falt, which in this process is separated, the sea falt remaining dissolved after greatest part of the nitre has crystallized. The crystals which shoot after the sirst evaporation, are large, regular, and pure: but when the remaining liquor is surther evaporated, and this repeated a second or third time, the crystals prove at length small, impersect, and tipt with little cubical glebes of sea falt.

When rough nitre, in the state wherein it is first extracted from the earths impregnated with it, is treated in this manner, there remains at last a liquor called motherley, which will no longer afford any crystals. This appears to participate of the nitrous and marine acids, and to contain an earthy matter dissolved by those acids. On adding alkaline lixivia, the earth is precipitated, and when thoroughly washed with water, proves infipid. If the liquor be evaporated to drynefs, a bitterish faline matter is left, which being strongly calcined in a crucible, parts with the acids, and becomes, as in the other case, insipid.

This earth has been celebrated as an excellent purgative, in the dose of a dram or two; and, in smaller doses, as an alterant in hypochondriacal and other disorders. This medicine was for some time kept a great secret, under the

names of magnefia alba, nitrous panacea, count Palmer's powder, il polvere albo Romano, poudre de Sentinelli, &c. till Lanciti made it public in his notes on the Metallotheca Vaticana. It has been supposed that this earth is no other than a-portion of the lime commonly added in the clixation of nitre at the European nitre-works. But, though the specimens of magnelia examined by Neumann, and some of that which has been brought hither from abroad, gave plain marks of a calcareous nature; yet the true magnesia must be an earth of a different kind, calcareous earths being rather aftringent than purgative. The earthy basis of the fal catharticus amarus is found to have the properties ascribed to the true magnefia of nitre, and appears to be the very same species of earth. From that falt therefore this medicine is now prepared, as will be feen hereafter.

#### SAL AMMONIACUS PURI-FICATUS.

Purified fal ammoniac.

This falt is purified by folution in water, filtration, and crystallization, after the manner above directed for nitre.

Edinb.

The liquor remaining after the crystallization is to be further evaporated, and the crystallization repeated, so long as any salt will shoot from it.

THE impurities of sal ammoniac are commonly such as will not dissolve in water: and hence the purification is effected by the solution and filtration. The very last crystals seldom betray an admixture of any other salt.

FLOS

FLOS SALIS AMMONIACI.

Flowers of fal ammoniac.

Edinb.

Take any convenient quantity of dry fal ammoniac in powder. Put it into an earthen cucurbit; and, having fitted on a blindhead, fublime the falt with a fire gradually increased.

THIS process seems to be intended with a view to the further purification of the falt. As fal ammoniac, however, carries up with it fubstances which of themselves are not volatile, as it is originally prepared by a fimilar process, and may possibly fuffer some alteration in its quality from repetitions of it; the fublimation does not appear to be either needful or expedient. Neumann observes, that by repeated fublimations, it acquires at length a yellowish tinge, and a particular fmell, of which it discovered nothing at first, and which he attributes to the extrication of the oily or inflammable matter of its volatile animal falt: for that fal ammoniac participates of an inflammable principle, appears from its deflagration with nitre.

#### VITRIOLUM PURIFICA-TUM, vulgo GILLA VITRIOLI.

Purified white vitriol, commonly called gilla of vitriol.

Edinb.

Dissolve white vitriol in a sufficient quantity of warm water, filter the solution, and evaporate it to the consumption of two-thirds. Set the remainder in a cold place, that the salt may shoot into crystals upon the sides of the vessel, and afterwards dry the crystals in the sun. The remaining siquor is to be surther evaporated, and set to crystallize as before; and this pro-

cess repeated till no more falt will shoot.

SOLUTIONS of white vitriol deposit, on standing, a yellow ochery fubitance; which, if not fuffered to separate before the liquor is exhaled and fet to shoot, will foul the crystals. Wilson directs the vitriol to be diffolved in just as much water as will keep it from crystallizing, viz. two pounds or two pounds and a half of water to one pound of the vitriol; and the filtered folution kept warm, to fettle, for twenty-four hours. Being then evaporated to a proper pitch for crystallization, a yellow matter is still frequently found at the bottom, from which the liquor must be decanted before it is fet by to shoot. It may be observed, that the separation is by far the most plentiful and speedy while the liquor boils. Solutions, which hadstood in the cold for some days, and appeared perfectly clear, on being made to boil, became immediately turbid, and threw off a yellow ochre.

# SAL VITRIOLI. Sal of vitriol. Lond.

Take of

White vitriol, one pound;
Strong spirit (called oil) of vitriol, one ounce by weight;
Water, as much as is sufficient.
Boil them together till the vitriol is dissolved; then filter the liquor, and after due evaporation set it by in a cold place to crystallize.

HERE the intention is not to feparate the ochery matter of the vitriol, but to prevent its separating and colouring the crystals. This is effectually answered by the addition of the acid, by which it is kept dissolved.

ALUMEN

#### ALUMEN USTUM.

Burnt allum.

Lond.

Let alum be calcined in an iron or earthen vessel, so long as it bubbles and swells up.

THE bubbling or blistering proceeds from the phlegm retained in the crystals; after that is expelled, the falt cannot be made liquid by any degree of fire. Alum is composed of vitriolic acid and an earth: and it is remarkable, that combinations of that acid with all earths, with most metals, and even with vegetable fixt alkalies, are unfusible.

The alum, thus deprived of its phlegm, proves confiderably stronger, and more acrid, infomuch as to be sometimes employed for confuming sungous sless. It is said to have the inconvenience of leaving a hardness upon the part.

### VITRIOLUM CALCINATUM. Calcined vitriol.

Lond.

Let green vitriol be calcined in an earthen vessel, with an open fire, till it become thoroughly dry. Then breaking the vessel, take out the vitriol, and set it by for use, well closed from the air. The vitriol is sufficiently calcined, if it has acquired a red colour at the sides and bottom of the vessel.

This process succeeds tolerably well for small quantities, but does not answer so perfectly for larger. As the action of the fire is exerted first on the external parts of the mass, these will be calcined first, and where the quantity is large, exhibit the mark of sufficient calcination, whilst the internal part remains almost unchanged. And even if the process be still further continued, the effect required will not be produced; for the outside,

growing first hard, prevents the evaporation of the aqueous parts from within.

Edinb.

Expose any quantity of powdered green vitriol, in an unglazed earthen vessel, to the action of a moderate sire, till it become white; keeping the matter continually stirring, to prevent its sticking to the vessel, and acquiring a stony hardness. If this be urged with a more vehement sire, it passes into a deep red substance, called colcothar of vitriol.

This 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, which makes it adhere to the sides of the pan, and renders the previous pulverization an useless labour.

The method usually practifed by the chemists is, to place a deep earthen pan, with fome vitriol in it, upon a gentle fire; the vitriol foon liquefies, boils up, and by degrees incrustates to the sides of the vessel. Some more vitriol is then thrown in and suffered to incrustate in the same manner, and this procedure repeated till the pan is nearly full of the concreted matter, which proves of a whitish colour, except on the outfide next the pan (which must be broken, to take it out) where it appears yellowish or reddish, according to the continuance and degree of fire. If the vitriol be desired still further dephlegmated, this may be commodiously effected, by reducing the mass into a gross powder (which will now no longer melt) and then calcining it over a strong fire, in a shallow iron pan, till it has gained the degree of dryness required, which which may be known from its colour. The principal use of calcined vitriol is for the distillation of the spirit of vitriol. If employed for this purpose uncalcined, it would melt in the distilling vessel, and, running into a lump, scarce give out any spirit; and the little obtained would be very weak.

### TARTARUM VITRIOLATUM Vitriolated tartar. Lond.

Dissolve eight ounces of green vitriol in four pints of boiling water: and, whilst the liquor continues boiling, throw into it salt of tartar, or any other alkaline salt, till no further effervescence arises upon a fresh addition; which generally happens when four ounces, or a little more, of the salt have been used. Filter the liquor through paper, and, after due evaporation, set it by to crystallize.

HERE the acid of the vitriol forfakes the iron, of which it was before in possession, to unite with the alkaline falt. Particular care ought to be taken that the quantity of alkali be sufficient to fully saturate the acid, otherwise it will not deposit all the metal. It is convenient, even after the faturation feems, from the effervescence ceasing, to be completed, to throw in a little more of the alkali; for by thefe means the preparation is fecured from containing any metallic matter; whilst the superfluous quantity of alkali can do no prejudice, as it remains uncrystallized.

It is remarkable, that although the vitriolic acid and fixt alkaline falt do each readily unite with water, and strongly attract moisture even from the air; yet the neutral falt resulting from the combination of these two, vitriolated tartar is one of the falts most difficult of solution, very little of it being taken up by cold water. Hence some have directed the liquor in this process to be filtered whilst very hot, suspecting, that if it was suffered to cool, great part of the salt would be thrown off and left upon the paper. The college, however, has avoided this inconvenience, by ordering a quantity of water which is found to be sufficient for keeping the salt dissolved in the cold, or at least in a moderate warmth.

#### Edinb.

Take of oil of vitriol, diluted with fix times its quantity of water, any quantity: pour it into a large glass vessel, and instil, by degrees, fixed alkaline vegetable salt well purished, and diluted with fix times its quantity of water, enough to neutralize the acid. As soon as the effervescence ceases, filter the liquor; and after a proper exhalation, set it by to crystallize.

This is an elegant method, and one of the least troublesome ways of preparing this salt. The Edinburgh college, in former editions, ordered the acid liquor to be dropt into the alkaline. By the converse procedure, now received, it is obviously more easy to secure against a redundance of acidity: for the greater certainty in this point, it may be expedient, as in the foregoing process, to drop in a little more of the alkaline ley than the cessation of the effervescence seems to require.

But though the manner of preparation, here directed, appears to be the most commodious, there is one imperfection in the process, a deficiency in the quantity of water. There is not near water enough to keep vitriolated tartar dissolved, and

H h

of consequence, as fast as the alkaline falt is neutralized by the acid, great part falls to the bottom in a powdery form. In the Leyden pharmacopæia, this inconvenience is judiciously provided against. The oil of vitriol is diluted with four times its quantity of water, and the alkaline ley being gradually dropt into it till the point of faturation is obtained, four times the quantity more of water is added, and the mixture boiled, that fuch part of the falt as had precipitated, may be dissolved. The liquor is then filtered while hot, and fet by to cryftallize. In order to obtain perfect and well-formed crystals, the liquor should not be fet in the cold, but continued in a moderate heat, fuch as the hand can scarcely bear, that the water may flowly evapo-

Vitriolated tartar, in small doses, as a scruple or half a dram, is an nieful aperient ; in larger ones, as four or five drams, a mild cathartic, which does not passoff so hattily as the fal catharticus amarus or fal Glauberi, and feems to extend its action further. The wholefale dealers in medicines have commonly substituted to it an article otherwise almost useless in their shops, the refiduum of Glauber's spirit of nitre. This may be looked upon as a venial fraud, if the spirit has been prepared as formerly directed, and the reliduum diffolved and cryftallized; but it is a very dangerous one, if the vitriolic acid has been used in an over proportion, and the caput mortuum employed without crystallization; the falt in this case, instead of a mild neutral one of a moderately bitter taffe, proving highly acid. The purchafer ought therefore to infift upon the falt's being in a crystalline form. The crystals, when perfect, are oblong, with fix flat fides, and

terminated at each end by a fixfided pyramid. Some appear composed of two pyramids joined together by the bases, and many, in the most perfect crystallizations I have feen, are very irregular. They decrepitate in the fire, fomewhat like those of sea salt, for which they have sometimes been mistaken.

#### NITRUM VITRIOLATUM. Vitriolated nitre. Lond.

Dissolve in warm water the mass which remains after the diffillation of Glauber's spirit of nitre: filter the folution through paper, and crystallize the falt.

THIS falt is not different from the wartarum vitriolatum, being composed of the vitriolic acid, and the alkaline basis of nitre; which alkali is no other than the common vegetable fixt alkaline falt, as falt of tartar or potash. It is, in effect, from the ashes of vegetables, that the nitre prepared in Europe receives its alkaline basis. If any unchanged nitre remain in the mass, it is left diffolved in the water while the vitriolated alkali crystallizes.

#### SAL POLYCHRESTUM. Salt of many virtues. Edinb.

Take

Nitre in powder, Flowers of fulphur, of each equal

Mingle them well together, and inject the mixture, by little and little at a time, into a red hot crucible. After the deflagration ceases, keep the crucible in the fire for an hour. The falt may be purified by diffolving it in, warm water, filtering the folution, and exhaling it to dryness; or by crystallization.

This is another method of uniting the vitriolic acid with the common vegetable fixt alkali. Both the nitre and the fulphur are decompounded in the operation: the acid of the nitre, and the inflammable principle of the fulphur, detonate together, and are dislipated; while the acid of the fulphur (which, as we have already seen, is no other than the vitriolic acid) remains combined with the alkaline basis of the nitre. The shops, accordingly, have substituted to the sal polychrest the foregoing preparation.

### SAL PRUNELLÆ. Edinb.

Take of

Pure nitre reduced to powder, two pounds;

Flowers of sulphur, one ounce.

Melt the nitre in a crucible, and fprinkle into it the sulphur by little at a time. 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.

Those who prepare fal prunellæ in large quantities, make use of a clean iron pot, instead of a crucible; and when the nitre is melted, and the sulphur destagrated, 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.

This preparation was formerly in great efteem, and is fometimes still ordered in prescription. It is nevertheless built upon an erroneous foundation, which supposed that the nitre was purified by the deflagration it undergoes upon injecting a little sulphur on it. From proper experiments it appears, that the sulphur is so far from depurating the nitre, or tending to its improvement as a medicine, that it really alters some part of it into a

falt, which has quite different properties. The real effect of this process will be easily understood from the preceding one: there, nearly all the nitre is decompounded, and a falt, not different from vitriolated tartar, is found in its place. Here, only about one twenty-fourth part of it fuffers this change. Boerhaave, instead of deflagrating the nitre with fulphur, orders it to be only well purified after the common method, and then melted by itself and poured into moulds. The fufion here ferves to bring the falt into a lefs compais, by evaporating the aqueous moisture which had concreted with it in its crystallization; though even in this intention it is not of much use, the quantity of water, which nitre retains, not being very confiderable.

#### SAL CATHARTICUS GLAU-BERI.

The cathartic falt of Glauber, commonly called fal mirabile.

Lond.

Dissolve in warm water the mass which remains after the distillation of spirit of sea falt: filter the solution, and crystallize the falt.

Edinb.

If the crystals (obtained as above) prove too sharp, dissolve them again in water, filter the liquor, and cautiously evaporate it to such a pitch only as may dispose the falt to crystallize.

THERE is no great danger of the crystals proving too sharp, even when the spirit of salt is made with the largest proportion of oil of vitriol directed under that process. The liquor which remains after the crystallization is indeed very acid; and with regard to this preparation, it is convenient it H h 2 should

should be so; for otherwise, the crystals will be very fmall, and likewise in a little quantity. Where a fufficient proportion of oil of vitriol has not been employed in the distillation of the spirit, it is necesfary to add some to the liquor, in order to promote the crystallization of the falt.

The title of this falt expresses its medical virtues. Taken from half an ounce to an ounce, or more, it proves a mild and ufeful purgative; and in smaller doses, largely diluted, a serviceable aperient and diuretic. The shops frequently substitute to it the fal catharticus amarus, which is nearly of the same quality, but fomewhat more unpleasant, and, as is faid, less mild in operation. I hey are very eafily diftinguishable from each other, by the effect of alkaline falts upon folutions of them. folution of Glauber's falt suffers no visible change from this addition, its own basis being a true fixt alkali : but the folution of the fal catharticus amarus grows instantly white and turbid, its basis, which is an earth, being extricated copioufly by the alkaline falt; as in the following process.

#### MAGNESIA ALBA. White magnefia. Edinb.

Dissolve fal catharticus amarus in a fufficient quantity of water. Filter the folution, and add to it a filtered ley of potath, fo long as a fresh addition continues to occasion any milkiness. A white powder will precipitate; which, being separated from the liquor, is to be carefully washed in fresh portions both of hot and cold water, and afterwards dried.

This powder appears to be the same species of earth with that obtained from the mother-ley of nitre

which was for feveral years a celebrated fecret in the hands of some particular persons abroad. Hoffman, who describes the preparation of the nitrous magnefia, gives it the character of an useful antiacid, a fafe and inoffensive laxative in doses of a dram or two, and a diaphoretic and diuretic when given in smaller doses of fifteen or twenty grains. Since his time, it has had a confiderable place in the practice of foreign physicians, and has begun to come into effeem among us, particularly in heart burns, and for preventing or removing the many diforders which children are fo frequently thrown into from a redundance of acid humours in the first paffages. It is preferred, on account of its laxative quality, to the common absorbents, which (unless gentle purgatives are given occafionally to carry them off) are apt to lodge in the body, and occasion a costiveness very detrimental to in-

Though the preparation of this medicine is now commonly known, its nature and properties are very little understood. Whilst some suppose it to possess uncommon virtues, others affirm, that when duly edulcorated, it is in no respect different from calcined harshorn, or any other simple animal or vegetable earth. The following observation of its real properties will be fufficient to determine this point.

Magnefia alba, when prepared in perfection, is a white and very fubtile earth, perfectly void of fmell or tafte, of the class of those which dissolve in acids. It dissolves freely, even in the vitriolic acid; which in the common way of making folutions, takes up only an inconfiderable portion of other earths. Combined with this acid, it forms a bitter falt, very eafily foluble in water, while the common absorbents

form

form with the same acid almost infipid concretes, very difficult of folution. Solutions of magnetia in all acids are bitter and purgative; while those of the other earths are more or less austere and aftringent. A large dose of the magnesia, if the stomach contains no acid to dissolve it, does not purge or produce any fenfible effect. A moderate one, if an acid be lodged there, or if acid liquors be taken after it, procures feveral stools; whereas the common abforbents, in the fame circumstances, instead of loosening, bind the belly. It is obvious, therefore, that magnefia is specifically different from the other earths, and that it is applicable to uteful purposes in medicine.

#### NITRUM CUBICUM.

Cubical nitre.

Dissolve chalk or lime in purished aquafortis, and add the solution by degrees to a solution of Glauber's salt in water, so long as a fresh addition produces any milkiness: a white powder will precipitate; after which the liquor is to be siltered, and, after due evaporation, set to crystallize.

In this process, both the folutions are decompounded, and two new compounds produced. vitriolic acid of the Glauber's falt unites with the chalk, and forms with it an indiffoluble felenitic concrete, which of courfe precipitates; while the alkali of the Glauber's falt, and the nitrous acid, unite into a neutral falt, which is separated from the liquor by crystallization. The crystals are rhomboidal, of a cooling talte, greatly refembling that of common nitre. How far this falt differs from common nitre in its medical virtue, is not known.

The process is here inserted, partly, as being a very instructive one in regard to the transpositions which happen on the mixture of different faline bodies, and partly as affording the most convenient means of obtaining the pure alkaline basis of fea falt. In the distillation of spirit of falt, that basis was disunited from its own acid, and combined with the vitriolic: it is here transferred from the vitriolic to the nitrous; and we have before given a method of diffipating or destroying the nitrous acid, and leaving the alkali, that was combined with it, pure.

#### SPIRITUS SALIS MARINI COAGULATUS.

Spirit of Sea Salt coogulated.

Drop, into Glauber's spirit of sea falt, a ley of any fixt alkaline falt, till all effervescence ceases: then evaporate the mixture to dryness.

This preparation is inferted, under the fame title, in the Wirtemberg pharmacopæia. It has been commonly called regenerated fea falt, though with little propriety, as it differs from that falt in its basis; the common vegetable alkali being here substituted to the mineral alkali of sea falt. How far it differs from sea falt in its medical qualities, I cannot take upon me to determine. It is manifestly sharper in taste, and somewhat more difficult both of solution in water and of susion in the fire.

### TARTARUS REGENERATUS. Regenerated tartar.

Edinb.

Put any quantity of dry falt of tartar, powdered, into a large glass vessel; and pour thereon, by little and little, as much distilled H h 3 vinegar vinegar as is necessary to saturate it. Filter the the liquor, and exhale it over a very gentle fire, to dryness, taking great care that the matter contract not an empyreuma. On the salt which remains, pour as much more spirit of vinegar as will saturate it: then depurate the liquor again, and carefully exsiccate it into a dry salt.

Ir the common alkalies be made use of for this process, they should be previously purified, by solution and crystallization, from the neutral salt which they generally contain. The distilled vinegar must be perfectly free from any empyreumatic taint. It is not necessary to dephlegmate it, or throw away the first runnings in the distillation, since these contain a portion of the acid (the part here wanted) as well

as the phlegm.

It is difficult to hit the point of faturation betwixt the acetous acid, and the alkaline falt. After about fourteen parts of strong distilled vinegar have been gradually poured upon one of the fixed falt, the addition of a little more of the acid will not occasion any further effervelcence 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. The faturation is not as yet complete; for, upon exhaling the aqueous parts, the remaining falt still effervesces with fresh vinegar. When so much of the acid has now been added, that no marks of fermentation any longer appear, a little more of the vinegar may be poured in before you proceed to the last evaporation. By these means, the faturation of the alkali will be fecured, whilst, if the acid prevail,

the fuperfluous quantity of it will exhale.

The falt thus prepared, is of a dark brown colour, a peculiar, not ungrateful odour, a penetrating, faponaceous, faline taste, in no wise alkaline or acid. Its brown colour, and saponaceous quality, proceed from the oily parts of the vinegar; the depuration of the falt from this oil, is not in the foregoing process insisted on. In the London pharmacopæia, the salt is ordered to be purished to perfect whiteness, under the title of

### Diuretic falt. Lond.

Take a pound of any fixt alkaline falt, and boil it, with a very gentle heat, in four or five times its weight of diffilled vinegar. When the fermentation ceases, add more distilled vinegar; and proceed with fresh additions thereof, until the vinegar being almost evaporated, fresh vinegar will no longer raise any fermentation; which generally happens by the time that twenty pounds of diftilled vinegar have been used. Then flowly exhale to dryness. Melt the remaining impure falt for a little time, but not too long, over a gentle fire ; then dissolve it in water, and filter the folution through paper. If the melting have been duly performed, the filtered liquor will be limpid and colourless as water; but if otherwife, of a brown colour. Evaporate the limpid folution, with an exceeding gentle heat, in a shallow glass vessel, occasionally flirring the falt as it dries, that its moisture may be the fooner exhaled. Afterwards keep it for use in a vessel very closely flopt; for it will liquefy by the air. This falt ought to be of perfect whiteness; and should totally dissolve both in water and spirit of wine, without leaving any seces. If the falt, though ever so white, deposit any seces in spirit of wine; the whole of it must be dissolved in that spirit, the solution siltered, and exactated again.

THE purification of this falt is not a little troublesome. The operator must be particularly careful in melting it, not to use too great a heat, or to keep it liquefied too long; a little should be occasionally taken out, and put into water: and as foon as it begins to part freely with its black colour, the whole is to be removed from the fire. In the last drying, the heat must not be fo great as to melt it; otherwise it will not prove totally foluble. If the folution in spirit of wine be exficcated, and the remaining falt liquefied with a very foft fire, it gains the leafy appearance which has procured it the name terra fo-

In the fourth volume of the Memoirs of the correspondents of the French academy, Mr. Cadet has given a method of making the falt white at the first evaporation, without the trouble of any further purification. He observes, that the brown colour depends upon the oily matter of the vinegar being burnt by the heat commonly employed in the evaporation; and his improvement confifts in diminishing the heat at the time that this burning is liable The process he reto happen. commends is as follows.

Dissolve a pound of falt of tartar in a sufficient quantity of cold water, filter the solution, and add by degrees as much distilled vinegar as will saturate it, or a a little more. Set the liquor to evaporate in a stone-ware vessel, in a gentle heat not fo ftrong as to make it boil: when a pellicle appears on the furface, the rest of the process must be finished in a water-bath. The liquor acquires by degrees an oily confiftence, and a pretty deep brown colour, but the pellicle or foum on the top looks whitish, and when taken off and cooled, appears a congeries of little brilliant filver-like plates. matter is to be kept continually flirring, till it is wholly changed into this white flaky matter, the complete drying of which is most conveniently effected in a warm oven.

We shall not take upon us to determine whether the pure or impure falt be preferable as medicines; obferving only, that the latter is more of a saponaceous nature, the former more acrid, though fomewhat more agreeable to the stomach. Mr. Cadet reckons the falt prepared in his method superior both to the brown and white forts made in the common way, as possessing both the oily quality of the one, and the agreeableness of the other, and as being always uniform, or of the fame power; whereas the others are liable to vary confiderably, according to the degree of heat employed in the evaporation. They are all medicines of great efficacy, and may be so dosed and managed as to prove either mildly cathartic, or powerfully diuretic: few of the faline deobstruents come up to them in virtue. The dose is from half a scruple to a dram or two. A bare mixture of alkaline falt and vinegar without exficcation, is not perhaps much inferior as a medicine to the more elaborate falt. I have known two drams of the alkali, faturated with vinegar, occasion ten or twelve stools, in hydropic cases, Hh4

and a plentiful discharge of urine, without any inconvenience.

# SPIRITUS MINDERERI. Spirit of Mindererus. Edinb.

Take any quantity of the volatile alkaline falt of fal ammoniac, and gradually pour upon it diftilled vinegar, till the effervefcence ceases; occasionally stirring the mixture, to promote the action of the vinegar on the falt.

This is an excellent aperient faline liquor. Taken warm in bed, it proves commonly a powerful diaphoretic or fudorific; and, as it operates without heat, it has place in febrile and inflammatory diforders, where medicines of the warm kind, if they fail of procuring fweat, aggravate the diftemper. Its action may likewise be determined to the kidneys, by walking about in a cool air. The common dose is half an ounce, either by itfelf, or along with other medicines adapted to the intention. Its strength is not a little precarious, depending in great measure on that of the vinegar; an inconvenience which cannot easily be obviated, for the faline matter is not reducible to the form of a concrete falt.

#### SECT. VII.

Anomalous salts.

# CRYSTALLI TARTARI. Crystals of tartar. Edinb.

boiled in twenty times its quantity of water, till perfectly dissolved; and the solution, whilst it continues hot, passed through filtering paper or a woollen cloth, and received in a wooden 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.

The filtration of the folution 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 much of the tartar all over the surface of the paper, which

hinders the remainder from paffing through. Zwelffer, in his animadversions on this process in the Augustan pharmacopæia, directs the folution to be clarified with whites of eggs, and firained only through a linen cloth; he likewise judiciously orders the vessel to be close covered, and the crystallization performed in a warm place: for, if the folution be suffered to cool very fast, it is vain to expect any appearance of crystals; the tartar will inevitably be precipitated to the bottom of the vessel in the form of fand. And indeed, the bulinels of refining and crystallizing tartar is so very troublefome, and requires to 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 fome people here who make it their fole bufiness. (See the article TAR-TAR )

CREMOR

# CREMOR TARTARI. Cream of tartar. Edinb.

Take any quantity of folution of tartar, made as in the foregoing process, and passed through a filter. Boil it over the fire, till a thick cuticle appear on the surface, which is to be taken off with a wooden skimmer bored full of holes. Continue the boiling till a fresh cuticle arise, which is to be taken off as the foregoing, and the operation repeated till the whole quantity of liquor be thus consumed. Afterwards dry all the cuticles togegether in the sun.

This process feems inserted only to retain a name long samiliar to the shops; for the preparation itfelf in no respect differs from crystals of tartar reduced to powder. Indeed the purchaser ought always to prefer the crystals; for the powder is often sophisticated with saline substances of another kind.

The college of Edinburgh observes, that both the crystals and cream are brought to us from abroad; that they are not different in quality from one another: and that good white tartar, unrefined, is not inferior to either of them.

### TARTARUM SOLUBILE. Soluble tartar. Lond.

Dissolve a pound of any fixt alkaline salt in a gallon of boiling water; and gradually throw in crystals of tartar, as long as a fresh addition thereof raites any effervescence; which generally ceases before three pounds of the crystals have been used. Then, filter the liquor, and after due evaporation, fet it by to crystallize; or evaporate it to dryness, and keep the remaining faline mass for use.

#### Edinb.

Boil crystals of tartar, till they are perfectly dissolved, in ten times their quantity of water; and gradually drop into the solution, whilst it continues boiling, oil of tartar per deliquium, till the effervescence ceases. Filter the liquor whilst hot, and evaporate it till a pellicle appears on the surface, that, when removed into a cold place, it may crystallize.

COMMON white tartar is perhaps preferable for this operation to the crystals usually met with (see the article TARTAR). Its impurities can here be no objection; since it will be sufficiently depurated by the

Subsequent filtration.

The preparation of this medicine by either of the above methods is very easy; though some chemists have rendered it sufficiently troublesome, by a nicety that is not at all wanted. They infift upon hitting the very exact point of faturation betwixt the alkaline falt and the acid of the tartar; and caution the operator to be extremely careful, when he comes near this mark, lest by imprudently adding too large a portion of either, he render the falt too acid, or too alkaline. If the liquor be fuffered to cool a little before it is committed to the filter, and then properly exhaled and crystallized, no error of this kind can happen, though the faturation should not be very exactly hit: for fince crystals of tartar are very difficultly foluble even in boiling water, and when dissolved therein, concrete again upon the liquor's growing cold; if any more of them has been employed, than

is taken up by the alkali, this superfluous quantity will be left upon the filter: and, on the other hand, if too much of the alkali has been made use of, it will remain uncrystallized. The crystallization of this falt indeed cannot be effected without a good deal of trouble : it is therefore most convenient to let the acid falt prevail at first, to separate the superfluous quantity, by fuffering the liquor to cool a little before filtration, and then proceed to the total evaporation of the aqueous fluid, which will leave behind it the neutral falt required. The most proper vessel for this purpose is a stone-ware one;

iron discolours the falt.

Soluble tartar, in doses of a scruple, half a dram, or a dram, is a mild cooling aperient : two or three drams commonly loofen the belly; and an ounce proves pretty strongly purgative. Malouin fays it is equal in purgative virtue to the cathartic falt of Glauber. It is an ufeful addition to the purgatives of the refinous kind, as it promotes their operation, and at the fame time tends to correct their griping quality. But it must never be given in conjunction with any acid, for all acids decompound it; absorbing its alkaline salt, and precipitating the tartar.

SAL RUPELLENSIS. Sal de Seignette, or Rochel falt. Pharm. Paris.

Let the falt extracted from the ashes of the kelp or kali of Alicant be calcined till it melts, then dissolved in water, the folution filtered, and, after due evaporation, fet by, that the falt may shoot into pure white crystals. Dissolve crystals of tartar in boiling water, and faturate the folution with the crystals of kali. The proportions necessary

for this purpose will be about fixteen ounces of the latter to twenty of the former. exhale the liquor in the heat of a water-bath, and, after filtration, fet it in the cold to crystal-

This is a species of soluble tartar, made with the falt of kali or foda, which is the fame with the mineral alkali or basis of sea falt. It crystallizes far more easy than the preceding preparation, and does not, like it, grow moist in the air. It is also considerably less purgative, but is equally decompounded by acids. It appears to be a very elegant falt, and has begun to come into esteem in this country, as it has long in France.

#### SAL ESSENTIALE ACE-TOSÆ. Effential falt of forrel. Edinb.

Let the juice of forrel, after fettling and decantation from the feces, be evaporated, till only one-third remains, then strained through a flannel bag, and exhaled again till a pellicle appears upon the furface. Put the liquor into a glass vessel, and, a little olive oil being poured upon the top, fet it by in a cellar till plenty of crystals are formed. These are to be gently washed with water, and afterwards dried.

After the same manner, essential falts are obtained from all acid, austere, astringent, and bitterish plants that contain but a small

quantity of oil.

Herbs of a dry nature are to be moistened, in the bruising, with a little water, that the juice may be the more easily pressed

The waters of these plants, which ard in vain endeavoured to be drawn be obtained by diffolving a fuitable quantity of their effential falts in common water.

Som E pharmaceutical writers direct the plants to be gathered early in the morning; but this is of very little moment. In order to make the subject yield its juice readily, it should be chopt to pieces, and well bruifed in a marble mortar, before it is committed to the press. The magma which remains in the bag, fill containing no inconfiderable quantity of faline 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 before directed, or by running the liquor feveral times through a linea cloth. In some cafes, the addition of a confiderable portion of water is necessary; that the juice, thus diluted, may part the more freely from its feculencies; on the separation of which, the fuccels of the process in great measure depends.

The evaporation should be performed either in shallow glass bafons, or in such earthen ones as are of a compact close texture; fuch are those usually called stoneware. The common earthen veffels are subject to have their glazing corroded, and are so extremely porous, as readily to imbibe and retain a good quantity of the liquor. Metallic vessels are particularly apt to be corroded by these acid kinds of juices.

The directions for the time of discontinuing the second evaporation are not to eafily observed as one could wish. These juices are fo viscid, and abound so much with heterogene matter, of a quite different nature from any thing faline, that a pellicle; or pure

drawn over by distillation, may faline incrustation upon the furface, is in vain expected. Boerhaave therefore, and the more expert writers in pharmaceutical chemistry, with great judgment, direct the evaporation of the fuperfluous moissure to be continued until the matter has acquired the confishence of cream. If it be now fuffered to fland for an hour or two in a warm place, it will, notwithstanding the former depurations, depolit a fresh sediment. from which it should be warily decanted, before it is put into the vessel in which it is designed to be crystallized.

> Some recommend an unglazed earthen veffel, as preferable for this purpole to a glass one; the smoothness of the latter being suppoled to hinder the falt from flicking thereto; whilft the juice, cafily infinuating itself into the pores of the former, has a great advantage of thooting its faline fpicula to the Others flightly incrustate the fides and bottom of whatever vessel they employ, with a certain mineral falt, which greatly disposes the juice to crystallize, to which of itself it is very averse: but as this addition is, with regard to its medical virtue, quite different from the falt here intended, we forbear to mention it.

The use of the oil is to preserve the juice uncorrupted, and to prevent 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 furface of the liquor, is fufficient for this purpole. The wathing of the crystals is intended to cleanse them from the mucilaginous feculencies which adhere to them. It ought to be performed with the utmost caution, to prevent any of the falt itself from being diffolved. The liquor which remains remains after the crystallization may be depurated by a gentle colature, and after due inspissation set to shoot again; when a further yield of

crystals will be obtained.

The process for obtaining these salts is very tedious, insomuch as scarce to be compleated in less than seven or eight months; and the quantity of salt which the juices afford, is extremely small. Hence they are hardly ever made or expected in the shops. The chemists have contrived several methods for expediting the process, among which the two following seem the most remarkable.

Take any quantity of wormwood, cardous benedictus, or the like plants, gently dried in the shade. Pour thereon a fuitable portion of spirit of wine, and digest them together with a foft heat, till the menstruum has acquired a green colour. This tincture is to be put into a glass cucurbit, and distilled with the heat of a water-bath, till fo much of the spirit be come over, as that the remainder may be left of the confistence of honey. The whole being now fuffered to remain unmoved till grown perfectly cold, beautiful pyramidal crystals will be found to have shot from the fides of the distilling vessel to-Spiessius, in wards its center. Miscell. Berolin. continuat. 11. p. 91, 92.

This gentleman relates likewise, that having made an essence (that is, a 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. The crystals obtained by this method are said to be of the nitrous

kind, but of a more subtile taste than the common nitre, impressing only an agreeable coolness upon the tongue.

The fecond process is from the

celebrated Dr. Stahl.

Take wormwood, brooklime, pellitory, mercury, foapwort, or any other plants of the same kind, dried quick in a shady place. Cut the herb fmall, and pour thereon a fufficient quantity of highly-rectified spirit of wine :digest them together, till the menstruum becomes saturated with the oil, or refinous parts of the plant; then pour off the tinged liquor, add a fresh parcel of spirit, and digest as before, continuing to add more of the menstruum, till fuch time as it no longer extracts any colour from the vegetable. The plant, thus freed from its oily matter, is to be gently exficcated, and boiled in water, till the liquor has taken up its saline parts. The decoction being then passed through a filter, afterwards evaporated to a due confistence, and fet by in a cool place, will shoot into faline crystals, which, on examination, prove manifeftly nitrous. Stablii fund. chem. pag. 68, et alibi.

The two foregoing processes agree but ill with each other: how far they are adequate to the purposes intended by them, has not yet been sufficiently examined. It is certain, that spirit of wine dissolves the subtile oils and the resins of vegetables, which prove a great impediment to the crystallization of salts; whence it should seem that the salt might afterwards be prepared by water from the residuum to much better advantage. But it is certain also, that this menstruum dissolves

fome of the native vegetable falts' themselves; and that, if the tincture be fufficiently loaded with the foluble parts of the fubject, the falt separates, while the oily and refinous matter remain diffolved. Thus manna, an essential falt of the fweet kind, disfolves totally in rectified spirit, and, however foul before, is recovered white as fnow, its oily impurities being left in the menstruum; and thus spirituous tinctures of celery, beet roots, and other plants of the fweet kind, deposit, on standing, true faccharine concretions. It is probable that one process is best adapted to fome plants, and the other to others: the first doubtless is for those of the sweet kind, and the fecond for acid herbs, as forrel and woodforrel.

The virtues of the effential falts have not been fufficiently determined from experience. Thus much, however, is certain, that they do not, as has been supposed, possess the virtues of the subjects entire, excepting only the acids and fweets. The others feem to be, almost all of them, nearly fimilar, from whatever plant they were obtained. In watery extracts of wormwood, carduus, chamomile, and many other vegetables, kept for some time in a foft state, I have often observed fine saline efflorescences on the furface, which had all nearly the same taste, somewhat of the nitrous kind. They are supposed by fome to be at bottom no more than an impure species of volatile nitre (that is, a falt composed of the nitrous acid and volatile alkalies). Those which were examined by the chemists of the French academy, deflagrated in the fire, and, being triturated with fixt alkalies, exhaled an urinous odour; plain marks of their containing those two ingredients.

SACCHARUM LACTIS.

Sugar of milk.

Pharm. Parif.

Take common whey of cows' milk, made with calves' rennet. Clarify it with whites of eggs; and if it be not perfectly limpid, pass it through a filter. Then evaporate it, in a glass vessel, in the heat of the water-bath, and set it by in a cellar to crystallize. The crystals are to be washed with cold water.

THIS preparation has been greatly celebrated in diforders of the breast, but is far from answering what has been expected from it. It has little sweetness, and is difficult of folution in water. A faline fubstance, much better deserving the name of fugar, may be obtained by evaporating new milk, particularly that of the ass, to dryness, digesting the dry matter in water till the water has extracted its foluble parts, and then inspissating the filtered liquor. This preparation is of great sweetness, though neither white nor crystalline: nor is it perhaps in the pure crystallizable parts of milk that its medicinal virtues lie.

#### FLORES BENZOINI.

Flowers of benzoine.

Lond.

Put some powdered benzoine into an earthen pot placed in sand; and, with a gentle heat, sublime the slowers into a conical paper cap sitted to the pot.

Or, the sublimation may be performed in a retort; the flowers will arise with a soft heat, into

the neck.

If the flowers have any yellow tinge, mix them with tobaccopipe clay, and fublime again.

Edinb.

Edinb.

The fublimation is to be performed in a glazed earthen pot, and repeated in the same utenfils with fresh parcels of benzoine, till the paper cap becomes foul with oil.

BENZOINE, exposed in a retort to a gentle fire, melts, and fends up into the neck white, fhining, crystalline slowers, which are followed by an oily substance. On raising the heat a little (a recipient being applied to the neck of the retort) a thin yellowish oil comes over, intermingled with an acid liquor, and afterwards a thick butyraceous substance; this last, liquefied in boiling water, gives out to it a confiderable quantity of faline matter (feparable by filtration and proper exhalation) which appears in all respects similar to the

It appears therefore, that the whole quantity of flowers which benzoine is capable of yielding, cannot be obtained by the above processes, fince a considerable portion arises after the time of their being discontinued: that greatest part of the flowers arifes with a less degree of heat than what is necessary to elevate the oil: but that, if the operation be haltily conducted, or if the fire be not exceeding gentle, the oil will arise along with the flowers, and render them foul. Hence, in the way of trade, it is extremely difficult to prepare them of the requifite whiteness and purity; the hear which becomes necessary, when large quantities of the benzoine are employed, being fo great as to force over some of the oil along with them.

In order therefore to obtain these flowers in perfection, only a fmall quantity of benzeine should be put into the veilel at a time; and, that this may not be any impediment to the requifite dispatch, a number of shallow, flat-bottomed, earthen dishes may be employed, each fitted with another vessel inverted over it. With these you may fill a fand-furnace; having fresh dishes charged in readiness to replace those in the furnace, as foon as the process shall appear finished in them : the residuum of the benzoine should be scraped out of each of the vessels, before a

fresh parcel is put in.

These flowers, when made in perfection, have an agreeable taffe and fragrant fmell. They totally diffolve in spirit of wine; and likewile, by the affiltance of heat, in water; but leparate again from the latter upon the liquor's growing cold, shooting into faline spicula, which unite together into irregular masses. By the mediation of fugar they remain fuspended in cold water, and thus form an elegant balfamic fyrup. Some have held them in great efteem, as pectoral and fudorific, in the dole of half a fcruple or more. But the present practice rarely makes use of them, on account of the offenfive oil, with which, as ufually prepared, they are tainted, and from which a freth sublimation from tobacco-pipe clay does not free them fo effectually as might be wished. The observations before related, point out a method of depurating them more perfectly, viz. by folution, filtration, and cryftallization.

SAL SEDATIVUS. Salt of borax, called jedative falt.

Put eight ounces of powdered borax into a wide-necked retort; pour thereon three ounces of water; and then add three ounces of oil of vitriol. Place the retort in a proper furnace, adapt to it a receiver, and increase the fire till the vessel becomes red hot. The sedative salt will arise into the neck, in form of thin shining plates, which are to be swept out with a feather: and a little liquor will pass into the receiver. When the matter in the retort is grown cool, pour back upon it the distilled liquor, and sublime again. Repeat this process so long as the borax continues to yield any considerable quantity of saline flowers.

Or,

Dissolve the borax in a sufficient quantity of warm water, and add thereto the oil of vitriol. Evaporate this mixture, till thin plates begin to appear upon the surface; then suffer the fire to decay, and let the vessel stand unmoved, till plenty of crystals are formed; which are to be well rinsed with cold water, and then dried for use.

In the preparation of this falt by fublimation, the fire must be expeditiously raised when the matter begins to grow dry, for it is only at this period that the falt sublimes. The sublimed salt itfelf, in a perfectly dry state, proves fixt in the fire. If moistened with water, and then exposed to a smart heat, part of it continues to rife, till the moisture is wholly exhaled; after which, nothing more can be forced up by heat, till the falt is again moistened. Hence the use of returning the distilled liquor, and repeating the fublimations. Lemery fays, he found flowers continue to rife till the thirty-fixth fublimation; and that the quantity obtained by all these sublimations amounted to half an ounce and thirty-five grains, from two ounces of borax.

The part of the borax which does not fublime, appears to be the fame (when the common refined borax of the shops is made use of) with the alkaline falt of the fea falt. The fedative falt, united with that alkali, recomposes borax again. The extrication of the fedative falt from the borax happens, on the fame principle as that of the marine acid from fea falt, viz. the vitriolic acid uniting with the alkali; and the residuum is in both cases the same, viz. the salt called fal mirabile, or Glauber's falt. The fedative falt may be extricated also from borax by other acids, but most commodiously and effectually by the vitriolic.

The process by crystallization is less troublesome than that by sublimation; but the salt proves generally less white, and is apt likewise to retain a part of the Glauber's salt, especially if the evaporation be too long protracted.

The fedative falt appears to the tafte a neutral falt; but, examined with alkalies, has the properties of an acid, effervescing, uniting, and crystallizing with them, and destroying their alkaline quality. It dissolves both in water and in spirit of wine: though not very readily in either. As to its virtues, it is supposed to be a mild anodyne. (whence its name), to calm the heat of the blood in burning fevers, to prevent or remove delirious lymptoms, and allay spasmodic affections, whether hypochondriacal or hysterical, at least for a time. The dose is from two to eighteen grains, in any proper liquor.

SPIRITUS, SAL, ET OLEUM SUCCINI.

Spirit, falt, and oil of amber.

Distil amber in a fand-heat gradually increased. There will come

over

fouled with the oil.

The oil distilled again by itself, is divided into a thinner oil which arises; and a thicker part that remains behind, called balfam of

The falt is to be boiled in the diffilled spirit, or in common water, and fet to crystallize; by these means it is freed from its adhering oil. The oftener this is repeated, the purer it will be.

#### Edinb.

Mix powdered white amber with thrice its weight of clean fand, and put them into a glass retort, of which the mixture may fill one half: then adapt a large receiver, and distil in a fand-furnace, with a fire gradually increased. At first a spirit will come over, with fome yellow oil; then more yellow oil, along with a little falt; and, upon raising the heat, more of the falt, with a reddish coloured oil.

When the distillation is finished, empty the liquor out of the receiver; and, having collected together the falt which adheres to the fides, dry it by gentle preffure between the folds of some fpongy paper.

The oil may be separated from the spirit by filtration : and afterwards rectified by diffilling it

from brine of fea falt. The falt is to be rectified in the following manner. Grind it well with twice its quantity of fea falt, and put the mixture into a small and narrow glass cucurbit. Fit on a blind-head, and proceed to sublimation in a fand-heat, taking care that the oil does not rife. When the vesfels are grown cold, sweep out the falt with a feather.

In the distillation of amber, the

over a spirit, an oil, and a salt fire must for some time be continued gentle, scarce exceeding the degree at which water boils, till the aqueous phlegm and thin oil have arisen; after which it is to be flowly increased. If the fire were urged hastily, the amber would swell up, and rife in its whole fubitance into the receiver, without undergoing the required decomposition or separation of its parts. When fand or fimilar intermedia are mixed with it, it is less subject to this rarefaction, and the fire may be raifed fomewhat more expeditioufly; though this little advantage is perhaps more than counterbalanced by the room which the fand takes up in the retort.

Our chemists generally leave the receiver unluted, that it may be occasionally removed as the salt rises and concretes in the neck of the retort, whence it is every now and then scraped out to prevent the oil from carrying it down into the receiver. When a grofs thick oil begins to arife, and no more falt appears, the distillation is stopt, though it might, perhaps, be continued

longer to advantage.

Mr. Pott informs us (in a curious differtation on the falt of amber, published in the ninth volume of the Memoirs of the academy of fciences of Berlin) that the Pruffian workmen, who prepare large quantities of the falt for exportation, from cuttings and small pieces of amber, perform the distillation without any intermedium, and in an open fire: that sweeping out the falt from the neck of the retort being found too troublesome, they fuffer the oil to carry it down into the receiver, and afterwards feparate it by means of bibulous paper, which imbibes the oil, and leaves the falt dry; which paper is afterwards fqueezed and diffilled : that they continue the distillation till all that that can be forced over has arisen, with care only to catch the last thick oil in a separate receiver; and that from this they extract a considerable quantity of salt, by shaking it in a strong vessel with three or four fresh portions of hot water, and evaporating and crystallizing the filtered waters.

The spirit of amber so called, is no more than a solution of a small portion of the salt in phlegm or water; and therefore is very properly employed for dissolving the salt in order to its crystallization.

The falt, freed from as much of the oil as fpongy paper will imbibe, retains fo much as to appear of a dark brown colour. Mr. Pott fays, the method he has found to succeed best, and with least loss, is, to diffolve the falt in hot water, and put into the paper, through which the folution is to be filtered, a little cotton flightly moistened with oil of amber: this, he fays, detains a good deal of the oil of the falt, and the folution paffes through the more pure. The liquor being evaporated with a very gentle fire, as that of a water-bath, and fet to shoot, the first crystals prove transparent, with a flight yellowish tinge; but those which follow are brown, oily, and bitter, and are therefore to be further depurated in the fame manner. The whole quantity of crystals amounts to about one-thirtieth of the weight of the crude amber employed. By fublimation from fea falt, as directed before, the falt is more perfectly and more expeditionally purified. Mr. Pott objects to fublimation, that a part of the falt is decomposed by it, a coaly matter being left behind, even though the falt was previously purified by cryftallization. It may be presumed, however, that this coal proceeds

rather from the burning of some remains of the oily matter, than from the decomposition of any part of the true salt.

Pure falt of amber has a penetrating, subaffringent, acid tafte. It dissolves, both in water and in rectified spirit; though not readily in either, and scarcely at all in the latter without the assistance of heat. Of cold water in fummer, it requires for its folution about twenty times its own weight, of boiling water only about twice its weight. Exposed in a glass vessel, to a heat a little greater than that of boiling water, it first melts, then rises in a white fume, and concretes again in the upper part of the glass, into fine white flakes, leaving, unless it was perfectly pure, a little coaly matter behind. It effervesces with alkalies both fixt and volatile, and forms with them neutral compounds, greatly refembling those composed of the same alkalies and vegetable acids. Mixed with acid liquors, it makes no fensible commotion. Ground with fixt alkaline falts, it does not exhale any urinous odour. By these characters, it is conceived, this falt may be readily diftinguished from all the other matters that have been mixed with, or vended for it. With regard to its virtue, it is accounted aperient, divretic, and, on account of its retaining fome portion of the oil, antihysteric. Boerhaave gives it the character of diureticorum et antibystericorum princeps. Its great price, however, has prevented its coming much into use; and perhaps its real virtues are not equal to the opinion generally entertained of them.

The rectified oil has a strong bituminous smell, and a pungent, acrid taste. Given in a dose of ten or twelve drops, it heats, stimulates, and promotes the fluid fecretions. It is chiefly celebrated in hysterical disorders, and in deficiencies of the uterine purgations. Sometimes it is used externally, in liniments for weak or paralytic limbs, and rheumatic pains. This oil differs from all those of the vegetable kingdom,

and agrees with the mineral petrolea, in not being foluble, either in its rectified or unrectified state, by spirit of wine, fixt alkaline lixivia, or volatile alkaline spirits; the oil, after long digestion or agitation, separating as freely as common oil does from water.



#### CHAPTER IX.

### Preparations of Sulphur.

### FLORES SULPHURIS. Flowers of Sulphur.

Sublime fulphur in proper veffels; and reduce the flowers, that concrete, into powder, either in a wooden mill, or in a marble mortar with a wooden peftle.

Edinb.

Put any quantity of yellow fulphur, grossly powdered, into an earthen cucurbit placed in a fand-furnace; and, having fitted on a glass blind-head, or inverted upon it another earthen cucurbit, begin the sublimation with a gentle heat, which may be afterwards increased. The slowers will rise into the uppermost part of the vessels, whence they are to be swept out and carefully washed with very hot water.

This process is rarely attempted by the apothecaries, a large apparatus being necessary for performing it to advantage. Those who prepare the slowers of brimstone in quantity, use for the subliming vessel a large iron pot, capable of holding two or three hundred weight. This communicates with an arched chamber, lined with glazed tiles, which serves for the recipient.

This preparation of sulphur makes no change in its qualities; only separating its impurities, and at the same time reducing it into a finer powder than it can easily be brought to by other means. At the bottom of the subliming vessel there remains a ponderous grey-coloured mass, composed of sand, earth, stony, and sometimes metal-

lic matters, with a small portion of sulphur that has escaped the subliming heat. This is usually broken in pieces, and vended in the shops under the name of sulphur vivum.

### FLORES SULPHURIS LOTI. Washed flowers of fulphur. Lond.

Pour upon the flowers as much water as will rife to the height of four fingers above them, and boil them for fome time. Then, pouring off this water, let fome cold water be added, and thoroughly wash the flowers; after which they are to be dried for use.

As the flowers of fulphur are generally fublimed into very capacious rooms, which contain a large quantity of air, or in vessels not perfectly close; some of those that arise at first, are apt to take fire, and thus are changed into a volatile acid vapour, which, mingling with the flowers that fublime afterwards, communicates to them a notable degree of acidity. In such case the ablution here directed is for the general use of the medicine absolutely necessary: for the flowers, thus tainted with acid, fometimes occasion gripes, and may, in other respects, be productive of effects different from those of pure fulphur. The Edinburgh college, as appears in the foregoing process, allow only the washed flowers to be kept in the shops. There are, however, fome particular combinations, to which they are supposed to be better adapted when unwashed, as their union with mercury into Ii 2

into æthiops mineral; and accordingly for that preparation the unwashed slowers are directed by the London college.

BALSAMUM SULPHURIS SIMPLEX.

Simple balfam of sulphur.

Lond.

Boil flowers of fulphur, with four times their weight of oil olive, in a pot lightly covered, until they unite into the confiftence of a balfam.

BALSAMUM SULPHURIS CRASSUM.

Thick balfam of Sulphur.

Edinb.

Take of
Oil of olives, eight ounces;
Flowers of sulphur, one ounce.

Boil them together, in a fufficiently large iron vessel, over a gentle fire, keeping them continually stirring, till they come to the consistence of a balsam.

LINSEED oil more readily diffolvesfulphur than oil olive, and the preparation made with it is reckoned somewhat less disagreeable. The vessel they are boiled in ought to be capable of holding at least three times the quantity of the ingredients. As foon as the oil begins to act upon the fulphur, which happens nearly at the point of ebullition, the mixture rarifies very much, fo as, if not prudently removed from the fire, to run over into the furnace; and, as the matter is very susceptible of flame, dangerous confequences may enfue, especially if the quantity be large. The operator ought therefore to be upon his guard in the management of this proceis.

BALSAMUM SULPHURIS BARBADENSE.

Balfam of Sulphur with Barbadoes tar. Lond.

This is made after the fame manner as the foregoing, by using Barbadoes tar instead of the oil.

BALSAMUM SULPHURIS TEREBINTHINATUM.

Balsam of Sulphur with oil of turpentine.

Edinb.

Take two ounces of washed flowers of sulphur, and six ounces of oil of turpentine.

Digest them together, in a fandheat, till the oil be faturated with the sulphur.

BALSAMUM SULPHURIS ANISATUM.

Balsam of sulphur with oil of anifeed.

Edinb.

Take two ounces of washed flowers of sulphur; fix ounces of oil of turpentine; and four ounces of essential oil of aniseeds.

Digest them together as in the preceding process.

THESE preparations are more conveniently and fafely made in a tall glass body, with the mouth at least an inch in diameter, than in the circulatory or close vessels in which they have commonly been directed to be prepared. For, when the fulphur and oil begin to act vehemently upon each other, they not only rarify into a large volume, but likewise throw out impetuously great quantities of an elastic vapour, which, if the veffels be closed, or the orifices not sufficient to allow it a free exit, infallibly burst them. Hoffman relates a very remarkable history of the effects of an accident of this kind. In the vessel before recommended, the process may be completed, without danger, in four or five hours, by duly managing the fire; which should be very gentle for some time, and afterwards increased so as to make the oil just bubble or boil, in which state it should be kept till all the sulphur

appears to be taken up.

Essential oils employed as menftrua for fulphur, undergo a great alteration from the degree of heat necessary for enabling them to diffolve the fulphur; and hence the balfams have not near fo much of their flavour as might be expected. It should therefore seem more eligible to add a proper quantity of the effential oil to the simple balfam; these readily incorporate by a gentle warmth, if the vessel be now and then shaken. parts of effential oil, and fix of the balfamum fulphuris craffum, compose a balsam more elegant than those made in the foregoing manner, and which retains fo much of the flavour of the oil, as is in some measure sufficient to cover the taste of the fulphur, and render it fupportable.

The balfams of fulphur have been strongly recommended in coughs, confumptions, and other diforders of the breaft and lungs. But the reputation which they have had, in these cases, does not appear to have been built upon any fair trial, or experience of their virtues. They are manifestly hot, acrimonious, and irritating; and therefore should be used with the utmost caution. They have frequently been found to injure the appetite, offend the flomach and viscera, parch the body, and occasion thirst and febrile heats. The dole of the simple balfam is from ten to forty drops: those with effential oils are not given in above

half these quantities. Externally, they are employed for cleansing and healing foul running ulcers. Boerhaave conjectures, that their use in these cases gives occasion to the virtues ascribed to them when taken internally.

# HEPAR SULPHURIS. Liver of fulphur. Edinb.

Take three ounces of flowers of fulphur; and one ounce and a half of powdered falt of tartar.

Melt the fulphur in an earthen dish, under a chimney, and add to it by degrees the falt of tartar; keeping the matter constantly stirring with a spatula till it has acquired a red colour. Care must be had to prevent its taking fire.

IT is much more convenient to melt the fulphur first by itself, and add the falt of tartar by degrees, as here directed; than to grind them together, and afterwards endeavour to melt them as ordered in former editions: for in this last case, the mixture will not flow sufficiently thin to be properly united by ftirring; and the fulphur either takes fire, or fublimes in flowers, which probably has been the reason why fo large a proportion of it has been commonly directed. Even in the prefent method a confiderable part of the falphur will be diffipated; and if it were not, the hepar would not be of its due quality: for one part of fulphur requires two of the alkaline falt, to render it perfectly foluble in water, which this preparation ought to be.

The hepar sulphuris has a setid smell, and a nauseous taste. Solutions of it in water, made with sugar into a syrup, have been recommended in the same intentions as the balsams above-mentioned: our

Ii3 pharma-

pharmacopæias nevertheless have defervedly rejected this fyrup, as common practice has almost done the balfams. The hepar, digefted in rectified spirit of wine, imparts a rich gold colour, a warm, somewhat aromatic tafte, and a peculiar, not ungrateful smell. A tincture of this kind is kept in the shops, under the name of another mineral.

#### SULPHUR PRÆCIPITATUM. Precipitated Sulphur. Lond.

Boil flowers of fulphur in water, with thrice their weight of quicklime, till the fulphur be dissolved. Filter the folution, and drop into it some of the weak spirit of vitriol: this will throw down a precipitate, which is to be washed in fresh portions of water, till it become infipid.

#### LAC SULPHURIS. Edinb.

Boil the hepar fulphuris, reduced to powder, in four times its quantity of water, for three hours; adding more water if there be occasion. Then filter the solution whilft hot, and drop into it spirit of vitriol, till the effervescence ceases; a powder will be precipitated to the bottom, which is to be washed with hot water, and afterwards dried for use.

THE method of preparing this lac, as it is called, with hepar fulphuris, is the most expeditious, and least troublesome, provided the hepar be well made: and on the other hand, quicklime gives the preparation a more faleable whiteness. Some have been accustomed to add to the quicklime a portion of alkaline falt, with a view to promote its diffolving power.

The medicine is nearly the same in both cases. It would be exactly

the same, if the precipitation were performed with any other acid than the vitriolic: for this acid forms with the dissolved lime a selenitic concrete, which precipitates along with the fulphur, and is not afterwards separable by any ablution; whilst the neutral falt, which the acid forms with the fixt alkali of the hepar, may be totally dissolved, and washed off by repeated ablution with hot water; and the combinations of all the other acids, both with the lime and alkali, are feparated by cold water. It is probably to the admixture of the white felenitic matter, refulting from the vitriolic acid and lime, that the finer colour of the preparation made with lime is owing.

Pure lac sulphuris is not different in quality from pure sulphur itself; to which it is preferred, in unguents, &c. only on account of its colour. The whiteness does not proceed from the fulphur's having loft any of its parts in the operation, or from any new matter fuperadded: for, if common fulphur be ground with alkaline falts, and fet to sublime, it arises of a like white colour, the whole quantity of alkali remaining unchanged; and, if the lac be melted with a gentle fire, it returns into yellow fulphur again.

It may be observed, that the name lac sulphuris, or milk of sulphur, applied among us to the precipitate, is by the French writers confined to the white liquor before the precipitate has fallen from it.

## TINCTURA SULPHURIS VOLA-

Volatile tind are of Sulphur.

Take of

Flowers of fulphur, fix ounces; Sal ammoniac, one pound;

Quicklime, a pound and a half. Sprinkle some water on the lime, and when flaked and fallen into powder, grind it first with the sulphur, and afterwards with the sal ammoniac, in small quantities at a time: then distil the mixture in a retort, with a fire gradually increased. The distilled liquor is to be kept, in a bottle close stopt, for use.

This liquor has a strong offenfive smell, somewhat similar to that
which arises in the precipitation of
lac sulphuris. The vapour in both
cases spreads to a considerable distance, changes silver or copper
utensils to a brown or blackish colour, and produces disagreeable alterations in many medicinal preparations. To this circumstance
therefore due regard ought to be
had in the performance of that process, and in the keeping of this
incture. If a piece of paper, writ-

ten upon with a faturated folution of lead in vegetable acids, and gently dried, be placed in the middle of a quire of paper, or of a pretty thick book, and brought near the unstopt orifice of the bottle containing this tincture, the vapour will quickly reach it, and change the colourless writing to a

legible black.

Hoffman has a great opinion of the virtues of this preparation. He fays, a mixture of one part of the tincture with three parts of spirit of wine, in a dose of thirty or forty drops, proves a most powerful diaphoretic; and that a liquor composed of this and camphor, takes off the pain of the gout, by bathing the feet with it. This tincture may be a powerful medicine, but it is certainly a very unpleasant one.



## CHAPTER X.

Metallic Preparations.

### SECT. I.

### Preparations of Gold.

OLD is the most ponderous I and perfect of the metals : it abides fixt and unaltered in the ftrongest fire; and is not acted upon by alkaline, or any simple acid menstruum. It dissolves in aqua regia alone, into a yellow transparent fluid: this folution flains the fkin, &c. purple : the ethereal spirit of wine, and fome essential oils, take up the gold from it: alkalies precipitate the metal in form of a yellowish mud, which, exsiccated, and exposed to a small heat, violently explodes.

As to the medical virtues of this metal, experience has fufficiently shewn, that it is not possessed of any valuable ones. In its metallic form, however finely comminuted, it proves inactive; when fatiated with acid, corrofive; and in the intermediate states, either infignificant

or unsafe.

AURUM POTABILE. Potable gold.

Dissolve with a moderate heat, half a dram of fine gold, in two ounces of aqua regia; and add to the folution one ounce of the effential oil of rofemary. Shake them together, and then fuffer them to rest: the acid loses its gold yellow colour; and the oil, which arises to the surface, becomes richly impregnated therecantation, and add to it four or five ounces of rectified spirit of wine: digest this mixture for a month, and it will acquire a purplish colour.

THERE have been many preparations of this kind contrived by the defigning pretenders to alchemy, and imposed upon the credulous and unwary, as cordials and diaphoretics of inestimable value. The above feems to be one of the best and fafest of them; though it would be equally serviceable as a medicine, if made without the ingredient from which it receives its name. The gold is indeed taken up from the acid, and kept for a time dissolved by the oil; but on standing it totally separates, in form of fine yellow films, like leaf-gold. The effect is the same, whether the oil or the vinous spirit be mixed with the folution of the gold in aqua regia: the only difference is, that the gold is thrown off from the oil to the fides of the glass; while the spirit revives it into such fubtile films, as to float upon the furface of the liquor. No means have yet been found of permanently combining gold with either oils or vinous ipirits.

> AURUM FULMINANS. Fulminating gold. Paris.

with. Separate the oil by de- Put a dram of filings of gold, with half an ounce of aqua regia newly newly made, into a matrais, placed in fand. When the menftruum ceases to act, pour off the folution; and, if any of the gold be left, add as much more aqua regia as shall be sufficient to diffolve it. Dilute the folution with ten times its quantity of warm water; and then drop in oil of tartar per deliquium till the effervescence and precipitation cease. The whole being now fuffered to fettle, the clear liquor is to be poured off, and the precipitated matter washed with warm water till it becomes infipid, and afterwards exficcated.

This powder requires to be exficcated with the utmost precaution; for in a small heat it explodes with great violence. The fame effect ensues likewise upon strongly rubbing it. This property has given name to the preparation; and is the only one on account of which it is at prefent taken any notice of. It has been recommended, indeed, in fevers, as a diaphoretic, in the dose of a few grains: its more certain effect, however, is to operate downwards, and that not always with fafety. Konig and Ludovici relate, that in some febrile cases, it has occasioned almost mortal diarrhœas; and Stahl (de proexeucrifi medica, fect. viii.) reports. that the intestines have been found eroded by it. The more thoroughly it is washed and edulcorated, the less corrosive it is in the human body, and the less violently it fulminates when heated.

#### SECT. II.

## Preparations of Silver.

CILVER is the most permanent in the fire of all the metals, after gold. It dissolves in the pure nitrous acid, into a colourless, transparent liquor, intenfely bitter and corrolive. This folution exficcated, furnishes the shops with an useful caustic; which has likewise been taken internally in fmall doles, and mixed with other fubstances, as an hydragogue. It stains the skin black.

#### CAUSTICUM LUNARE. The lunar caustic. Lond.

Let pure filver be disfolved in about twice its weight of aquafortis, upon warm fand: then gently increase the heat, until a dry mass be left. Melt this in a crucible, that it may be poured into proper moulds, carefully avoiding overmuch heat, left the matter should grow too thick.

#### CAUSTICUM LUNARE, feu LAPIS INFERNALIS,

The lunar caustic, or infernal stone. Edinb.

Take any quantity of well-cupelled filver, flatted into plates and cut in pieces. Dissolve it by the heat of a fand-bath, in three times its weight of spirit of nitre. Evaporate the folution to dryneis, and put the remaining calx in a large crucible. Let the fire at first be gentle, and augment it by degrees, until the mais flow like oil, and cease to fume: then pour it into iron pipes made for this purpose, previously heated and greafed : laftly, let it be dried, and kept for use in a glass veffel close stopt.

STRONG

STRONG Spirit of nitre will disfolve fomewhat more than half its weight of pure filver; and the weaker of the aquæ fortes, formerly described, proportionably less, according to their quantity of pure nitrous acid. Sometimes this spirit contains a portion of the vitriolic or marine acids; which, however minute, renders it unfit for disfolving this metal, and should therefore be carefully separated before the folution is attempted. The method which the refiners employ, for examining the purity of their aquafortis, and purifying it if necessary, is, to let fall into it a few drops of a perfect folution of filver already made. If the liquor remain clear, and grow not in the least turbid or whitish, it is fit for their use; otherwife, they add a small quantity more of the folution, which immediately turns the whole of a milkwhite colour : the mixture being then fuffered to rest for some time, deposits a white fediment; from which it is warily decanted, examined afresh, and, if need be, further purified, by a fresh addition of the folution.

The filver, flatted into thin plates, as directed in the fecond of the above processes, needs not be cut in pieces : the folution will go on the more speedily, if they be only turned round into spiral circumvolutions, fo as to be conveniently got into the glass, with care that the feveral furfaces do not touch one another. By this management, a greater extent of the face is exposed to the action of the menstruum, than when the plates are cut in pieces and laid above one another. Good aquafortis will diffolve about half its weight of filver, and it is not advisable to ule a greater quantity of the menftruum than is fufficient for effe &ing the folution; for all the fur-

plus must be evaporated in the sub-

sequent fusion.

The crucible ought to be large enough to hold five or fix times the quantity of the dry matter; for it bubbles and fwells up greatly, fo as otherwise to be apt to run over. During this time, also, little drops are now and then spirted up, whose causticity is increased by their heat, and against which the operator ought therefore to be on his guard. The fire must be kept moderate till this ebullition ceases, and till the matter becomes confistent in the heat that made it boil before: then quickly increase the fire till the matter flows thin at the bottom, like oil; on which it is to be immediately poured into the mould, without waiting till the fumes cease to appear; for when this happens, the preparation proves not only too thick to run freely into the mould, but likewise less corrosive than it is expected to be.

In want of a proper iron mould, one may be formed of tempered tobacco-pipe clay, not too moift, by making in a lump of it, with a smooth stick first greased, as many holes as there is occasion for: pour the liquid matter into these cavities, and when congealed, take it out by breaking the mould. Each piece is to be wiped clean from the grease; and wrapt up in dry soft paper, not only to keep the air from acting upon them, but likewise to prevent their corroding or discolouring the singers in hand-

This preparation is a strong caustic, and frequently employed as such, for consuming warts and other sleshy excrescences, keeping down suggests shell in wounds or ulcers, and similar uses. It is rarely applied where a deep eschar is required, as in the laying open of imposshumations and tumours:

for the quantity necessary for these purposes, liquefying by the moisture of the skin, spreads beyond the limits in which it is intended to operate.

PILULE LUNARES.
The lunar pills.

Dissolve pure silver in aquasortis, as in the foregoing process, and, after due evaporation, set the liquor to crystallize. Let the crystals be again dissolved in common water, and mingled with a solution of equal their weight of nitre. Evaporate this mixture to dryness, and continue the exficcation with a gentle heat, keeping the matter constantly stirring, till no more sumes arise.

HERE it is necessary to continue the fire till the sumes entirely cease, as more of the acid is required to be distipated, than in the preceding

process. The preparation is, nevertheless, in taste very sharp, intenfely bitter and nauseous; applied to ulcers, it acts as a caustic, but much milder than the foregoing. Boerhaave, Boyle, and others, greatly commend it in hydropic cases. The former assures us, that two grains of it made into a pill, with crumb of bread and a little fugar, and taken on an empty ftomach (fome warm water, iweetened with honey, being drank immediately after), purge gently without griping, and bring away a large quantity of water, almost without the patient's perceiving it : that it kills worms, and cures many inveterate ulcerous disorders. He nevertheless cautions against using it too freely, or in too large a dofe; and observes, that it always proves corrofive and weakening, especially to the flomach.

#### SECT. III.

## Preparations of Iron.

I RON calcines by fire the most easily, and melts the most difficultly of all the metals. Sulphur promotes its fusion, and changes it into a substance not greatly dissimilar to a combination of the metal with vitriolic acid. All acids dissolve this metal; even the air corrodes it into a rust or calx.

Iron, in its metallic form, or lightly calcined, or combined with vegetable or with mineral acids, acts in the human body in the same manner (but with different degrees of power), by constringing the fibres. In all these states, it promotes, or restrains secretions, where the desiciency or excess proged from a laxity and debility of

the vessels; and, in general, raises the pulse, and quickens the circulation. The calces seem to be the least active preparations; the crude metal, duly comminuted, is more easily soluble in the animal sluids, and if acescent juices be lodged in the primæ viæ, soon manifests its operation by nidorous eructations, and the black colour of the alvine seces; if previously combined with saline bodies, it scarce ever fails of taking effect.

As the calces of iron are scarcely dissoluble in acids, it has been concluded that they are not soluble in the human body, and that therefore they are to be looked upon no otherwise than as a mere inactive earth. But admitting the absolute

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indiffolubility of iron while it confinues a calx, it must be observed, that the calces of this metal are remarkably easy of revival into their metallic state. Mr. Baume relates, that calx of iron, digested for an hour or two in oil olive, refumes its perfect metallic nature, fo as to be attracted by the magnet, and totally foluble in acids; whence he infers, that a like revival of the metal happens in the human body. It is matter of common observation, that calces of iron tinge the excrements black, a fure mark of their taking effect : though their effect appears to be neither fo speedy nor so great as that of iron in some other forms.

#### CHALYBIS RUBIGO PRÆ-PARATA.

Rust of steel prepared. Lond.

Expose filings of steel to the air, frequently moistening them with vinegar or water, until they change into ruft; then grind them in a mortar, and pouring on water, wash over the more fubtile powder. The remainder is to be exposed afresh to the air, and moistened as at first, then triturated and washed again, and the powders that have been washed over, dried, and kept for nie.

#### MARTIS LIMATURA PRÆ-PARATA.

Filings of iron prepared. Edinb.

Set filings of iron, first cleansed by the magnet, in a moist place, that they may turn to rust, which is to be ground into an impalpable powder.

They may likewise be prepared by moistening them with vine-

gar.

The cleaning of iron filings by

means of a magnet is very tedious, and does not answer so well as might be expected; for if they be rufty, they will not be attracted by it, or not fufficiently: nor will they, by these means, be entirely freed from brafs, copper, or other metallic substances which may adhere to them. It appears from the experiments of Henckel (Pyritolog. cap. vom eisem im kiest) that if iron be mixed by fusion with even its own weight of any of the other metals, regulus of antimony alone excepted, the compound will be vigoroufly attracted by the loadstone.—The rust of iron is to be procured at a moderate rate from the dealers in iron, free from any impurities, except fuch as may be

washed off by water.

The ruft of iron is preferable as a medicine to the calces, or croci made by a strong fire. Hoffman relates, that he has frequently given it with remarkable success, in obflinate chlorotic cases, accompanied with excessive headachs, and other violent symptoms: and that he usually joined with it pimpinella, arum root, and falt of tartar, with a little cinnamon and fugar. The dose is from four or five grains to twenty or thirty: fome have gone as far as a dram; but all the preparations of this metal answer best in small doses, which should rather be often repeated than enlarged.

> ÆTHIOPS MARTIALIS. Martial ethiops.

Put filings of steel into an unglazed earthen veffel, with fo much water as will fland above them about four inches; the whole is to be well flirred every day, and more water supplied, as that in the veffel exhales, so that the filings may remain always covered: continue this procedure for feveral months, till they lofe their

their metallic aspect, and are reduced to a fine powder of an inky blackness.

This preparation is described by Lemery in the Memoirs of the French academy. It is faid, that if the filings be left unstirred for some days, they unite together fo firmly, that the mass is scarcely to be beaten into powder by blows of a hammer; if they be left for a little while uncovered with water, the deep black colour does not fucceed, a part of them changing into ruft. Mr. Malouin observes, that this ethiops is better fitted for general use, than any other preparation of iron; that the metal is here in as fubtile a state as in the croci of iron; and that it is no more decompounded, or changed in its nature, than the crude filings are. He therefore recommends substituting it to the filings of croci, in doles of from four grains to eighteen. The tediousness of the process, however, has prevented its coming into use; especially as it does not promise any advantage, above the common chalybeate preparations, to counterbalance that inconvenience.

# CHALYBS CUM SULPHURE PRÆPARATUS.

Steel prepared with fulphur.

Heat the steel with a very sierce fire to a strong white heat; and in this state apply it to a roll of sulphur held over a vessel of water: the steel will melt, and fall down in drops, which are to be picked out from the sulphur that runs down with them, and ground into an impalpable powder.

It has been supposed by many, that this preparation is no other than common brimstone, and that

it contains nothing of the steel. If the steel indeed be not made extremely hot, it will not melt on applying it to the sulphur, and the latter will run into the water by itself: but if the metal be heated to the degree above directed, it will readily melt and fall down in drops of a brown colour; whilst the sulphur runs into long yellow strings.

The heat requisite for this purpole, is not early procurable in the common furnaces of the apothecary; and even if the fleel be fufficiently heated at first, it will foon become too cool to be corroded by the fulphur. For this reason, and on account of the offensive fumes which arise very copiously, and which are not avoidable by the operator, this process has been long neglected. The shops have been generally supplied with a preparation of feel with fulphur, made at an easier rate, in the following manner.

# MARS SULPHURATUS. Sulphurated iron. Edinb.

Mix filings of iron with twice their weight of powdered fulphur, and as much water as is fufficient to make them into a paste; which, on standing at rest for six hours, will swell up. The matter is then to be pulverized, put by degrees into a hot crucible to destingrate, and kept continually stirring with an iron spatula till it falls into a deep black powder.

If the quantity of this mixture be confiderable, and strongly pressed down, it will not only swell on standing for some hours, but will heave up very weighty obstacles, and burst out into stame.

### CROCUS MARTIS APERIENS.

Opening crocus of iron.

This is made by keeping the foregoing

going preparation longer over the fire, till it assumes a red colour.

CROCUS MARTIS ASTRIN-GENS.

> Astringent crocus of iron. Edinb.

This is made from the opening crocus of iron, by reverberating it for a long time in the most extreme degree of heat.

THESE preparations differ from one another in virtue; though the difference is not of fuch a kind as the titles, they have been usually distinguished by, import. All the preparations of steel act by an altringent quality; that above, denominated astringent, seems to have the least effect. They may be given in form of bolus, electary, or pill, from fix grains to a fcruple.

In some foreign pharmacopæias, the croci of iron are prepared from pure green vitriol. This strongly calcined (or the colcothar remaining after the distillation of oil of vitriol) is the aftringent crocus; when lefs calcined, it is called aperient. These preparations differ little, if at all, from those above diffinguished by the same appellations; and, accordingly, the Edinburgh college has now allowed the fubilitation of colcothar of vitriol to both the croci.

MARS SOLUBILIS, feu CHALYBS TARTARIZATUS.

Soluble, or tartarized feel.

Edinb. Mix equal parts of iron filings, and crystals of tartar, with as much water as is sufficient to reduce them into a mais: this mais is to be dried in a fand heat; then

powdered, moistened, and dried again; and this process repeated, till fuch time as the matter will easily grind into an impalpable powder.

This is a very elegant and useful preparation of steel, and will in many cases take effect after all the foregoing ones have failed; the falt here joined rendering the metal fufficiently foluble in the animal fluids. It may be given either in a liquid form, or in that of a bolus, &c. in doses of four or five grains, or half a scruple. Dr. Willis is faid to have been the inventor of this preparation, and by his name it has been usually distinguished in the shops. The chemists have received another method of preparing iron with tartar; which is as follows.

MARS SOLUBILIS ALCALIZATUS A!kalized foluble freel.

Take equal quantities of filings of iron, and of white tartar. Grind them together, and put them into a crucible, which is to be fet in a fire strong enough to make the materials red hot; in this state, let them continue for some time. When grown cold, powder the matter in a mortar; and the part which will not pass through a fine fieve, heat and pulverize again; repeating this, until the whole be passed through. Mix the feveral fiftings together, and keep them in a vessel close stopt from the air.

This preparation is foluble like the foregoing. Exposed to the air, it deliquiates like alkaline falts (the tartar being converted into an alkali by the fire) and therefore it is not to be prescribed in any dry form. It is very rarely used.

FLORES MARTIALES.

Martial flowers.

Lond.

Take of

Colcothar of green vitriol washed, or filings of iron, one pound;

Sal ammoniac, two pounds.

Mix and sublime in a retort. Grind the flowers with the matter which remains in the bottom of the retort, and repeat the sublimation until the flowers arise of a beautiful yellowish colour.

To the residuum you may add half a pound of fresh sal ammoniac, and sublime as before; repeating this as long as the slowers

arife well coloured.

THE success of this process depends principally upon the fire's being hastily raised; that the sal ammoniac may not fublime before the heat is become strong enough to enable it to carry up a fufficient quantity of the iron. Hence glass vessels are not so proper as earthen or iron ones; for when the former are made use of, the fire cannot be raifed quick enough, without endangering the breaking of them. The most convenient vessel is an iron pot : to which may be luted an inverted earthen jar, having a fmall hole in its bottom, to fuffer the elastic vapours, which arise during the operation, to escape. It is of advantage to thoroughly mix the ingredients together, moisten them with a little water, and then gently dry them; and to repeat the pulverization, humectation, and exficcation, two or three times, or oftener. If this method be followed, the fal ammoniac may be increased to three times the quantity of the iron, or further; and a fingle sublimation will often be fufficient to raise flowers of a very deep orange colour.

This preparation is supposed to be highly aperient and attenuating; though no otherwise so than the rest of the chalybeates, or at most, only by virtue of the faline matter joined to the iron. It has been found of good fervice in hysterical and hypochondriacal cases, and in distempers proceeding from a laxity and weakness of the folids, as the rickets. It may be conveniently taken in the form of a bolus, from two or three grains to ten. It is nauseous in a liquid form (unless in spirituous tincture) and occasions pills to fwell and crumble, except fach as are made of the gums.

## LIXIVIUM MARTIS. Ley of iron.

Let the matter, which remains after the sublimation of the martial flowers, be set by in a moist place. It will run into a liquor, which is to be kept for use.

This liquor feems greatly to refemble a faturated folution of iron made in spirit of salt. Its taste is highly astringent, and somewhat sweetish. It may be given in doses of a drop or two in any convenient vehicle, for the same intentions as the other chalybeates. It is called by some of the chemical writers, oleum martis per deliquium, and effentia martis.

# SAL MARTIS. Salt of steel. Lond.

Take of

Strong spirit or oil of vitriol, eight ounces; Iron filings, four ounces;

Water, two pints.

Mix them together; and, after the ebullition ceases, let the mixture stand for some time upon warm fand; then pour off and filter

the

the liquor; and, after proper exhalation, fet it by to crystallize.

VITRIOLUM MARTIS, seu
SAL CHALYBIS.

Vitriol of iron, or falt of steel.

Edinb.

Take of

Oil of vitriol diluted with an equal quantity of warm water, four ounces;

Filings of iron, three ounces. Cautiously mix them together, and digest in a cucurbit for twelve hours, that the metal may be Filter the folution diffolved. whilft hot, then evaporate it till a pellicle appears on the furface, and fet it in a cold place, until the vitriol has crystallized at the bottom of the vessel. The liquor poured off from the crystals is to be again evaporated till a pellicle forms on the top, and fet to shoot as before. Collect all the crystals together, and dry them on a paper in the shade.

During the diffolution of the iron, a strong sulphureous vapour arises, which on the approach of slame, catches fire, and explodes, so as sometimes to burst the vessel. To this particular, therefore, the operator ought to have due regard.

The chemists are feldom at the trouble of preparing this falt according to the directions just given : but in its stead substitute common green vitriol, purified by folution in water, filtration, and crystalli-The only difference bezation. twixt the two is, that the common vitriol contains fomewhat more metal in proportion to the acid; and hence in keeping, its green colour is much fooner debased by a rusty brownish cast. The superfluous quantity of metal may be eafily feparated, by fuffering the folution

of the vitriol to fland for some time in a cold place, when a brownish vellow ochery sediment will fall to the bottom; or it may be perfectly distolved, and kept suspended, by a fuitable addition of oil of vitriol. If the vitriol be suspected to contain any cupreous matter (which it does not appear that the common English vitriol ever does, though almost all the foreign vitriels do), the addition of some bright iron wire to the folution will both discover, and effectually separate that metal: for the acid quits the copper to dissolve a proportionable quantity of the iron; and the copper, in its separation from the acid, adheres to the undiffolved iron, and forms a fkin of a true copper colour upon its furface. Even a vitriol of pure copper may, on this principle, be converted into a pure vitriol of iron.

But though the vitriolic acid appears, in this operation, to have fo much stronger a disposition to unite with iron than with copper, that it totally rejects the latter upon prefenting the former for it to act upon; the operator may, neverthelefs, give a dangerous impregnation of copper to the purest and most faturated folution of iron in the vitriolic acid, by the use of copper vessels. If the martial folution be boiled in a copper veilel, it never fails to dissolve a part of the copper, distinguishable by its giving a cupreous stain to a piece of bright iron immerfed in it. By the addition of the iron, the copper is separated; by boiling it again without iron, more of the copper is diffolved. And this may in like manner be separated by adding more iron.

The falt of steel is one of the most efficacious preparations of this metal; and not unfrequently made

use of, in cachectic and chlorotic cases, for exciting the uterine purgations, strengthening the tone of the viscera, and destroying worms. It may be conveniently taken in a liquid form, largely diluted with aqueous fluids. Boerhaave directs it to be dissolved in an hundred times its quantity of water, and the folution to be taken in the dole of twelve ounces, on an empty flomach, walking gently after it. Thus managed, he fays, it opens the body, purges, proves diuretic, kills and expels worms, tinges the excrements black, or forms them into a matter like clay, strengthens the fibres, and thus cures many different distempers. The quantity of vitriol in the above dole of the folution is fifty-feven grains and a half: but in common practice, such large doses of this chalybeate are never ventured on. Four or five grains, and in many cases half a grain, are sufficient, for the intentions in which chalybeate medicines are given. Very dilute folutions, as that of a grain of the falt in a pint of water, may be used as fuccedanea to the natural chalybeate waters, and will in many cafes produce similar effects.

# -deficient sons enter a SECT. IV.

### Preparations of Copper.

OPPER is less easy of solution than iron; and, in its metallic state, does not appear to be acted on by the animal fluids, or to have any confiderable effect in the body. Dissolved, it proves exterhally an escharotic; internally, a violent purgative and emetic. Acids of every kind dissolve it, and likewife volatile alkalies. With the vegetable and marine acids, it forms a green folution; with the vitriolic acid, and volatile alkalies, a blue.

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Es usrum. Let thin copper plates be firatified in a crucible with fulphur; and calcined with a firong fire until they become pulverable.

PREPARATIONS of this kind, made with fulphur, nitre, and common falt, or mixtures of thefe, or by calcining the copper without addition, have been sometimes used in external applications, for drying and cleanfing ulcers, and preventing the growth of fungous field;

and sometimes likewise internally. They are still retained in some foreign pharmacopæias, but have not for a long time been taken notice of among us, for any medicinal intention.

CRYSTALII VENERIS.

Crystals of copper. Dissolve pure copper in thrice its weight of aquafortis, adding the metal to the acid by little and little at a time. Evaporate the liquor by a gentle heat, till one half of it be wasted; then set the remainder in a cool place to crystallize: afterwards dry the crystals, and keep them in a vial close-stopt from the air.

THESE crystals are strongly cauflic; fimilar to the causticum lunare; but are so much disposed to liquety, that they are scarce ever made use of, and cannot early be preferved.

TINCTURA VENERIS VOLATILIS. Volatile tincture of copper.

Take of Copper filings, one dram; Spirit Spirit of fal ammoniac, twelve drams.

Let them stand together in a close vessel, frequently shaking it, until the liquor is tinged of a beautiful violet colour.

This tincture, or folution, of copper has been given internally, in the dole of a few drops, as a diuretic. Boerhaave directs at first three drops to be taken in a morning falting, with a glass of mead, and this dofe to be daily doubled till it comes to twenty-four drops ; which last quantity is to be continued for some days. He says, that by these means, he cured an hydropic person labouring under a confirmed ascites; and that the medicine procured furprifing discharges of urine; that nevertheless, on trying it in another case of the same kind, it did not answer. See the article CUPRUM.

## ENS VENERIS.

Take of

Colcothar of green vitriol well edulcorated with water, and afterwards dried,

Sal ammoniac, of each equal

Reduce them separately into powder; then mix, and put them into an earthen cucurbit, so as to fill two-thirds of it. Place the cucurbit in an open fire, and, having adapted to it a glass blindhead, apply at first a gentle heat, which is to be increased by degrees, and continued as long as the slowers arise of a yellow colour inclining to red. When the vessels are grown cold, let the slowers be carefully swept out with a feather.

Is the blue vitriol be perfectly good, this process will not succeed

in the manner here fet down. Where it does succeed, that is, where the flowers prove of a reddish yellow colour (ex luteo rubentes) it is to be presumed, that the fuccess is owing to the vitriol's partaking largely of iron, and that the preparation is not greatly different from the flores martiales of the preceding fection. The colour of blue vitriol is undoubtedly owing to copper: but most of the common vitriols of this kind contain, also, no inconsiderable quantity of iron; and a reddith yellow colour of the flowers may be looked upon as a mark, that it is chiefly or folely the iron that the fal ammoniac has carried up. For this is the colour which iron always gives in its fublimates with fal ammoniac; whereas copper, in all its folutions, or foluble combinations with fal ammoniac, or other faline bodies, gives a blue or green, or a colour compounded of these two.

The process is originally taken from Mr. Boyle, who tells us, that he and a chemist, endeavouring to imitate Butler's stone by a preparation of calcined vitriol, and finding the medicine upon trial, though far short of what Helmont ascribes to his, yet no ordinary one, they called it, for the mineral's sake it was made of, ens primum veneris.

The composition of vitriols was at that time but imperfectly known: and this is not the only instance of an effect's being ascribed to the cupreous part of a vitriol, which was owing to the ferrugineous. Though Boyle looked on the preparation as proceeding from copper, and accordingly directs a good venereal vitriol to be used; yet, in the Goslarian and Dantzick vitriol, which he recommends as being very fit for the purpose, iron is the prevailing metal, the quantity of copper being very inconsiderable; and

it appears from his own words, that fometimes, at least, he used the English vitriol, which is scarcely ever found to contain any metallic matter befides iron. The yellow or reddish colour which he ascribes to his sublimate, and its property of turning to an inky blackness with infusion of galls, are marks of its having been truly a chalybeate pre-

paration.

In a preceding edition of the London pharmacopæia, agreeably to Boyle's opinion of the production of the sublimate, the process was inferted with blue vitriol; and the pharmacopæias of Edinburgh and Paris followed the example. The London college, at the last revifal of their book, have corrected this error, and ordered green vitriol, or filings of iron itself, to be used; but the mistake is still continued in the other pharmacopæias.

From good blue vitriol, or pure vitriol of copper, the fublimate here required cannot be obtained: and, although it may be prepared from the common blue vitriol of the shops, as I have on trial found that it may ; yet it is forely imprudent to endanger impregnating the preparation with that noxious metal; more especially as pure vitriols of iron are procurable at a much cheaper rate than the others. Those mixed vitriols in which the copper greatly prevails, give first a green or blue cupreous sublimate, and afterwards a yellow or reddish ferrugineous one; and those in which iron abounds most, give first the ferrugineous, and afterwards the cupreous flowers; though possibly neither sublimate is entirely free from an admixture of the other.

## SECT. V.

## Preparations of Lead.

T EAD readily melts in the fire, and calcines into a dufky powder: which, if the flame be reverberated on it, becomes at first yellow, then red, and at length melts into a vitreous mass. This metal diffolves easily in the nitrous acid, difficultly in the vitriolic, and in fmall quantity in the vegetable acids; it is also soluble in expressed oil, especially when calcined.

Lead, and its calces, whilst undissolved, have no considerable effects as medicines. Dissolved in oils, they are supposed to be (when externally applied) anti-inflammatory and deficcative. Combined with vegetable acids, they are notably fo; and taken internally

prove a powerful but dangerous styptic.

#### PLUMBUM USTUM.

Burnt lead. Edinb.

Melt lead with a gentle fire, and keep it continually flirring, with an iron spatula, till it change into powder. The state of the

#### in list rellruit MINIUM. Red lead. Edinb.

Let any quantity of lead be melted in an unglazed earthen veffel, and kept stirring with an iron spatula, till it fall into a powder, at first blackish, afterwards yellow, and at length of a deep K k z

red colour, in which last state it is called minium; taking care not to raise the fire so high as to run the calk into a vitreous mass.

THE preparation of red lead is fo troublesome and tedious, as scarce ever to be attempted by the apothecary or chemist; nor indeed is this commodity expected to be made by them, the preparation of it being a distinct branch of busineis. The makers melt large quantities of lead at once, upon the bottom of a reverberatory furnace built for this purpole, and so contrived, that the flame acts upon a large furface of the metal, which is continually changed by the means of iron rakes drawn backwards and forwards, till the fluidity of the lead be destroyed; after which, the calx is only now and then turned. By barely stirring the calx, as before directed, in a vessel over the fire, it acquires no redness; the reverberation of name upon the furface being absolutely necessary for this effect. It is faid, that twenty pounds of lead gain, in this process, five pounds; and that the calx, being reduced into lead again, is found one pound less than the original weight of the metal.

These calces are employed in external applications, for abating inlammations, cleaning and healing nicers, and the like. Their effects, however, are not very considerable; nor are they perhaps of much further real use, than as they give considence to the plaster, unguent, &c.

# CERUSSA. Ceruse, or white lead.

Put some vinegar into the bottom of an earthen vessel, and suf-

pend over the vinegar very thin plates of lead, in such a manner that the vapour which arises from the acid, may circulate about the plates. Set the containing vessel in the heat of horse-dung, for three weeks. If, at the end of this time, the plates be not totally calcined, scrape off the white powder, and expose them again to the steam of vinegar, till all the lead be thus corroded into powder.

THE making of white lead also is become a trade by itself, and confined to a few persons, who have large conveniencies for this purpose. The general method which they follow, is nearly the same with that before described. See the Philosophical Transactions, No 137.

In this preparation, the lead is fo far opened by the acid, as to discover, when taken internally, the malignant quality of the metal; and to prove externally, when sprinkled on running fores, or ulcers, moderately cooling, drying, and astrictive.

# SACCHARUM SATURNI. Sugar of lead. Lond.

Boil ceruse with distilled vinegar, in a leaden vessel, until the vinegar become sufficiently sweet: then filter the vinegar through paper, and, after due evaporation, set it to crystallize.

#### Edinb.

Put any quantity of ceruse into a cucurbit, and pour thereon distilled vinegar to the height of four inches. Digest them together for somedays 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 fresh vinegar to the remainder,

remainder, and repeat this process till the menstruum no longer extracts any sweet taste. Let all the impregnated liquors rest for fome time: and, after they have been poured from the feces, evaporate them, in a glass vessel, to the confisence of thin honey; fo that, upon being fet in a cool place, the fugar may shoot into crystals, which are afterwards to be dried in the shade. Exhale the remaining liquor to a pellicle, fet it again in the cold, and more crystals will shoot. Repeat this operation till no crystals can be any longer obtained.

CERUSE (especially that fort called flake lead, which is not, like the others, subject to adulteration) is much preferable either to minium or litharge, for making the fugar of lead: because the corrosion, which it has already undergone from the steam of vinegar, disposes it to dissolve more readily. It should be finely powdered before the vinegar is put to it, and during the digestion, or boiling, every now and then stirred up with a wooden spatula, to promote its dissolution, and prevent its concreting into a hard mass at the bottom. The strong acid obtained from the caput mortuum of vinegar may be employed for this process to better advantage than the weaker, though purer acid, before directed. If a small quantity of rectified spirit of wine be prudently added to the folution as foon as it is duly exhaled, and the mixture fuffered to grow cold by flow degrees, the fugar will concrete into very large and transparent crystals, which are scarcely to be obtained by any other method.

The fugar of lead is much more efficacious than the foregoing preparations, in the feveral intentions to which they are applied. Some have ventured upon it internally, in doses of a few grains, as a styptic, in hamorrhages, profuse colliquative sweats, seminal fluxes, the fluor albus, &c. nor has it failed their expectations. It very powerfully restrains the discharge; but almost as certainly as it does this, it occasions symptoms of another kind, often more dangerous than those removed by it, and sometimes fatal. Violent pains in the bowels, or through the whole body, and obstinate constipations, fometimes immediately follow, efpecially if the dose has been considerable. Cramps, tremors, and weakness of the nerves, generally, fooner or later, enfue.

Boerhaave is of opinion, that this preparation proves malignant only fo far as its acid happens to be abforbed in the body; for in wch cafe, he fays, " it returns again into ce-" rufe, which is violently poifon-" ous." On this principle it would follow, that in habits where acidities abound, the fugar of lead would be innocent. But this is far from being the case. Lead and its preparations act in the body only fo far as they are combined with acid. Ceruse possesses the qualities of the faccharum only in a low degree; and either of them, freed from the acid, has little, if any ef-

fect at all,

#### SECT. VI.

### Preparations of Tin.

IN eafily melts in the fire, and calcines into a dusky powder, which by a further continuance of the heat, becomes white. A mass of tin, heated till it is just ready to melt, proves extremely brittle, so as to fall in pieces from a blow, and, by dextrous agitation, into powder. Its proper menstruum is aqua regia; though the other mineral acids also may be made to dissolve it entirely, and the vegetable ones in small quantity. It crystallizes with the vegetable and vitriolic acids; but with the others, deliquiates.

The virtues of this metal are little known. It has been recommended as an antihysteric, antihectic, &c. At present it is chiesly

used as an anthelmintic.

#### STANNUM PULVERATUM.

Powdered tin.

Land.

Melt the tin, and pour it into a wooden box rubbed in the infide with chalk. Then immediately let the box be nimbly shaken, and a part of the tin will fall into powder. The remainder is to be melted a second time, and treated in the same manner, till the whole of the metal be thus reduced into powder.

This preparation has been used for some time as a remedy against worms, particularly the flat kinds, which too often elude the force of other medicines. The general dose is from a scruple to a dram; some

confine it to a few grains. But Dr. Alston affures us, in the Edinburgh estays, that its fuccess chiefly depends upon its being given in much larger quantities. He gives an ounce of the powder on an empty flomach, mixed with four ounces of melasses; next day, half an ounce; and the day following, half an ounce more: after which a cathartic is administered. fays the worms are usually voided during the operation of the purge, but that pains in the stomach occafioned by them are removed almost immediately upon taking the first dofe of the tin. The experiments on tin, related before in this work, account sufficiently for its being destructive to these animals; though not for its being fafe to the patient.

CALX JOVIS.

Calx of tin.

Edinb.

Melt any quantity of tin in an unglazed earthen vessel, and keep it continually stirring with an iron spatula, until it falls into a calx.

This process is not here intended to be carried so far as the pharmaceutical writers in general direct. It must be discontinued as soon as the metal is reduced into a dusky powder: if calcined to whiteness, the following operation would not well succeed. As to the virtues of the calx, they do not seem to be greatly different from those of the foregoing preparation.

SAL JOVIS.
Salt of tin.
Edinb.

Take one pound of the foregoing calx of tin; and four ounces of aqua regia, diluted with fix times its quantity of fpring water. Digest them together in a fandheat for two days: then shake the vessel; and, after the more ponderous parts of the calx have lubfided, pour off the turbid liquor, and evaporate it almost to dryness; the further exliccation of the matter is to be performed on bibulous paper. On the calx which is left, pour half as much of the dissolvent as was employed at first; and proceed in the fame manner as before.

In former editions, the menstruum, after digestion upon the calx of tin, was ordered to be filtered, then evaporated till a pellicle appeared upon the furface, and fet by to crystallize. But the crystallization succeeded very ill; and such crystalline matter, as was with difficulty obtained, proved to be little other than a nitrous ammoniacal falt afforded by the aqua regia; for this menstruum does not diffolve, or diffolves only an inconsiderable quantity of, the calx of tin. The process is now rendered more practicable, by allowing the finer parts of the calx to be mixed with the liquor in an undiffolved state, and the whole to be inspissated and exsecuted together. It is probable, however, that the preparation here intended might be obtained in a manner still more commodious.

I cannot apprehend what advantage there is in calcining the tin. Tin, in its metallic state, dissolves freely in aqua regia, but calcinations render it almost indissoluble

in that menstruum; the further it is calcined, the more does it lose of its solubility. If tin and its calx were of equal solubility, it could scarcely be suspected that the solutions of the two would be different in quality; for the phlogiston, or instammable principle, which sire expels from metals in their calcination, is equally extricated by acids in their dissolution. A salt of tin with aqua regia may therefore be more advantageously prepared in the following manner:

Let melted tin be poured in small streams into a vessel of cold water, that it may be reduced into grains. Drop these by little and little, as a grain at a time, into aqua regia, that the dissolution may go on slowly, without effervescence or the discharge of sumes. When the metal is no longer acted on, pour off the solution, and evaporate it in a sand-heat, till a dry salt is lest.

This preparation feems intended chiefly for external use, as a mild escharotic and detergent. It is not so corrosive as might be expected, nor much disposed to liquesy in the air, though it is not easily made to assume a crystalline form. A perfect crystalline salt may be obtained from tin by the vitriolic acid, in the following manner:

Take two ounces of tin, reduced into grains or filings; and five ounces of oil of vitriol. Put them into a wide-necked glass, in a fand-heat, and increase the fire till the liquid boils and evaporates, and the matter remains almost dry. Then remove the vessel from the fire, and, when the faline residuum has concret-

ed, add a proper quantity of water, which, by the affiftance of a moderate heat, will diffolve nearly the whole. Filter the folution, and, after due evaporation, fet it to crystallize.

SALT of tin for internal use, has been commonly directed to be prepared with distilled vinegar; by digesting the vinegar on calcined tin, and then evaporating and crystallizing. Several of the chemists have denied that any crystals would by these means be obtained, or that the distilled vinegar would dissolve any part of the calx: and indeed when the tin is but moderately calcined, as above directed, it does not appear that any solution hap-

pens.

There are two states in which tin is confiderably acted upon by vegetable acids: its perfect metallic state, and that of a perfect calx. Plates of pure tin, put into common vinegar, are in a few hours corroded: by degrees the liquor becomes quite opake and turbid, and deposits great part of the corroded tin to the bottom in form of a whitish powder; but still retains a part exquifitely divided; for, after standing many days, and after paffing through a filter, fo much remained suspended, as to give a whitishness and opacity to the fluid. Acid juices of fruits, subflituted for vinegar, exhibited the fame phænomena. These experiments, though they do not shew that the tin is thus sufficiently dissolved to afford a perfect crystalline salt, prove, nevertheless, what is of more importance to be known, that tin or tinned veffels, however pure the tin be, will give a metalline impregnation to light vegetable acids fuffered to stand in them for a few hours.

In order to the obtaining of a perfect folution of tin for crystallization, the metal must be highly calcined; for, though its folution in mineral acids be prevented by calcination, it is otherwise in regard to the vegetable. Some take the common calx of tin, and having fpread it thinly over the bottom of a proper veffel, continue the calcination in a gentle heat, frequently ftirring the powder, for three or four days, in a furnace where the air may pass freely over the furface. Others mix the common calx or filings of tin with twice their weight of nitre, and inject the mixture by degrees into a vefiel strongly heated, over which are fitted a number of aludels, or earthen pots with holes in their bottoms. The lowermost of these veffels has a hole also in the fide, through which the matter is thrown in: during the deflagration which happens on each injection, a part of the tin is volatilized, and adheres to the pots in form of a fine white powder, which is fwept out and washed with water. Others obtain a calx of tin, perhaps not less perfect, more expeditiously and with less trouble: by dissolving the metal in aqua regia (which, as already observed, has, in this respect, nearly the same effect as fire) and by afterwards recovering the calx, by diluting the folution with about four times its quantity of water, and gradually adding to it spirit of sal ammoniac till the effervescence ceases; a white curdly matter precipitates, which is to be washed with water and dried.

Take of calx of tin, prepared in either of the above methods, one pound; of distilled vinegar, one gallon. Digest them together, occasionally stirring up the matter

matter from the bottom, till the vinegar has acquired a rough fweetish taste then evaporate the liquor to the consistence of a syrup, add to it about one-twentieth its weight of rectified spirit of wine, and suffer the heat slowly to decrease, that the salt may crystallize.

THE crystals obtained by this method are hard, solid, colour-less, transparent, void of acrimony. They have been recommended, in the dose of a few grains, in uterine disorders: but it does not appear that experience has warranted the virtues attributed to them; nor are any of these salts at present made use of in common practice, or kept in the shops.

The powder precipitated from aqua regis, either by volatile alkalies, or by water alone, is sometimes employed as a cosmetic, under the name of Magistery of the name of Magistery of the name of this kind might be obtained, by dissolving the metal in the vitriolic acid, and precipitating with volatile spi-

rits.

# AURUM MUSIVUM. Mofaic gold. Lond.

Take of

Tin, one pound; Flowers of sulphur, seven ounces; Sal ammoniac,

Purified quickfilver, of each half

a pound.

Melt the tin by itself, add to it the quicksilver, and, when the mixture is grown cold, reduce it into powder. Mix this with the sulphur and sal ammoniac, and sublime in a matrass. The mosaic gold will be found under the sublimed matter, with some dross at the bottom.

THE management of this process, so as to give to the preparation the beautiful colour and appearance for which it is admired, has been held as a fecret. The chemists seem greatly divided as to the proportions which the ingredients ought to bear to each other, and in this some make the chief difficulty to confift; while others make the due regulation of the fire to be the principal point. There does not however appear to be any very great nicety in either respect. I have found the process to succeed equally with very different proportions of the materials; by mixing them thoroughly together; putting them into a wide-necked matrass upon a little fand in an iron pot; applying a gentle fire for some time, till the white fumes, which arose copiously at first, and passed out at the neck of the glass, began to abate; then gradually increasing the fire till the fand became redhot, and keeping it up in this state for a considerable while, according to the quantity of the mix-

The mosaic gold is chiefly valued, and receives its name from its sparkling gold-like hue. As a medicine, it is at prefent little regarded: though formerly held in considerable esteem, in hysterical and hypochondriacal complaints, malignant fevers, and venereal diforders. In these last it has been recommended, from a supposition of its being a mercurial; but, on considering the circumstances of the process, and the phænomena that occur in it, there will appear little probability of any of the mercury's being retained in the preparation.

The matrass being broken when the process is finished, the mosaic gold is found in the bottom; and

the

consists partly of sal ammoniac, partly of sulphur, and partly of a cinnabar resulting from the combination of part of the sulphur and mercury. The aurum mosaicum is found to weigh more than the tin employed; but pure tin, in being calcined by itself, gains very nearly as much as it does in this proceess: the golden colour is probably owing to a minute portion of sulphur adhering to the tin. On roasting the aurum over a gentle fire, it smokes a little, and soon changes its gold-

en hue to a dirty-coloured one, not unlike that of tin lightly calcined. Being then mixed with a proper flux, and melted in a crucible, it yields a lump of tin, not far short of the original weight of the metal.

The college of Edinburgh, tho' they formerly divided this preparation into two processes, one for amalgamating the tin with the mercury, the other for the sublimation with the sulphur and sal ammoniac, have now entirely rejected it.

#### SECT. VII.

### Preparations of Mercury.

ERCURY, or quickfilver, is a ponderous metallic fluid, totally volatile in a ftrong fire, and calcinable by a weaker one (though very difficultly) into a red powdery fubstance. It dissolves in the nitrous acid, is corroded by the vitriolic, but not acted on by the marine in its liquid flate. It nevertheless may be combined with this last, if skilfully applied in the form of fume. Quickfilver unites, by trituration, with earthy, unctuous, refinous, and fimilar substances, so as to lofe its fluidity: triturated with fulphur, it forms a black mais, which by fublimation changes into a beautiful red one.

The general virtues of the mercurial preparations are, to fuse the juices, however viscid, in the minutest and remotest vessels; by these means they prove eminently serviceable in inveterate chronical disorders, proceeding from a thickness and sluggishness of the humours, and obstinate obstructions of the glands. Crude mercury has no effect this way. Resolved into fume, or divided into minute particles, and prevented from re-uniting by the interpolition of other fubstances, it operates very powerfully; unless the dividing body be fulphur, which restrains its action. Combined with a small quantity of the mineral acids, it acts effectually, though in general mildly; with a larger, it proves violently corrosive.

#### ARGENTI VIVI PURIFI-CATIO.

Purification of quickfilver. L. E.

Distil quicksilver in a retort; and afterwards wash it with water and common salt, or with vinegar.

Is a glass retort be made use of for this operation, it ought to have a low body, and a long neck; and the neck should be considerably inclined downwards, so as to allow the elevated mercury a quick descent. The receiver should be silled almost to the neck of the retort with water; the use of this is

not to condense, but to cool, the diffilling quickfilver, left falling hot upon the bottom, it should crack the glass. The distillation may be more conveniently performed in an iron retort, or an iron

pot fitted with a head.

The fire should be raised no higher than is sufficient to elevate the mercury; for certain mineral fubstances, which are faid to be fometimes mixed with it, prove in part volatile in a degree of heat not much greater than that in which mercury diffils. Mr. Boyle relates, that he has known quickfilver carry up with it a portion even of lead, fo as to have its weight very fenfibly increased thereby; and this happened, though only a moderate hre was used.

MERCURIUS ALCALIZATUS. Alkalized mercury.

Take of

Pure quickilver, three drams; Prepared crabs-eyes, five drams. Grind them together in a glais mortar, till the mercurial globules dilappear.

This preparation, which has never been received into the London pharmacopœia, and is now rejected from that of Edinburgh, is inferted here on account of its being still now and then called for, and held by some in considerable esteem. It has never come much into common practice, the labour of making it having been a temptation to a grievous abuse in its preparation, viz. the addition of an intermedium, which facilitates the union of the mercury with the crabs eyes, but greatly abates its medical powers. The medicine, when duly prepared, is an uleful alterative; and may be given, in cutaneous or venereal cases, from two or three grains to a scruple,

MERCURIUS SACCHA-RATUS.

> Sugared mercury. Edinb.

Take of

Pure quickfilver,

Brown fugar-candy, of each half an ounce;

Effential oil of juniper berries, hateen drops.

Grind them together in a glass mortar, until the mercury ceases

to appear.

THE effential oil, here added, is faid to be a very afeful ingredient; not only promoting the extinction of the quickfilver (which however is ftill not a little difficult and tedious) but likewise improving the medicine. The intention, in this and the foregoing process, is only to divide the mercury by the interposition of other bodies; for when thus managed (as already observed) it has very powerful effects; though whilft undivided it feems to be altogether inactive. Sugar alone apparently answers this intention; but, on the commixture of aqueous fluids, the fugar diffolves by itself, leaving the mercury to run together again in its original form. The addition of the oil is faid in great measure to prevent this inconvenience. The dose of this medicine, as an alterative, is from two or three grains to a scruple.

#### ÆTHIOPS MINERALIS. Ethiops mineral. Lond.

Take of

Purified quickfilver,

Flowers of fulphur, unwashed, of each equal weights.

Grind them together, in a glass or stone mortar, until they are united.

Edinb.

Take of Purified quickfilver,

Flowers

Flowers of fulphur washed, each equal weights.

Grind them together in a glass mortar, with a glass pessle, till the mercurial globules totally disappear.

An ethiops is made also with a double quantity of mercury.

THE union of the mercury and fulphur might be greatly facilitated by the affiftance of a little warmth. Some are accustomed to make this preparation in a very expeditious manner, by melting the fulphur in an iron ladle, then adding the quickfilver, and stirring them together till the mixture be completed. The small degree of heat here fufficient, cannot reasonably be supposed to do any injury to substances, which have already undergone much greater fires, not only in the extraction from their ores, but likewise in the purifications of them directed in the pharmacopæia. In the following process, they are exposed in conjunction to a strong fire, without suspicion of the compound's receiving any ill quality from it. Thus much is certain, that the ingredients are more perfectly united by heat, than by the degree of the triture usually bestowed upon them. From the ethiops prepared by triture, part of the mercury is apt to be spued out on making it into an electary or pills. From that made by fire, no separation is observed to happen.

Ethiops mineral is one of the most inactive of the mercurial preparations. Some practitioners have boldly asserted its possessing extraordinary virtues; and most people imagine it a medicine of some essential estates. But what benefit is to be expected from it in the common doses of eight or ten grains, or a scruple, may be judged hence, that it has been taken in doses of several

drams, and continued for a confiderable time, without producing any remarkable effect. Sulphur eminently abates the power of all the more active minerals, and feems to be at the same time restrained by them from operating in the body itself. Boerhaave, who is in general fufficiently liberal in the commendation of medicines, disapproves the ethiops in very ftrong temns. "It cannot enter the ab-" forbent vessels, the lacteals or " lymphatics; but passes directly " through the intestinal tube, " where it may happen to destroy " worms, if it operate luckily. "They are deceived who expect " any other effects from it; at least " I could never find them. I am " afraid, it is unwarily given, in " fuch large quantities, to children " and persons of tender constitu-" tions. As being a foreign mass, " unconquerable by the body, it is " the more to be suspected, since it " there continues long, fluggish " and inactive. It does not raife " a falivation, because it cannot " come into the blood. Who " knows the effects of a fub-" ftance, which, fo long as it re-" mains compounded, feems no " more active than any ponderous " infipid earth?" The ethiops, with a double proportion of mercury, now received into the Edinburgh pharmacopæia, has a greater chance of operating as a mercurial; and probably the quantity of mercury might be still further increased to advantage.

# CINNABARIS FACTITIA, Artificial cinnabar,

Lond.

Take of

Purified quickfilver, twenty-five ounces.

Sulphur, seven ounces.

Melt the sulphur, and mix into it the quicksilver. If the mixture happen to catch slame, extinguish it by covering the vessel. The matter is afterwards to be reduced into powder and sublimed.

Edinb.

Take of

Purified quickfilver, three pounds and a half;

Flowers of fulphur, washed, one

pound.

Melt the sulphur in a large iron vessel, over a gentle sire, and add to it by degrees the quick-filver previously heated, stirring them constantly together with an iron spatula, that they may be perfectly mixed. Immediately sit upon the vessel a wooden cover, to prevent the mixture from taking sire. Before the matter is grown cold, grind it into powder, and sublime according to art.

It has been customary to order a larger quantity of sulphur than here directed; but these smaller proportions answer better; for the less sulphur, the siner coloured is the cinnabar.

As foon as the mercury and fulphur begin to unite, a confiderable explosion frequently happens, and the mixture is very apt to take fire, especially if the process be somewhat hastily conducted. This accident the operator will have previous notice of, from the matter's swelling up, and growing suddenly consistent. As soon as this happens, the vessel must be immediately close covered.

During the sublimation, care must be taken that the matter rise not into the neck of the vessel so as to block up and burst the glass. To prevent this, a wide-necked bolthead, or rather an oval earthen jar, coated, should be chosen for the

fubliming vessel. If the former be employed, it will be convenient to introduce, at times, an iron wire, somewhat heated, in order to be the better assured that the passage is not blocking up; the danger of which may be prevented, by cautiously raising the vessel higher from the fire.

If the ingredients were pure, no feces will remain. In such case, the sublimation may be known to be over, by introducing a wire as before, and feeling the bottom of the vessel, which will then be perfectly smooth. If any roughness or inequalities be perceived, either the mixture was impure, or the sublimation is not completed; if the latter be the case, the wire will soon be covered with the rising cinnabar.

The preparers of cinnabar in large quantity, employ earthen jars, which in shape pretty much refemble an egg. These are of different fizes, according to the quantity intended to be made at one fublimation, which fometimes amounts to two hundred weight. The jar is usually coated from the small 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 fecret, with regard to this process, is (1) the management of the fire, which should be fo firong as to keep the matter continually fubliming to the upper part of the jar, without coming out of its mouth, which is covered with an iron plate; (2) to put into the fubliming vessel only imall quantities of the mixture at a time.

A method is mentioned in the practical chemistry of making cinnabar without sublimation, by agitating or digesting mercury in the volatile volatile tincture of fulphur, already described. I have found a sulphureous liquor, more eafily preparable, to have a like effect. The folution for lac sulphuris will, with some ad-

drefs, succeed.

The principal use of cinnabar is as a pigment. It was formerly held in great esteem as a medicine, in cutaneous foulnesses, gouty and rheumatic pains, epileptic cases, &c. but, of late, it has lost much of its reputation. It appears to be nearly fimilar to the ethiops, already spoken of. Cartheuser relates, that having given cinnabar in large quantities to a dog, it produced no fensible effect, but was partly voided along with the feces unaltered, and partly found entire in the stomach and intestines upon opening the animal. The celebrated Frederick Hoffman, after bestowing high encomiums on this preparation, as having, in many instances within his own knowledge, perfectly cured epilepfies and vertigoes from contusions of the head (where it is probable, however, that the cure did not so much depend upon the cinnabar, as on the spontaneous recovery of the parts from the external injury), observes, that the large repeated doses necessary for having any effect, can be borne only where the first passages are strong; and that if the fibres of the flomach and intestines be lax and flaccid, the cinnabar, accumulated and concreting with the mucous matter of the parts, occasions great opprefhon; which feems to be an acknowledgment that the cinnabar is not subdued by the powers of digestion, and has no proper medicinal activity. There are indeed some inflances of the daily use of cinnabar's having brought on a falivation: perhaps because the cinnabar, made use of in those cases, contained a less proportion of fulphur than the forts

commonly met with. The regulus of antimony, and even white arienic, when combined with a certain quantity of common fulphur, feem to have their deleterious power destroyed: on feparating more and more of the fulphur, they exert more and more of their proper virulence. It does not feem unreasonable to prefume, that mercury may have its activity varied in like manner; that when perfectly fatiated with fulphur, it may be inert; and that when the quantity of fulphur is more and more lessened, the compound may have greater and greater degrees of the proper efficacy of mercurials.

Cinnabar is fometimes used in fumigations against venereal ulcers in the nofe, mouth, and throat. Half a dram of it burnt, the fume being imbibed with the breath, has occasioned a violent salivation. This effect is by no means owing to the medicine as cinnabar. When fet on fire, it is no longer a mixture of mercury and fulphur; but mercurv resolved into fume, and blended in part with the volatile vitriolic acid; in either of which circumflances, this mineral, as already obferved, has very powerful effects.

#### MERCURIUS CALCINATUS. Galcined mercury. Lond.

Put purified quickfilver into a broad-bottomed glass vessel, having a small hole open to the air; and keep it in a constant heat, a fand-furnace, for feveral months, until it is calcined into a red powder.

This tedious process might, in all probability, be greatly expedited, by employing, instead of a vetfel with a small aperture, a very wide-mouthed, flat-bottomed glass body, of such a height that the

mercury may not escape. By these means, the air, which is essentially necessary to the calcination of all metallic substances, will be more freely admitted. A vessel might be so contrived, as to occasion a continual slux of air over the surface

of the mercury.

This preparation is by fome highly esteemed in venereal cases, and supposed to be the most efficacious and certain of all the mercurials. It may be advantageously given in conjunction with opiates. A bolus or pill, containing from half a grain to two grains of this calx, and a quarter or half a grain or more of opium, with the addition of some warm aromatic ingredient, may be taken every night. Thus managed, it acts mildly, though powerfully, as an alterative and diaphoretic. Given by itself in larger doles, as four or five grains, it proves a rough emetic and cathartic.

# MERCURII SOLUTIO. Solution of mercury. Edinb.

Take equal quantities of pure quickfilver, and double aquafortis. Digest them together, in a phial placed in a fand-furnace, that a limpid folution may be made.

AQUAFORTIS dissolves mercury more easily, and in larger quantity, than any other acid. Sixteen ounces, if the menstruum be very strong and pure, will take up eleven or twelve. As the liquor grows cold, a considerable part concretes, at the bottom of the vessel, into a crystalline form. If the whole be wanted to remain suspended, a proper quantity of water should be added after the solution is completed.

This process is given only as pre-

paratory to some of the following ones. The solution is highly caustic, so as scarce to be safely touched. It stains the skin purple or black.

# CALX MERCURII. Calx of mercury. Edinb.

Take any quantity of the folution of mercury, and evaporate it over a gentle fire, till a white dry mass remains.

This calx, or rather falt, of mercury, is violently corrofive. It is rarely made use of any otherwise than for the following preparation and the corrofive sublimate.

#### MERCURIUS CALCINATUS,

PRÆCIPITATUS RUBER.

Red calx of mercury, commonly

called red precipitate.

Edinb.

Take any quantity of the calx of mercury, and reverberate it in a crucible, with successive degrees of heat. Its white colour will change first into a brown, and afterwards a yellow. At length, upon increasing the fire, it passes into a deep red.

## MERCURIUS CORROSIVUS RUBER.

The red mercurial corrosive.

Lond.

Take of

Purified quickfilver,

Compound a quafortis, already deferibed, of each equal weights. Mix, and fet them in a broadbottomed vessel, in a fand-heat, till all the humidity is exhaled, and the mass has acquired a red colour.

THE marine acid in the compound menstruum, ordered in this last process, disposes the mercurial calx to assume the bright sparkling look admired in it; which, though perhaps no advantage to it as a medicine, ought nevertheless to be infifted on by the buyer as a mark of its goodnels and strength. As foon as the matter has gained this appearance, it should be immediately removed from the fire, otherwife it will foon lefe it again. The preparation of this red precipitate, as it is called, in perfection, is supposed by some to be a secret not known to our chemists; so that we are under a necessity of importing it from abroad. This reflection feems to be founded on mifinformation. We fometimes indeed receive confiderable quantities from Holland; but this depends upon the ingredients being commonly cheaper there than with us, and not upon any fecret in the

manner of the preparation.

This precipitate is, as its title imports, an escharotic, and in this intention is frequently employed by the furgeons, with bafilicum, and other dreffings, for confuming fungous flesh in ulcers, and the like purposes. It is subject to great uncertainty in point of ftrength; more or less of the acid exhaling, according to the degree and continuance of the fire. The best criterion of its itrength, as already observed, is its brilliant appearance; which is also the mark of its genuinenels. If mixed with minium, which it is fometimes faid to be, the duller hue will discover the abuse. This admixture may be more certainly detected by means of fire. The mercurial part will totally evaporate, leaving the minium behind.

Some have ventured to give this medicine internally, in venereal, fcrophulous, and other obttinate chronic diforders, in doses of two

or three grains, and more. But certainly the milder mercurials, properly managed, are capable of answering all that can be expected from this; without occasioning violent anxieties, tormina of the bowels, and other ill confequences, which the best management can fcarcely prevent this corrofive preparation from fometimes doing. The chemists have contrived many methods of correcting and rendering it milder, by divesting it of a portion of the acid; but to no very good purpose, as they either leave the medicine still too corrofive, or render it fimilar to others which are procurable at an easier rate.

Preparations.

#### MERCURIUS CORALLINUS.

Coralline mercury.

Pour on the red mercurial corrofive about thrice its weight of
rectified spirit of wine, and digest them together, with a gentle heat, for two or three days,
frequently shaking the vessel.
Then set fire to the spirit, keeping the powder continually stirring till all the spirit is burnt
away.

IT is supposed, that all the more violent preparations of this kind, composed of metallic bodies united with acids, are rendered milder by digestion in spirit of wine: the acid being dulcified, or in part abforbed by the spirit. This evil dently happens in some cases, where the proportion of acid is large, or funcient to render the compound foluble in water : but that it happens equally in others, I cannot affirm. Thus much is certain, that the mercurius corallinus, whether from this cause, or barely from fome of the acid's being diffipated by the heat of the burning spirit, proves confiderably milder than the

corrofive was at first. It is still, however, a medicine of great activity, and feems to be scarce suffici- folutio mercurii above described. ently safe for internal use. A few grains of it generally prove cathartic or emetic, and fometimes occafion violent fymptoms.

ARCANUM CORALLINUM.

The coralline secret. Take five ounces of the red mercurial corrolive, and eight ounces of spirit of nitre. Distil off the spirit in a retort. Return it with four ounces of fresh spirit of nitre upon the refiduum, and draw it off again as before. Repeat this process with four ounces of new spirit; and at last keep the fire up very ftrong, for at least two hours. The powder, which remains in the retort, is to be put into a crucible, and kept of a worm-red heat for feven or eight minutes : then boil it for half an hour, in three pints of pure water: distil from it twelve ounces of tartarized spirit of wine, cohobating the fpirit twice: digest it for fortyeight hours in a fand-heat, with the same quantity of fresh tartarized spirit; raising the fire towards the end, fo as to make the spirit simmer a little : afterwards fuffer the whole to cool, decant off the spirit, and dry the powder for use.

THIS preparation, notwithstanding its pompous name, is a very unthrifty and injudicious one. The cohobation of spirit of nitre upon the corrofive, answers no useful purpose; for, whatever the acid communicates, is afterwards diffolved and separated by the water. If the direction of keeping up a ftrong fire for some time, after the last distillation, is not strictly complied with, all the mercury will

dissolve in the water, and the solution will prove fimilar to the

> PULVIS PRINCIPIS. Prince's powder.

Grind eight ounces of the red mercarial corrofive into a fine powder; and digest it with two quarts of water, in an almost boiling heat, for twelve hours, occasionally stirring up the powder from the bottom : then pour off the liquor, and digest the powder in fresh water as before: repeating this process a third The last water being poured off, grind the powder with double its weight of fixt alkaline falt, and digest it as at first, in fresh waters, till it becomes infipid. Afterwards boil it in spirit of wine; and, lastly, pouring off the spirit, dry the powder for use.

PANACEA MERCURII RUBRA.

Red panacea of mercury. Digest the red mercurial corrosive with eight times its weight of water, for twenty-four hours, shaking the vessel three or four times: pour off the water, dry the powder, and digest it with eight times its weight of spirit of wine, for fifteen days. The spirit being then decanted off, burn upon the calx twice its weight of tincture of fulphur: afterwards digeft it two or three days longer in fresh spirit of wine; and in the last place, exsiccate it for use.

THE three foregoing preparations have been kept in particular hands as fecrets. At bottom they are all nearly the fame, and much too trivial to deferve the pains taken about them. They are perhaps further divested of acid than the

the mercurius corallinus of the shops; but have this disadvantage, that the quantity of acid separated in the troublesome digestions, &c. must vary according to different circumstances in the operation. All the four stand recommended in small doses, two grains for instance, as excellent alterants and diaphoretics: in larger ones, they prove emetic and cathartic.

MERCURIUS CORROSIVUS
SUBLIMATUS, vel ALBUS.
The white mercurial corrosive, or
corrosive mercury sublimate.
Lond.

Take of
Purified quickfilver, forty ounces;
Sea falt, thirty-three ounces;
Nitre, twenty-eight ounces;
Calcined green vitriol, fixty-fix ounces.

Grind the quickfilver, in a wooden or stone mortar, with an ounce or more of corrofive mercury fublimate already made, until the quickfilver be divided into small grains: this mixture is to be ground with the nitre, and afterwards with the fea falt. Then add the calcined vitriol, continuing the triture only for a little time longer, lest the quickfilver should run together again. Lastly, proceed to sublimation, in a glass matrais; to which you may adapt a head, in order to fave a little fpirit that will come over.

It has been supposed, that corrosive sublimate participates of all the ingredients employed in this process; though it is certain, that it consists only of mercury and the acid of the sea salt united together. The materials being mixed and exposed to the sire, first the vitriol parts with its acid; which, dislodging those of the nitre and marine salt, takes their place. The ma-

rine acid, resolved into sume and affifted by the nitrous, diffolves the mercury now also strongly heated. This acid, though it very difficultly acts on mercury, yet when thus once united with it, is more firongly retained thereby than any other acid. The nitrous spirit, therefore, having nothing to retain it (for its own bafis, and that of the fea falt are both occupied by the vitriolic; and that which the vitriolic forfook to unite with thefe, is now fearcely combinable with it), arises; leaving the mercury and marine acid to fublime together, when the heat shall be strong enough to elevate them. fmall portion of the marine spirit arises along with the nitrous; and hence this compound acid has been usually employed, instead of the aquafertis composita, to which it is fimilar, for making the red corro-

It appears, therefore, that the vitriol, and the bases of the nitre and sea salt, are of no further use in this process, than as convenient intermedia for facilitating the union of the mercury with the marine acids. They likewise serve to afford a support for the sublimate to rest upon, which thus assumes the form it is expected in, that of a placenta or cake. The design of adding a little sublimate already made is to facilitate the extinction of the mercury, or its mixture with the other materials.

of making this preparation, or of combining mercury with the marine acid. If mercury corroded by the vitriolic acid into a white mass (as for making the yellow mercurial emetic or turpeth mineral deferibed hereafter) be mixed with an equal quantity of sea salt and set to sublime; the vitriolic acid will quit

the mercury to unite with the basis of the sea falt; and the acid of the fea falt, now fet at liberty, will unite with the mercury, and fublime with it into the compound required. The discovery of this method is generally attributed to Boulduc; though it is found also in Kunckel's laboratorium chymicum.

If the mercury be corroded by the nitrous acid instead of the vitriolic, the event will be the fame; that acid equally quitting the mercury, and fetting loofe the marine. This method the college of Edinburgh have received.

#### Edinb.

Take

Calx of mercury (that is, a folution of mercury in aquafortis, evaporated to a dry white mais),

Decrepitated sea falt, of each equal quantities.

Powder, and mix these well together; and put them into a matrass, of which they may nearly fill one half. Place the vessel in a fand-furnace, and proceed to fublimation; applying at first a gentle heat, and afterwards increasing it, till all the sublimate has arisen, in a white crystalline mass, to the upper part of the matrass. Separate this from the red fcoria, and purify it, if needful, by a fecond fublimation.

THE fublimate made by this method is the same with the foregoing; but as the quantity of fixt matter is fmall, it difficultly affumes the form of a cake. It requires indeed some skill in the operator, to give it this appearance when either process is followed. When large quantities are made, this form may be easily obtained, by placing the matrafs no deeper in

the fand than the furface of the matter contained in it; and removing a little of the fand from the fides of the glass, as soon as the flowers begin to appear in the neck; when the heat should likewife be fomewhat lowered, and not at all raised during the whole process. The sublimation is known to be completed when the edges of the crystalline cake, which will form upon the furface of the caput mortuum, appear fmooth and even,

and a little removed from it.

Our apothecaries rarely, and few even of the chemists, attempt the making of this preparation themfelves; greatest part of what is used among us comes from Venice and Holland. This foreign fublimate has been reported to be adulterated with arfenic. Some affirm that this dangerous fraud may be discovered by the sublimate's turning black on being moistened with alkaline ley; which by others is denied. As this point feemed of some importance to be determined, I made fundry experiments with this view, which convinced me of the infufficiency of alkalies for discovering arsenic. Alkaline ley, poured into a folution of pure arfenic, and into a mixture of the two folutions in different proportions, produced no blackness in any: and though the pure sublimate, and the mixtures of it with arfenic, exhibited fome differences in these trials, yet these differences were neither so constant. nor so strongly marked, as to be laid down, universally, for criteria of the presence or absence of arsenic. Different specimens of sublimate, known to be pure, differed confiderably in this respect; probably from their holding a little more or less mercury in proportion to the acid, or from their retaining fome fmall portion of those acids

which

1 12

which were employed in the preparation as intermedia.

Some chemists deny the practicability of this adulteration. There is a process common in books of chemistry, wherein sublimate and arfenic being mixed together and fet to sublime, they do not arise in one mass, or yield any thing similar to the preparation here intended: the arfenic abforbs the acid of the fublimate, and is reduced thereby into a liquid or butyraceous confilence; while the mercury, thus freed from the acid, diffils in its running form : if the quantity of arfenic be insufficient to decompound the whole of the sublimate, the remainder of the sublimate concretes distinct from the arienical butter. Whence they conclude, that arienic and fublimate cannot be united together into a crystalline cake, the form in which this prepa-

ration is brought to us.

The above experiment is not altogether decifive; for though arfenic and fulphur do not affume the required form by the common process, it is possible they may by some other management. It will therefore (though I have never found any reason to suspect that the abuse is practised) be proper to point out means for the fatif. faction of those, who may be defirous of convincing themselves of the genuineness of this important preparation. Let some of the sublimate, powdered in a glass mortar, be well mixed with twice its weight of black flux, and a little filings or thavings of iron: put the mixture into a crucible capable of holding four or five times as much; give a gradual fire till the ebullition ceases, and then hastily increase it to a white heat. If no fumes of the garlic fmell can be perceived during the process; and if the particles of iron retain their form,

without any of them being melted; I think we may be secure that the mixture contained no arsenic.

SUBLIMATE is a most violent corrosive, presently corrupting and destroying all the parts of the body it touches. A solution of it in water, in the proportion of about a dram to a quart, is made use of for keeping down proud sless, and cleansing soul ulcers, and a more dilute solution as a cosmetic, and for destroying cutaneous insects. But a great deal of caution is requisite even in these external uses of it.

Some have nevertheless ventured to give it internally, in the dose of one-tenth or one-eighth of a grain. Boerhaave relates, that if a grain of it be dissolved in an ounce or more of water, and a dram of this solution, softened with syrup of violets, taken twice or thrice a day, it will perform wonders in many reputed incurable distempers; but particularly cautions us not to venture upon it, unless the method of managing it be well known.

Sublimate dissolved in vinous spirits has of late been given internally in larger doses; from a quarter of a grain to half a grain. This method of using it was brought into vogue by baron Van Swieten at Vienna, particularly for venereal maladies; and feveral trials of it have been made in this kingdom also with success. Eight grains of the fublimate are disfolved in fixteen ounces of rectified fpirit of wine or proof spirit; the rectified spirit dissolves it more perfectly, and feems to make the medicine milder in its operation, than the proof spirit of the original prescription of Van Swieten. Of this folution, doses from one to two spoonfuls, that is, from half

an ounce to an ounce, are given twice a day, and continued till all the fymptoms are removed; obferving to use a low diet, with plentiful dilution, otherwise the fublimate is apt to purge, and gripe severely. It generally purges more or less at the beginning, but afterwards feems to operate chiefly

by urine and perspiration.

Sublimate confifts of mercury united with a large quantity of marine acid. There are two general methods of destroying its corrofive quality, and rendering it mild; combining with it fo much fresh mercury as the acid is capable of taking up, and separating a part of the acid by means of alkaline falts, and the like. On the first principle, mercurius dulcis is formed; on the latter, white precipitate.

#### MERCURIUS DULCIS SUB-LIMATUS.

Dulcified mercury sublimate. Lond.

Take of

Corrofive mercury sublimate, one pound;

Purified quickfilver, nine ounces, Having powdered the fublimate, add to it the quickfilver, and digeft them together in a matrais, with a gentle heat of fand, until they unite; then, increasing the heat, let the mixture be lub-The fublimed matter, limed. freed from the acrimonious part at top and fuch mercurial globules as happen to appear diftinet in it, is to be reduced into powder, and fublimed again; and this fublimation repeated fix times.

Edinb.

Take of

Corrofive mercury fublimate, reduced to powder in a glass mortar, four ounces;

Pure quickfilver, three ounces and an half.

Mix them well together, by long trituration in a glass or marble mortar, until the quickfilver ceases to appear; taking care to avoid the finer powder that flies off. Put the powder into an oblong phial, of fuch a fize, that only one third of it may be filled; and fet the glass in a fand furnace, fo as that the fand may reach up to one half its height. By degrees of fire fuccessively applied, almost all the mercury will fublime, and adhere to the upper part of the veffel. The glais being then broken, and the red powder which is found in its bottom, with the whitish one that flicks about the neck, being thrown away, let the white mercury be sublimed again three or four times.

THE trituration of corrofive fublimate with quickfilver 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 to affect the operator's eyes and mouth. It is nevertheless of the utmost consequence, that the ingredients be perfectly united before the fublimation is begun; this may be most commodioufly effected, by the digestion ordered in the first of the above processes. It is indeed still necessary to pulverize the fublimate, before the mercury is added to it; but this may be fafely performed, with a little caution; efpecially, if during the pulverization, the matter be now and then fprinkled with a little spirit of wine. This addition does not at all impede the union of the ingredients, or prejudice the fublimation: it will be convenient not to Llz close

close the top of the subliming vesfel 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.

The rationale of this process deferves particular attention; and the more fo, as a mistaken theory herein has been productive of feveral errors with regard to the operation of mercurials in general. It is supposed, that the dulcification, as it is called, of the mercurius corrosivus, is owing to the spiculæ or sharp points, on which its corrofiveness depends, being broken and worn off by the frequent fublimations. If this opinion were just, the corrofive would become mild, without any addition, barely by repeating the fublimation; but this is contrary to all experience. The abatement of the corrofive quality of the fublimate is entirely owing to the combination of fo much fresh mercury with it, as is capable of being united; and by whatever means this combination is effected, the preparation will be sufficiently dulcified. Triture and digestion promote the union of the two, whilst fublimation tends rather to difunite them. The prudent operator, therefore, will not be folicitous about separating such mercurial globules as appear diffinct after the first sublimation. He will endeayour rather to combine them with the rest, by repeating the triture and digestion.

The college of Wirtemberg require their mercurius dulcis to be only twice sublimed; and the Augustan but once; and Neumann proposes making it directly, by a single sublimation, from the ingredients which the corrosive sublimate is prepared from, by only taking the quicksilver in a larger proportion. If the medicine, made after either of these methods, should

prove in any degree acrid, water, boiled on it for some time, will diffolve and separate that part in which its acrimony confifts. The marks of the preparation being fufficiently dulcified, are, its being perfectly infipid to the tafte, and indiffoluble by long boiling in water. Whether the water, in which it has been boiled, has taken up any part of it, may be known by dropping into the liquor a ley of any fixt alkaline falt, or any volatile alkaline spirit: if the decoction has any mercurial impregnation, it will grow turbid on this addition: if otherwise, it will continue limpid. But here care must be taken not to be deceived by an extraneous faline matter in the water itself: most of the common ipring waters turn milky on the addition of alkalies; and therefore, for experiments of this kind, distilled water, or rain water, ought to be used.

Mercurius dulcis, seven times sublimed, has been commonly called Calomelas, and Aquila alba; names which are now dropt both by the London and Edinburgh colleges. Calomelas is indeed a very improper name for a white preparation, the word implying a black colour. By grinding mercurius dulcis with volatile spirits, it becomes blackish, and this perhaps is

the true calomel.

Mercurius dulcis appears to be one of the best and safest preparations of this mineral for general use, whether intended to act as a salogogue, diaphoretic, or alterant. Many of the more elaborate processes are no other than attempts to produce from mercury such a medicine as this really is. The dose, for raising a salivation, is ten or sisten grains, taken in the form of a bolus or pills, every night or oftener, till the ptyalism begins. As an alterant and diaphoretic, it

is given in doses of five or fix grains; a purgative being occasionally interposed, to prevent its affecting the mouth. It answers, however, much better, when given in fmaller quantities, as one, two, or three grains every morning and evening, in conjunction with fuch fubstances as determine its action to the skin, as the extract or refin of guaiacum; the patient at the same time keeping warm, and drinking liberally of warm diluent liquors. By this method of managing it, obstinate cutaneous and venereal distempers have been fuccefsfully cured, without any remarkable increase of the fenfible evacuations.

PANACEA MERCURII.

Mercurial panacea.

Take any quantity of levigated calomel, and four times as much spirit of wine. 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.

This preparation differs very little, if at all, from the foregoing; for, as Lemery observes, the spirit of wine does not dissolve any part of the calomel. Some chemists have therefore recommended a proof spirit, or common water, as more fuitable for this purpose than rectified spirit. If any part indeed of the calomel remains not fufficiently dulcified, this will be diffolved by boiling in water, and consequently the preparation becomes milder; but if the calomel be well made, even water will have no effect upon it; the mercury and spirit of falt being so closely united to each other, as not to admit of any separation by the means here proposed. Nor indeed does good mercurius dulcis want any of its acid to be taken away, as being arready fufficiently fafe, and mild

in its operation. The Edinburgh college therefore, who received this preparation in former editions of their pharmacopæia, have now rejected it.

MERCURIUS
PRÆCIPITATUS ALBUS.
White precipitate of mercury,
Edinb.

Dissolve sublimate corrosive mercury in a sufficient quantity of hot water, and gradually drop into the solution some spirit of sal ammoniac, as long as any precipitation ensues. Wash the precipitated powder upon a silter, with several fresh quantities of warm water.

This preparation is used chiefly in ointments, in which intention its fine white colour is no small recommendation to it. For internal purposes, it is rarely employed, nor is it at all wanted. It is nearly fimilar to mercurius dulcis, but less certain in its effects. Corrofive fublimate, as we have already feen. confifts of mercury united with a large proportion of acid: it is there dulcified by adding as much fresh mercury as is sufficient to satiate all the acid; here, by feparating all the acid that is not fatiated. last way feems an unfrugal one, on account not only of the lofs of the acid, but of the volatile spirit necessary for absorbing it. The operator may however, if it should be thought worth while, recover the volatile falt from the liquor, by adding to it, after the precipitate has been separated, a proper quantity of potash, and distilling with a gentle heat, in the fame manner as for the spirit or volatile salt of sal ammoniac; for a true fal ammoniac is regenerated, in the precipitation, from the union of the volatile spirit with the marine acid of the fublimate. It is by no means advisable L 1 4

advisable to use the liquor itself as a solution of sal ammoniac, or to separate the sal ammoniac from it by evaporation and crystallization, as a part of the mercury might be retained, and communicate dangerous qualities: but the volatile salt separated by distillation may be used without sear of its containing any mercury, none of which will arise with the heat by which volatile salts are distilled.

Fixt alkalies answer as effectually, for precipitating folutions of fublimate, as the volatile. But the precipitate, obtained by means of the former, instead of being white as with the latter, is generally of a reddish yellow or orange colour. If fal ammoniac be dissolved along with the fublimate, the addition of fixt alkalies will now, extricating the volatile alkali of the fal ammoniac, occasion as white a precipitation, as if the volatile alkali had been previously separated and employed in its pure state: and this compendium is now allowed by the London college. The process is as follows.

Lond.

Take

Sublimate corrofive mercury, Sal ammoniac, of each equal

weights.

Diffolve them both together in water, filter the folution, and precipitate it with a folution of any fixt alkaline falt. Wash the precipitated powder, till it is perfectly sweet (that is, insipid or void of acrimony).

HERE the sal ammoniac, befides its use in the capital intention, to make a white precipitation, promotes the solution of the sublimate; which, of itself, is difficultly, and scarce at all totally soluble by repeated boiling in water. For, however skilfully it is prepared, fome part of it will have an underproportion of acid, and confequently approach to the state of mercurius dulcis. A good deal of care is requisite in the precipitation. For, if too large a quantity of the fixt alkaline solution be imprudently added, the precipitate will lose the elegant white colour for which it is valued.

A PRECIPITATE of a different nature from the preceding has been commonly distinguished by the same name, MERCURIUS PRÆCIPITATUS ALBUS; the preparation of which, in a preceding edition of the Edinburgh pharmacopæia, is as follows.

Take any quantity of the solution of mercury (made in aquasortis) and pour into it, by little and little, some very strong brine of sea salt, until all the quickfilver is precipitated in form of a very white powder; which is to be washed upon a filter with warm water, till the water comes off without any acrimony. The powder is then to be put betwixt the folds of paper, and dried with a very gentle heat.

THIS is a very unfrugal preparation. For, sea salt, in whatever proportion it be added, will not precipitate all the mercury; this evidently appears upon adding a imall quantity of a folution of fixt alkaline falt, or volatile alkaline fpirit, to the liquor which remains after the precipitate is fallen, when it will again grow turbid, and let fall a confiderable quantity of fresh precipitate. Homberg observes, that if the acid spirit bear an overproportion to the mercury in the folution, no precipitation at all will follow upon the affusion of the brine of fea falt. If the precipitate be waihed

washed too often with hot water, it will all dissolve and pass the filter. The same accident will likewife happen, if the brine employed at first to throw down the mercury be fuffered to stand too long upon

the precipitate.

Some have been accustomed to fubilitute the above officinal white precipitate in the place of this; but very injudiciously. The first is so mild, as not improperly to deferve the appellation by which it is diftinguished in the former Edinburgh pharmacopæia, dulcis; whilit this last is so far corrosive, as to be employed by the farriers for the purpoles of an escharotic. Internally, it is among us very rarely made use of; notwithstanding the character given of it by Boerhaave, of being " perhaps the best remedy " hitherto afforded by mercury." Mercurius dulcis produces the good effects which this is supposed to do, with a greater degree of certainty, and without disordering the constitution, occasioning vomits, &c. which this precipitate, in a dofe of two or three grains, frequently does.

MERCURIUS PRÆCIPITATUS FUSCUS, Vulgo WURTZII. Brown, commonly called Wurtz's, precipitate.

Take any quantity of a folution of mercury (made in aquafortis) and gradually drop into it oil of tartar per deliquium, till the effervescence ceases. A powder will precipitate, which is to be edulcorated as the foregoing.

THIS preparation was in confiderable esteem some years ago, but at prefent is rarely or never made use of, and hence it is now rejected both by the London and Edinburgh colleges. It does not feem to differ in strength or effects from the sweet precipitate.

MERCURIUS PRÆCIPITATUS VIRIDIS. Green precipitate of mercury.

Diffolve four ounces of corrofive fublimate mercury (previously reduced to powder) in a quart of hot water.

Digest an ounce and a half of copper filings, with eight ounces of spirit of sal ammoniac, in a matrass, until a deep blue tinc-

ture be extracted.

Filter the tincture, and drop it by degrees into the mercurial folution. When the precipitate has fallen, evaporate in a fandheat to dryneis.

THIS differs from the fweet precipitate, in containing an admixture of copper, which renders it an emetic too rough to be used internally with fafety: and hence the present practice has almost entire-

ly rejected it.

This preparation is confiderably different from the green precipitate of foreign pharmacopæias. There, the proportion of copper, contained in the preparation when finished, is much greater; for, though the quantity directed to be taken is less, yet aquafortis being employed for the menstruum, the whole is diffolved; whereas the volatile spirit, here employed, extracts but a very fmall portion of it.

### MERCURIUS EMETICUS FLAVUS.

The yellow mercurial emetic.

Upon purified quickfilver, contained in a glass vessel, pour double its weight of the strong spirit, or oil of vitriol. Heat the liquor by degrees, fo as at length to make it boil, till a white mass remain, which is to be thoroughly dried with a strong fire. This mass,

on the affusion of warm water, grows yellowish, and falls into powder, which is to be diligently ground with the water, in a glass mortar. Then suffer it to settle, pour off the water, and wash the powder in several parcels of fresh water, until it be sufficiently dulcified.

MECURIUS PRÆCIPITATUS FLAVUS, feu

TURPETHUM MINERALE.

Yellow precipitate of mercury, or
turpeth mineral.

Edinb.

Take four ounces of pure quickfilver, and eight ounces of oil of
vitriol. Cautiously mix them
together, and distil in a retort,
placed in a fand-furnace, to dryness; the white calx, which is
left at the bottom, being ground
to powder, and thrown into warm
water, immediately grows of a
yellow colour. Wash this in fresh
waters renewed several times, until it has lost all its acrimony:
then dry it for use.

THE quantity of oil of vitriol, formerly directed, was double to that in the above prescriptions. The reduction now made in this article, greatly facilitates the process: and even less than the present

quantity would fuffice.

Boerhaave directs this prepararation to be made in an open glass, flowly heated, and then placed immediately upon burning coals; care being taken to avoid the sumes, which are extremely noxious. This method will succeed very well, with a little address, when the ingredients are in small quantity; but where the mixture is large, it is better to use a retort, placed in a send-surnace, with a recipient, containing a small quantity of water, luted to it. 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 should be augmented to the utmost degree, that as much as possible of the redundant acid may be expelled.

If the matter be but barely exficcated, it proves a caustic salt, which in the ablution with water will almost all dissolve, leaving only a little quantity of turpeth : the more of the acid has been distipated, the less of the remaining mercury will diffolve, and confequently the yield of turpeth will be the greater; fire expelling only the acid (viz. fuch part of the acid as is not completely fatiated with mercury) while water takes up always, along with the acid, a proportionable quantity of the mercury itself. - Even when the matter has been strongly calcined, a part will still be soluble: this evidently appears upon pouring into the washings a little solution of fixt alkaline falt, which will throw down a confiderable quantity of yellow precipitate, greatly refembling the turpeth, except that it is less violent in operation.

From this experiment, it appears, that the best method of edulcorating this powder is, by impregnating the water, intended to be used in its ablution, with a determined proportion of fixt alkaline falt: for by these means, the washed turpeth will not only turn out greater in quantity, but, what is of more confequence, always have an equal degree of strength; a circumstance which deferves particularly to be confidered, especially in making fuch preparations as, from an error in the process, may prove too violently corrofive to be used with any tolerable degree of fafety.

It is observable, that though the

fuperfluous acid is here absorbed from the mercury by the alkaline falt; yet in some circumstances this acid forfakes that falt to unite with mercury. If tartarum vitriolatum, or nitrum vitriolatum (i. e. 2 combination of vitriolic acid with fixt alkali) be dissolved in water, and the folution added to a folution of mercury in aquafortis; the vitriolic acid will unite with the mercury, and form with it a turpeth, which falls to the bottom; leaving only the alkali dissolved in the aquafortis, and united with the acid thereof into a regenerated nitre. On this principle depends the preparation described by Wilson, under the title of An excellent precipitate of mercury; which is no other than a true turpeth, though not generally known to be fuch. It is made by dissolving four ounces of nitrum vitriolatum in fixteen ounces of spirit of nitre; dissolving in this compound liquor four ounces of mercury: abstracting the menstruum in a fand-heat; and edulcorating with water the gold-coloured mass which remains.

Turpeth mineral is a strong emetic, and in this intention operates the most powerfully of all the mercurials that can be fafely given internally. Its action however is not confined to the primæ viæ; it will sometimes excite a ptyalism, if a purgative be not taken foon after it. This medicine is used chiefly in virulent gonorrheeas, and other venereal cases, where there is a great flux of humours to the parts; it is faid likewise to have been employed with good fuccefs, in robust constitutions, against leprous disorders, and obstinate glandular obstructions; the dose is from two grains to fix or eight. It may be given in doses of a grain or two as an alterative and diaphoretic, after the fame manner as the mercurius calci-

natus already spoken of.

This medicine has been of late recommended as the most effectual preservative against the hydrophobia. There are feveral examples of its preventing madness in dogs that had been bitten; and fome, of its performing a cure after the madness was begun. From fix or feven grains to a scruple may be given every day, or every other day. for a little time, and repeated at the two or three succeeding fulls and changes of the moon. Some few trials have likewise been made on human fubjects, bitten by mad dogs; and in these also the turpeth, used either as an emetic or alterative, seemed to have good effects. See James's treatife on canine madness.

The washings of turpeth mineral are used by some externally, for the itch and other cutaneous foulnesses. In some cases mercurial lotions may be proper, but they are always to be used with great caution. This is by no means an eligible one, as being extremely unequal in point of strength; more or less of the mercury being dissolved, as observed above, according to the degree of calcination. The pharmacopæia of Paris directs a mercurial wash free from this inconvenience, under the title of Aqua mercurialis, or Mercurius liquidus. It is composed of one ounce of mercury, dissolved in a fufficient quantity of spirit of nitre, and diluted with thirty ounces of distilled water. In want of diftilled water, rain water may be used; but of spring waters there are very few which will mix with the mercurial folution, without growing turbid and precipitating a part of the mercury.

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## Preparations of Antimony.

A NTIMONY is composed of a metal, united with sulphur er common brimftone.

And today of presidential and avisage

If powdered antimony be exposed to a gentle fire, the fulphur exhales; the metallic part remaining in form of a white calx, reducible, by proper fluxes, into a whitish brittle metal, called regulus. This is readily diftinguished from the other bodies of that class, by its not being soluble in aqua fortis. Its proper menstruum is aqua regis.

If aqua regia be poured upon crude antimony, the metallic part will be diffolved; and the fulphur thrown out, partly to the fides of the veffel, and partly to the furface of the liquor, in form of a greyish yellow substance. This, separated and purified by fublimation, appears on all trials the same with pure common brimstone.

The metal, freed from the fulphur naturally blended with it, and afterwards fuled with common brimstone, resumes the appearance and qualities of crude antimony.

THE antimonial metal is a medicine of the greatest power of any known fubstance. A quantity too minute to be sensible on the tenderest balance, is capable of producing virulent effects, if taken diffolved or in a soluble state. If given in such a form as to be immediately miscible with the animal fluids, it proves violentl; emetic; if so managed as to be more flowly

and he will be by sale, and the acted on, cathartic; and in either case, if the dose be extremely small, diapheretic. Thus, though vegetable acids extract fo little from this metal, that the remainder feems to have lost nothing of its weight, the tinctures prove, in no large dofes, strongly emetic, and in smaller ones powerfully diaphoretic. The regulus has been cast into the form of pills, which acted as virulent cathartics, though without fuffering any fensible diminution of weight in their passage through the body; and this repeatedly, for a great number of times.

This metal, divested of the inflammable principle which it has in common with other metallic bodies, that are reduced to a calx, becomes indistoluble and inactive. The calx nevertheless, urged with a strong fire, melts into a glass, as easy of solution (partially) and as virulent in operation, as the regulus itself. The glass, thoroughly mingled with fuch substances as prevent its folubility, as wax, refins, and the like, is again rendered mild.

Vegetable acids, as already obferved, dissolve but an extremely minute portion of this metal. The folution nevertheless proves powerfully emetic and cathartic. The nitrous and vitriolic acids only corrode it into a powder, to which they adhere so slightly as to be separable. in good measure by water, and totally by fire, leaving the regulus in form of a calx fimilar to that prepared by fire alone. The marine acid has a very different effect.

This

This reduces the regulus into a violent corrosive, and though it difsicultly unites, yet very closely adheres to it, insomuch as not to be separable by any ablution, nor by, fire, the regulus arising along with it. The nitrous or vitriolic acids expel the marine, and thus reduce the corrosive into a calx similar to the foregoing.

Sulphur remarkably abates the power of this metal: and hence crude antimony (in which the regulus appears to be combined with from one fourth to one half its weight of fulphur) proves altogether mild. If a part of the fulphur be taken away, by fuch operations as do not destroy or calcine the metal, the remaining mass becomes proportionably more active.

The fulphur of antimony may be expelled by deflagration with nitre. The larger the quantity of nitre, to a certain point, the more of the fulphur will be diffipated, and the preparation will be the more active. If the quantity of nitre be more than fufficient to confume the fulphur, the rest of it, deflagrating with the inslammable principle of the regulus itself, ren-

The fulphur of antimony is likewife abforbed, in fusion, by certain metals, and by alkaline falts. These last, when united with sulphur, prove a menstruum for all the metals (zinc excepted), and hence, if the susion be long continued, the regulus is taken up, and rendered soluble in water.

CROCUS ANTIMONII MEDICI-NALIS.

Medicinal crocus of antimony.

Take of

Antimony, eight parts;
Nitre, one part.

Mix, and throw them, by little at a time, into a red-hot crucible:

when the deflagration ceases, take the crucible out of the fire, and reduce the matter into powder.

This preparation is sufficiently mild, though considerably more active than the crude mineral: eighteen or twenty grains will in some constitutions operate, though very gently, both upwards and downwards. It appears to be nearly similar to the medicinal regulus hereafter described.

In this and the following processes with nitre, the operator must observe to throw into the crucible only a little of the matter at a time, and to wait till the deflagration of one parcel is over before another is added; for if much were put in at once, the deflagration would be fo violent, that great part of the matter would be thrown over the crucible. The powder is most conveniently introduced by means of a small iron ladle. Care must be taken not to bring back with the ladle any spark of coal, which would let fire to the rest of the mixture.

The milder crocus of antimony.

Take of

Antimony, two parts; Nitre, one part.

Mix them together, and throw the powder by degrees into a red-hot crucible. As foon as the deflagration ceases, remove the matter from the fire (without suffering it to melt) and reduce it into powder.

This preparation is called mitior, not in regard to the crocus above described, but to that which sollows. It acts much more powerfully than the foregoing; the increase of the nitre occasioning a

greater

greater quantity of the fulphur of the antimony to be dislipated. The London committee received it in their first draught, with the character of an antimonial of mild operation, which had proved a fuccessful medicine in numerous instances, without any one example of its being unsafe. Some trials however, afterwards reported to them, where the operation of this and the following crocus were compared, induced them to lay this preparation aside. It appears to differ from the other only in being lefs violent.

#### CROCUS ANTIMONII.

Crocus of antimony, commonly called Grocus metallorum, and by foreign writers, Hepar antimonii, or Liver of antimony.

Lond.

Take

Antimony, Nitre, of each equal weights.

Reduce them separately into powder; then mix, and inject them into a flucible heated to a white heat, that the mixture (after designation) may melt. Then pour it out, separate the scoriæ, and reserve the matter underneath them for use. It proves different in colour, according to the continuance of the heat; the longer it has been kept in susion, the yellower it will be.

#### Edinb.

The mixture of antimony and nitre, made as above, is to be injected into a red-hot crucible. When the detonation is over, feparate the reddish metallic matter from the whitish crust, and edulcorate it by repeated washings with hot water.

HERE the antimonial fulphur

is almost totally consumed, and the metallic part left divested of its corrector. These preparations, given from two to six grains, act as violent emetics, greatly disordering the constitution. Their principal use is in maniacal cases; as the basis of some other preparations: and among the farriers, who frequently give to horses an ounce or two a day, divided into different doses, as an alterative. In these and other quadrupeds, this medicine acts chiefly as a diaphoretic.

The chemists have been accustomed to make the crocus with a less proportion of nitre than directed above; and without any further melting, than what enfues from the heat that the matter acquires by deflagration, which, when the quantity is large, is very confiderable. A little common falt is added to promote the fusion. The mixture is put by degrees into an iron pot, or mortar, fomewhat heated, and placed under a chimney. When the first ladleful is in, a piece of lighted charcoal is thrown to it, which fets the matter on fire. The rest of the mixture is then added by little and little : the deflagration is foon over, and the whole appears in perfect fusion. When cold, a considerable quantity of scoriæ are found upon the furface; which fcoriæ are eafily knocked off with a hammer. The crocus, prepared after this manner, is of a redder colour, than that of the first of the above processes.

CROCUS ANTIMONII LOTUS.

Washed crocus of antimony.

Lond.

Reduce the crocus into a very subtile powder, and boil it in water. Then, throwing away this water, wash the powder several times in fresh warm water, until it becomes persectly insipid.

THIS

THIS process is defigned chiefly to fit the crocus for the preparation of emetic tartar, of which hereafter, and of the antimonial emetic wine. If the crocus were employed for those purposes without washing, the alkaline falt, with which it is in some degree impregnated from the deflagration of the nitre, would in part fatiate the acids of the tartar and of the wine, and thus, impeding their action on the metallic part of the antimony, render the medicines very precarious in strength. That uncertainties of this kind may be the more effectually guarded against, the glass, or rather the pure regulus of antimony, is by some preferred to the crocus, both for the emetic tartar and wine. The Edinburgh college, as appears in the foregoing process, does not allow the crocus to be kept in its unwashed state; making the ablution a part of the preparation

EMETICUM MITE ANTIMONII.

A mild antimonial emetic.

Take of

Antimony, one part;

Nitre, two parts.

Grind them together, and throw them by little and little into a red-hot crucible. When the deflagration is over, the remaining matter, which proves white, is to be washed for use.

THE quantity of nitre is here fo large, as to confume not only the fulphur of the antimony, but likewife great part of the inflammable principle of the regulus. haave, from whom this preparation is taken, informs us, that it is fo mild, as often to occasion only fome light nausea and gentle vomiting, with a large discharge of faliva, and thick urine. Its effects feem to be nearly the fame

with those of the regulus medicinalis and crocus medicinalis.

CALX ANTIMONII.

Calx of antimony, commonly called Diaphoretic antimony.

Take of

Antimony, one part;

Nitre, three parts.

Let the powdered antimony be well mixed with the nitre, and gradually injected into a crucible, heated to a light white heat. The matter being afterwards taken from the fire, is to be washed with water, both from the falt which adheres to it, and from the groffer part that is less perfectly calcined.

#### Edinb.

Take of

Antimony, calcined as for making the glass,

Nitre, of each equal parts.

Mix them together, and put them into a crucible; keep it in a red heat for an hour; afterwards powder it, and wash it often in hot water till it becomes infipid. -This powder, unwashed, is called

ANTIMONIUM DIAPHORE-TICUM NITRATUM.

Nitrated diaphoretic antimony.

When the powder is washed with fresh quantities of water, till the water comes off infipid, it is called

ANTIMONIUM DIAPHORE-TICUM LOTUM.

Washed diaphoretic antimony.

The feveral washings, mixed together, filtered, and evaporated over a gentle fire till a cuticle forms on the furface, yield, in the cold, crystals, called NITRUM STIBIATUM.

Antimoniated nitre.

The

The calx of antimony, when freed by washing from the saline matter, is extremely mild, if not altogether inactive. Hoffman, Lemery, and others, affure us, that they have never experienced from it any fuch effects as its usual title (that under which it stands in the last of these processes) imports. Boerhaave declares, that it is a mere metallic earth, entirely destitute of all medicinal virtue; and the committee of the London college admit that it has no fensible operation. The common dose is from five grains to a scruple, or half a dram; though Wilson relates, that he has known it given by half ounces, and repeated two or three times a day,

for feveral days together.

Some report, that this calx, by being kept for a length of time, contracts an emetic quality. Whence it has been concluded, that the powers of the reguline part are not entirely destroyed; that the preparation has the virtues of other antimonials which are given as alteratives, that is, in such small doses as not to stimulate the primæ viæ; and that, therefore, diaphoretic antimony, as it is certainly among the mildest preparations of that mineral, may be used for children, and fuch delicate conflitutions where the stomach and intestines are easily . affected. The observation, however, from which these conclusions are drawn, does not appear to be well founded. Ludovici relates, that after keeping the powder for four years, it proved as mild as at first: and the Strasburgh pharmacopæia, with good reason, suspects, that where the calx has proved emetic, it had either been given in fuch cases as would of themselves have been attended with this fymptom (for the great alexipharmac virtues, attributed to it, have occasioned it to be exhibited even in

the more dangerous malignant fevers, and other disorders, which are frequently accompanied with vomiting), or that it had not been sufficiently calcined, or perfectly freed from such part of the regulus as might remain uncalcined. The uncalcined part being grosser than the true calx, the separation is effected by washing over with water, in the same manner as is already directed for separating earthy powders from their grosser parts.

It has been observed, that when diaphoretic antimony is prepared with nitre abounding with sea falt, of which all the common nitre contains some portion, the medicine has proved violently emetic. This effect is not owing to any particular quality of the sea falt, but to its quantity, by which the proportion of the nitre to the antimony is ren-

dered less.

The nitrum stibiatum is produced by the destagration of the sulphur of the antimony with the nitre, in the same manner as the sal polycbrest, from which it differs no otherwise than in retaining some portion of the antimonial calx.

# CERUSSA ANTIMONII. Cerusse of antimony.

Take of

Regulus of antimony, one part; Nitre, three parts.

Deflagrate them together, as in the foregoing process.

THE results of both processes appear to be altogether the same. It is not necessary to use so much nitre here, as when antimony itself is employed; for the sulphur which the crude mineral contains, and which requires for its dissipation nearly an equal weight of nitre to the antimony, is here already separated. Two parts of nitre to

one of the regulus are sufficient.

It is better however to have an over proportion of nitre than an under one, lest some parts of the regulus should escape being sufficiently calcined.

It may be proper to observe, that though crude antimony and the regulus yield the same calces, yet the falts separated in washing the calces are very different. As crude antimony contains common fulphur, the acid of the fulphur unites with the alkaline bases of the nitre, and the refult is a neutral falt. As the regulus contains the phlogistic or inflammable principle, but no fulphur, the nitre is alkalized as it would be by charcoal or fimilar inflammable bodies, and is at the fame time rendered more acrimonious than the common alkaline falts. If only equal parts of the regulus and nitre be employed, and the fire kept up strong for an hour or more, the falt will prove more caultic than even the potential cautery of the shops. But the causticity of the falt will still be far greater, if, instead of the simple regulus of antimony, the martial regulus be used.

#### REGULUS ANTIMONII ME-DICINALIS.

Medicinal regulus of antimony.

Take of

Antimony, five ounces;
Sea falt, four ounces;
Salt of tartar, one ounce.

Grind them into powder, and throw the mixture, by little at a time, into a red-hot crucible; occafionally breaking, with an iron rod, the crust that forms on the surface. When the suspens completed, pour out the matter into a heated cone, gently shaking it now and then, or striking it on the sides, that the regulus may fettle to the bottom. When grown cold, beat off the fcoriæ, and grind the regulus into a powder, which is to be kept in a close-stopt vial.

This medicine is nearly fimilar in quality to one made with oneeighth of nitre, already described: in both processes, the antimony is freed from a fmall portion of its fulphur, which is dislipated in flame by the nitre, and absorbed by the alkaline falt. This preparation is greatly celebrated by Hoffman, and other German phyficians, in fundry obstinate chronical diforders, and efteemed one of the best antimonials that can be given with fafety as alterants. It operates chiefly as a diaphoretic, and fometimes, though rarely, proves emetic. The dole is from three or four grains to twenty.

This regulus, reduced to a fubtile powder, is the genuine FEBRIFUGE POWDER of Craanius (Pharm. Boruffo-Brandenburg, edit. 1734. page 107.) and has been greatly commended in all kinds of fevers, both of the intermittent and continual kind (Pharm. Argent. 1725. page 252.) It is faid that a dole or two has frequently removed these disorders. by occasioning either a salutary diaphoresis, or acting mildly by flool or vomit. The colour of the levigated powder is a purplish brown. The antimonial emetic of Boerhaave, already mentioned, which is white, is nearly fimilar to it in its medicinal effects.

The common falt seems to be of no further use in the process, than as it serves to promote the susion; and even for this it is not necessary. The medicine is said to be rather more mild and certain in operation, if prepared without it.

M m

REGULUS

REGULUS ANTIMONII.

Regulus of antimony.

Take of

Antimony, Nitre,

Crude tartar, of each equal

parts.

Grind them feparately into a powder, then mix, and rub them all together. Throw the powder, at leveral times, into a red-hot crucible, taking care to break the crust, which forms on the furface, with an iron rod : when the detonation is over, let a frong fire be made, that the matter may flow like water; then pour it out into a warm greafed cone, which is to be gently struck on the fides, that the regulus may feparate and fall to the bottom. When grown cold, let the regulus be cleared from the scorize that lie a-top of

In this process (which is taken from the edition of the Edinburgh pharmacopæia published in the year 1744), an alkaline salt is produced from the nime and tartar, in such quantity as entirely to absorb the sulphur of the antimony: the alkali, thus sulphurated, will take up more or less of the reguline part, according to its quantity, and the continuance of the susion.

As the ingredients are above proportioned, the yield of regulus proves extremely small, and if the fusion be long continued, scarce perceptible; almost the whole of it being taken up into the scoriæ. In order to obtain the largest quantity, the nitre ought to be diminished one half. It is convenient to rub the nitre and tartar together, and deslagrate them in an iron ladle or pan, before their mixture with the antimony; for by these

means, the loss of some part of the antimony, which otherwise happens from the vehemence of the deflagration, will be prevented, a smaller crucible will serve, and less time and labour complete the process.

The mixture of nitre and tartar deflagrated together, will reduce any of the antimonial calces (as the diaphoretic antimony, ceruste, or antimony calcined by itself) into regulus; the oily matter of the tartar supplying the inflammable principle, which all calces require for their revival into a metallic form; and the alkaline falt promoting their fusion. It is the common reducing flux of the chemists; by whom it is called, from its colour, the black flux. The largest yield of regulus, hitherto obtained from antimony, has been got by calcining it without addition, as directed hereafter for making glass of antimony, and reviving the calx by fusion, with this, or fimilar compositions. Mr. Geoffroy, who first communicated this method to the French academy, feems to look upon foap (the substance he happened to make use of himself) as the only one that will fucceed; but the effects of this are not different from those of the foregoing flux. Both confift of an alkaline falt, and an inflammable (not sulphureous) substance, which are the only materials here necessary. Upon the whole, the most advantageous process for obtaining this regulus, appears to be the following.

Let powdered antimony be calcined or roaffed over a gentle fire, as directed hereafter for making the glass. Mix the calx with about equal its weight of some reducing flux, such as the black flux above mentioned. Melt the mixture

in a crucible, with a quick fire, and when in thin fusion pour it into a cone heated over a finoaky flame. The pure regulus will fall to the bottom, the scoriæ floating on the top.

# REGULUS ANTIMONII MAR-

Martial regulus of antimony.

Take of

Antimony, Nitre,

Crude tartar, of each one pound; Small pieces of iron, half a

pound.

Heat the iron in a crucible to a white heat; then gradually add the other ingredients, first powdered and mixed together, and proceed in the fame manner as in the foregoing process.

THE nitre might here be diminished to one-fourth of its weight, and the tartar to half that quantity. The pieces of iron may be small nails; the filings of the metal, lying closer together, are not so readily acted upon by the antimony.

# REGULUS ANTIMONII STELLA-

Stellated regulus of antimony. This is made by melting the martial regulus several times with fresh nitre and tartar.

THE simple regulus of antimony is more readily made to exhibit a starry appearance on its furface, than the martial; which it will also do by one, as well as by any number of fusions. The phænomenon entirely depends upon the regulus's being pure, brought into extreme thin fusion, and cooled flowly in the cone, without shaking or moving it. If the martial regulus be employed, it is convenient to add fome fresh

antimony (about one-fourth the weight of the regulus) to abforb fuch part of the iron as may be retained in it; when the whole is in perfect fusion, inject, at times, about one-eighth of nitre, or fixt alkaline falt, previously dried, and

made very hot.

The three foregoing reguli are at present rarely, if ever, made use of in medicine; the emetic cups, and perpetual pills, formerly made from them, have long been laid afide as precarious and Hence the Edinburgh college, which retained them all in the edition of their pharmacopœia published in 1744, have at a late revisal rejected them. It should seem, however, that the pure regulus, though greatly too virulent to be taken by itself, might be employed to advantage for the making of some other preparations, particularly the antimonial wine and emetic tartar. For the uncertainty in strength, which has often been complained of in those medicines, appears to proceed chiefly from faline or fulphureous matter in the antimonial preparation made use of for communicating the impregnation to the wine or tartar; and (except the calces, which are divefted of the proper antimonial virtues) the regulus is the only form in which we can expect to have the metallic part of the antimony free from fuch admixtures, the only antimonial preparation on which we can depend for being always equal in its own degree of power.

The scoriæ produced in the foregoing processes, afford medicines less violent than the regulus itself. fome of which are in confiderable These scorie confist of esteem. the fulphur of the antimony united with an alkaline falt, and a part of the regulus taken up by this com-

Mm 2 pound. pound, and rendered foluble in water.

SULPHUR AURATUM ANTIMO-

Golden fulphur of antimony.

Let the scoriæ of regulus of antimony be reduced into powder, whilst warm, and then boiled for a considerable time in thrice their quantity of water. Filter the yellowish red solution, and drop into it a proper quantity of spirit of vitriol. A powder will precipitate, which is to be washed with water, till perfectly edulcorated and freed from its ill smell.

SULPHUR ANTIMONII PRÆ-CIPITATUM.

Presipitated Sulphur of antimony.

Take of
Antimony, fixteen ounces;
Tartar, a pound;

Nitre, half a pound. Let these be reduced separately into powder, then mixed, thrown by degrees into a red-hot crucible, and melted with a firong fire. Pour out the matter into a conical mould; the metallic part, commonly called regulus of antimony, will fink to the bottom, the fcoriæ swimming above it. Dissolve these scorize in water, filter the folution through paper, and precipitate the fulphur by dropping in some fpirit of sea falt : lattly, wash the fulphur from the falts, and dry it for use.

### SULPHUR AURATUM AN-TIMONII.

Golden fulphur of antimony.

Edinb.

Boil, in an iron pot, four pounds of foap leys diluted with three pounds of water, and throw in by degrees two pounds of powdered antimony; keeping them continually stirring, with an iron fpatula, for three hours, over a gentle fire; and occafionally supplying more water. The liquor, loaded with the fulphur of antimony, being then strained through a woollen cloth, drop into it gradually, whilft it continues hot, fo much ipinit of nitre diluted with an equal quantity of water, as shall be sufficient to precipitate the sulphur, which is afterwards to be carefully washed with hot water. If the liquor remaining after the precipitation be purified by filtration, evaporated till a pellicle forms on the furface, and then fet to fhoot, it will yield crystals of antimoniated nitre (the fame with that obtained from the washings of diaphoretic antimony).

THE foregoing preparations are not firitly fulphurs. They contain a confiderable quantity of the metallic part of the antimony, which is reducible from them by proper fluxes. That made by the first of the above processes contains greatest part of the metal; for, as we have already feen, very little, fometimes scarce any at all, feparates in the fusion. The quantity of regulus taken up in the fecond also will be different, according to the degree of fire employed, and the length of time that the fusion is continued. These medicines, therefore, must needs be liable to great variation in point of strength, and in this respect they are, perhaps, the most precarious, though fome have affirmed that they are the most certain, of the antimonial medicines.

The foregoing preparations prove emetic when taken on an empty stomach, in a dose of four, five, or

10

fix grains; but in the present prac- Boil them together for two hours, tice, they are scarce ever prescribed in this intention; being chiefly used as alterative deobstruents, particularly in cutaneous diforders. Their emetic quality is easily blunted, by making them up into pills with refins or extracts, and giving them on a full flomach With these cautions, they have been increafed to the rate of fixteen grains a day, and continued for a confiderable time, without occasioning any diffurbance upwards or downwards. As their strength is precarious, they should be taken at first in very small doses, and increased by degrees according to their effect.

A composition of the fulphur auratum, with mercurius dulcis, has been found a powerful, yet fafe, alterative in cutaneous diforders; and has completed a cure after falivation had failed. venereal cases, likewise, this medicine has produced excellent effects. A mixture of equal parts of the fulphur and calomel (well triturated together, and made into pills with extracts, &c.) may be taken from four to eight or ten grains, morning and night; the patient keeping moderately warm, and drinking after each dose, a draught of a decoction of the woods, or fimilar liquors. This medicine generally promotes perspiration, scarce occasioning any tendency to vomit or purge, or affecting the mouth. See the Edinburgh effays, vol. i. and the Acta natur. curios.

> KERMES MINERALIS. Kermes mineral.

Take of Antimony, fixteen ounces; Any fixt alkaline falt, four ounces; Water, one pint.

then filter the warm liquor. As it cools, the kermes will precipitate. Pour off the water, and add to it three ounces of fresh alkaline falt, and a pint more of water: in this liquor boil the remaining antimony as before; and repeat the process a third time, with the addition of only two ounces of alkaline falt, and another pint of water; filtering the liquor as at first, and collecting the powders which subfide from them in cooling.

THIS medicine has of late been greatly esteemed in some places, under the names of Kermes mineral, pulvis Carthufianus, poudre des Chartreaux, &c. It was originally a preparation of Glauber, and for some time kept a great secret; till at length the French king purchased the preparation from M. de la Ligerie, for a confiderable fum, and communicated it to the public in the year 1720. In virtue, it is not different from the fulphurs above-mentioned. All of them owe their efficacy to a part of the regulus of the antimony, which the alkaline falt, by the mediation of the sulphur, renders soluble in water.

> PANACEA ANTIMONII. Panacea of antimony.

Take of Antimony, fix ounces; Nitre, two ounces; Common falt, an ounce and a haif;

Charcoal, an ounce. Reduce them into a fine powder, and put the mixture into a redhot crucible, by half a spoonful at a time, continuing the fire a quarter of an hour after the lait injection. Then either pour the matter into a cone, or let it cool in M m 3

in the crucible, which when cold must be broken to get it out. In the bottom will be found a quantity of regulus; above this a compact liver-coloured substance; and on the top, a more spongy mass: this last is to be reduced into powder, edulcorated with water, and dried, when it appears of a fine golden colour.

This preparation is supposed to have been the basis of LOCKYER's PILLS, which were formerly a cele-Ten grains of the brated purge. powder mixed with an ounce of white fugar-candy, and made up into a mass with mucilage of gum tragacanth, may be divided into an hundred small pills; of which one, two, or three, taken at a time, are faid to work gently by frool and vomit. The compact livercoloured substance, which lies immediately above the regulus, operates more churlishly. This last appears to be nearly of the fame nature with the crocus antimonii, and the former with the sulphur auralum.

# VITRUM ANTIMONII. Glass of antimony. Edinb.

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, until the sumes cease, and the antimony be reduced into a grey powder. Melt this powder in a crucible, with an intense fire, and pour out the liquid matter into a heated brass dish.

THE calcination of antimony, to fit it for making a transparent glass, succeeds very slowly, unless

the operator be very wary and circumfpect in the management of it. The most convenient vessel is a broad shallow dish, or a smooth flat tile, placed under a chimney. The antimony should be the purer fort, fuch as is usually found at the apex of the cones. This, grossly powdered, is to be evenly ipread over the bottom of the pan, fo as not to lie above a quarter of an inch thick on any part. The fire should be at first no greater than is just sufficient to raise a sume from the antimony, which is to be now and then flirred: when the fumes begin to decay, increase the heat, taking care not to raile it so high as to melt the antimony, or run the powder into lumps; after some time the veffel may be made redhot, and kept in this state, until the matter will not, upon being ftirred, any longer fume. If this part of the process be duly 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, which is to be covered with a tile, and placed in a wind-furnace. Gradually increase the fire, till the calx be 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, appear smooth and equally transparent, the vitrification is completed, and the glass may be poured out upon a hot fmooth flone, or copper-plate, and suffered to cool by flow degrees, to prevent its cracking and flying in pieces. It is of a transparent yellowish red co-

lour.

The glass of antimony usually 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. By the method above directed, it may be eafily made, in the requifite perfection, without any addition.

As we have feen, in a former process, antimony rendered nearly or altogether inactive by calcination; it might be expected that the calx and glass of the present process would be likewife inert. But here the calcination is far less perfect than in the other case, where the inflammable principle of the regulus is totally burnt out by deflagration with nitre: there the calx is of perfect whiteness, and a glass made from that calx (with the addition of any faline flux, for of itself it will not vitrify) has little colour: but here fo much of the inflammable principle is left, that the calx is grey, and the glass of a high colour. The calcined antimony is faid by Boerhaave to be violently emetic. Experience has shewn that the glass is so, insomuch as to be unsafe for internal use. It is employed chiefly, in the preient practice, as being subservient to fome other preparations, particularly the emetic tartar and antimonial wine; and in combination with wax, and fome other fubstances, by which its power is obtunded.

#### VITRUM ANTIMONII CE-RATUM.

Cerated glass of antimony. Edinb.

Take of

Yellow wax, a dram

Glass of antimony, reduced into

powder, an ounce.

Melt the wax in an iron veffel, and throw into it the powdered glass: keep the mixture over a gentle fire for half an hour, continually ftirring it; then pour it out upon a paper, and when cold grind t into powder.

THE glass melts in the wax, with a very foft 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 Scotch fnuff, which is a mark of its being sufficiently prepared. The quantity here fet down, lofes about one dram of its weight in the proceis.

This medicine has for some time been greatly esteemed in dysenteries: several instances of its good effects, in these cases, may be feen in the fifth volume of the Edinburgh esfays, from which the above remarks on the preparation are taken. The dose is from two or three grains to twenty, according to the age and strength of the patient. In its operation, it makes fome persons sick and vomit; it purges almost every one; though it has sometimes effected a cure, without occasioning any evacuation or fickness.

Mr. Geoffroy gives two fingular preparations of glass of antimony, which feem to have fome affinity with this. One is made by digefting the glass, most subtilely levigated, with a folution 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 glass exactly mingled. Glass of antimony thus prepared, is faid not to prove emetic, but to act merely as a cathartic, and that not of the violent kind. A preparation like this was first published by Hartmann, under the name of chylista.

The other preparation is made by burning spirit of wine upon the glass three or four times, the powder being every time exquisitely rubbed upon a marble. The dofe of this medicine is from ten grains to twenty or thirty. It is faid to

M m 4

operate

operate mildly both upwards and downwards, and fometimes to prove sudorific.

#### ANTIMONIUM CATHARTICUM.

The purging antimony of Wilson.

Take four ounces of glass of antimony, finely powdered, and gradually pour thereon twelve ounces of oil of vitriol: distil in a fand-heat; and wash the powder, which remains in the bottom of the retort, till all its acrimony is loft : then dry it, and grind it with an equal weight of Glauber's cathartic falt, and a double quantity of vitriolated nitre. Let this mixture be kept a quarter of an hour in gentle fusion in a crucible; and afterwards pulverized, washed, and dried for use.

Mr. Wilson, the inventor of this preparation, informs us, that it is the most certain antimonial purge he ever met with; that it operates without nauseating the stomach; and that by the use of this powder only, he knew three consirmed poxes cured. His dose is from two grains to ten.

We have already observed, that the glass of antimony contains a part of the regulus not fully divested of its inflammable principle. The vitriolic acid, and neutral salts containing this acid, absorb the inflammable principle from sundry metallic and other bodies; and on this probably depends the mitigation of the glass in the present process.

CAUSTICUM ANTIMO-NIALE.

The antimonial caustic, Lond.

Take of Czude antimony, one pound;

Corrofive mercury fublimate, two pounds.

Reduce them separately into powder; then mix, and distil them in a wide-necked retort, with a gentle sand-heat. The matter, which arises into the neck of the retort, is to be exposed to the air, that it may run into a liquor.

# BUTYRUM ANTIMONII. Butter of antimony. Edinb.

Take of
Crude antimony, one part;
Corrofive mercury sublimate,
two 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) fo as to fill one half of it. The retort being placed in a fand-furnace, and a receiver adapted to it, give first a gentle heat, that only a dewy vapour may arise. 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 cautioufly applied. This oily matter is to be rectified, in a glass retort, into a pellucid liquor.

THESE processes are extremely dangerous, insomuch that even the life of the operator, though tolerably versed in common pharmacy, may be affected for want of taking due care. Boerhaave relates, that one, who from the title he gives him is not to be supposed inexpert in chemical operations, or unacquainted with the danger attending this, was suffocated for want of proper care to prevent the bursting of the retort. The sumes which arise.

arife, even upon mixing the antimony with the sublimate, are highly noxious, and sometimes issue so copiously and suddenly, as very dif-

ficultly to be avoided.

The caustic or butter, as it is called, appears to be a folution of the metallic part of the antimony in the marine acid of the fublimate; the fulphur of the antimony, and the mercury of the fublimate, remain at the bottom of the retort, united into an ethiops. This folution does not succeed with spirit of falt in its liquid state, and cannot be effected, unless (as in the case of making sublimate) the acid be highly concentrated, and both the ingredients strongly heated. If regulus of antimony were added in the distillation of spirit of sea falt without water, a like folution would be made.

When the congealed matter that rifes into the neck of the retort, is liquefied by the moisture of the air, it proves less corrosive than when melted down and rectified by heat; though it feems, in either case, to be sufficiently strong for the purpoles for which it is intended, as the confuming of fungous flesh, and the callous lips of ulcers. It is remarkable, that though this faline concrete readily and almost entirely diffolves by the humidity of the air, only a small quantity of white powder feparating, it nevertheless will not dissolve on putting water to it directly. Even when previoufly liquefied by the air, the addition of water will precipitate the folution.

# CINNABARIS ANTIMONII. Cinnabar of antimony. Lond.

Let the matter which remains in the retort after the distillation of the caustic, be sublimed in a coated matrass, in an open fire. Edinb.

As foon as red vapours begin to appear in the distillation of the butter, change the receiver, without luting the junctures; and increase the fire until the retort becomes intensely redan 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 the neck, from the black droffy matter.

THE cinnabar of antimony is composed of the sulphur of the antimony, and the mercury of the fublimate, which are perfectly the fame with the common brimftone and quickfilver, of which the cinnabaris factitia is made. The antimonial cinnabar therefore, whose ingredients are laboriously extracted from other substances, is not different from the common cinnabar made with the same materials procured at a much cheaper rate. The former indeed is generally of a darker colour than the other, and has fomewhat of a needled appearance, like that of antimony itself; whence it has been supposed to participate of the metallic part of that mineral. But it appears from experiment, that both the colour and needled form are entirely accidental, and owing to the mixture's containing a larger proportion of fulphur, and being fublimed in a more languid manner.

MERCURIUS VITÆ, seu PULVIS
ALGEROTHI.

Mercury of life, or Algeroth's powder.
Take of

Rectified butter of antimony, as

much as you pleafe.

Pour to it a sufficient quantity of spring water, and an exceeding white powder will be precipitat-

ed.

ed. Edulcorate this by repeated affusions of warm water, and dry it by a flow fire.

This powder has not, as its name should seem to imply, any thing of mercury in it, but is folely composed of the reguline part of the antimony, corroded by the acid spirit of fea falt; which acid is fo closely united, as not to be feparated by any ablution with water. Le Mort directs some alkaline falt to be diffolved in the water, in order to obtund the acid. Several other methods also have been contrived for correcting and abating the force of this violent emetic; but they either leave it still virulent, or render it inert. It has therefore for a long time been laid afide by practitioners; and the Edinburgh college, who retained it in a preceding edition, have at a late revifal of their pharmacopæia expunged it.

#### BEZOARDICUM MINERALE. Bezoar mineral.

Take any quantity of butter of antimony newly rectified, and gradually drop into it spirit of nitre, till the effervescence ceases. Draw off the spirit in a glass vessel, placed in a fand-heat, till a dry powder remains behind. Add to this a little fresh spirit of nitre, and again exficcate it. Repeat this a third time: then commit the powder in a crucible to a naked fire, till it has received an almost white heat, and detain it in this state for half an hour.

THIS preparation may be easier made, and with greater fafety to the operator, by dropping the butter of antimony into three or four times its weight in spirit of nitre, and diffilling the mixture in a retort, until a dry white mass is left behind, which is afterwards to be calcined, as above directed. may likewise be made by distilling spirit of nitre from the mercurius vitæ, and calcining the remainder; or by deflagrating the mercurius vitæ with thrice its weight of pure nitre. This last method, proposed by Wedelius, is followed by the

Augustan college.

Bezoar mineral was formerly held in great efteem as a diaphoretic; but its reputation is at present almost lost. It is not different in medical virtue, or in any fensible quality, from the calces of antimony made directly by deflagration with nitre, some of which have generally supplied its place in the thops. It appears at first extraordinary, that the violent caustic, butter of antimony, should be rendered indolent by the corrofive fpirit of nitre. How this happens will be easily understood, upon considering that the nitrous acid expels the marine (to which the caustic quality of the butter is owing) and is itself expelled from most metallic substances by fire.

## TARTARUM EMETICUM. Emetic tartar.

Lond.

Take of

Washed crocus of antimony, Crystals of tartar, each half a pound;

Water, three pints.

Boil them together for half an hour; then filter the liquor, and, after due evaporation, fet it by to crystallize.

### Edinb.

Take of

Butter of antimony, any quan-

tity.

Infuse it in hot water, in which has been dissolved, before-hand, as much fixed alkaline vegetable falt

falt well purified, as will precipitate all the antimony. and dry this precipitate, and boil nine drams of it with two ounces and an half of crystals of tartar, finely powdered, in five pounds of water, till the powders are diffolved; strain the folution, evaporate to a pellicle, and fet it to crystallize.

It may likewise be prepared, in the fame manner, from the crocus metallorum washed.

This preparation has been usually made with the unwashed crocus of antimony. By employing, as here directed, the washed crocus, it proves of a whiter colour, and likewise more certain in strength; though it will still be somewhat precarious in this last respect, if the crystallization be complied with: for some of the tartar, even though the operation be performed with a good deal of care, will be apt to shoot by itself, retaining little or nothing of the antimony. It should feem therefore more eligible, as foon as the folution has passed the filter, to proceed to the total evaporation of the liquor, or at least to evaporate lower than is usual for crystallization, that the whole may shoot at once.

The title of this medicine expresses its principal operation. It is one of the best of the antimonial emetics, acting more powerfully than the quantity of crocus contained in it would do by itself, though it does not so much ruffle the constitution. And indeed antimonials in general, when thus rendered foluble by vegetable acids, are more fafe and certain in their effects, than the violent preparations of that mineral exhibited by themfelves; the former never varying in their action from a difference in the food taken during their use, or fimilar circumstances, which occafioning more or less of the others to be dissolved, make them operate with different degrees of force. Thus crude antimony, where acid food has been liberally taken, has fometimes proved violently emetic; whilft, in other circumstances, it has no fuch effect.

The dose of emetic tartar, when defigned to produce the full effect of an emetic, is from four to fix or eight grains. It may likewise be advantageously given in smaller doses, half a grain for instance, as a diaphoretic and alterative in cutaneous disorders; and added, in the quantity of a grain, as a ftimulus to ipecacuanha, &c.

### SECT. IX.

## Preparation of Bismuth.

HIS metal resembles in appearance the regulus of antimony; but differs greatly from it, in its pharmaceutical properties and medical qualities. It melts in a very fmall heat, long before ignition; and totally diffolves, with great effervescence, in aquafortis, which only corrodes the antimonial metal. As a medicine, it feems, when pure, to have little or no et-

fect; though some preparations of it were formerly accounted diaphoretic. At present, only one preparation comes under the notice of the apothecary or chemist, and that defigned for external use.

MAGISTERIUM BISMUTHI. Magistery of bismuth. Diffolve bifmuth in a proper quantity of aquafortis, without heat, adding

adding the bismuth by little and little at a time. Pour the solution into sixteen times its quantity of fair water. It will grow milky, and, on standing for some time, deposit a bright white precipitate: the addition of spirit of wine will expedite the precipitation. Wash the powder in stress of water; and dry it in a shady place betwixt two papers.

This preparation is of some esteem as a cosmetic, which is the only use to which it is now applied. The diaphoretic virtues, attributed to it when taken internally, have very little foundation, and by the present practice are not at all regarded. It was proposed to be received in our pharmacopæia at a late revisal, but was found much too insignificant to be admitted there.

### SECT. X.

## Preparations of Zinc.

heat; and if the air be admitted, flames, and sublimes into light, white, downy flowers; if the air be excluded, it arises, by a strong fire, in its metallic form. Sulphur, which unites with, or scorifies all the other metals except gold, does not act on zinc. Acids of every kind dissolve it.

Zinc, its flowers or calces, and folutions, taken internally, prove strong and quick emetics; in small doses, they are faid to be diaphoretic. Externally, they are cooling, astringent, and desiccative.

Purification of zinc.

Melt zinc with a heat no greater than is just sufficient to keep it sluid. Stir it strongly with an iron rod, and throw in alternately pieces of sulphur and of tallow, the first in largest quantity. If any consistent matter, or scoria, form on the top, take it off, and continue the process, until the sulphur be sound to burn freely and totally away on the surface of the sluid zinc.

Zinc usually contains a portion of lead, which this process effectually separates. Sulphur united with lead forms a mass, which does not melt in any degree of fire that zinc is capable of sustaining.

FLORES ZINCI. Flowers of zinc.

Let a large and very deep crucible, or other deep earthen vessel, be placed in a surnace, in an inclined situation, only half upright. Put a small quantity of zinc into the bottom of the vessel, and apply a moderate sire, no greater than is necessary to make the zinc slame. White slowers will arise, and adhere about the sides of the vessel like wool. When the zinc ceases to slame, stir it with an iron rod, and continue this operation till the whole be sublimed.

THESE flowers should seem preferable, for medicinal purposes, to tutty, and the more impure sublimates of zinc, which are obtained in the brass works; and likewise to calamine, the natural ore of this metal. metal, which contains a large quantity of earth, and frequently a portion of heterogeneous metallic matter.

Salt, feu VITRIOLUM ZINCI. Salt, or vitriol of zinc.

Dissolve purified zinc, by a gentle heat of fand, in a mixture of one part of oil of vitriol, and four of water. Filter the folution, and after due evaporation, fet it to crystallize.

This falt is an elegant white vitriol. It differs from the common white vitriol, and the fal vitrioli of the shops, only in being purer, and perfectly free from any admixture of copper, or such other soreign metallic bodies as the others generally contain.

## SECT. XI.

Compound metallic Preparations.

LAPIS MEDICAMENTOSUS.

The medicinal stone.

Lond.

AKE of
Litharge,
Bole armenic, or French bole,
Alum, each half a pound;
Colcothar of green vitriol, three
ounces;

Mix and dry them till they grow hard.

This preparation is employed externally as an astringent, for fastening loose teeth, preserving the gums, healing and drying up ulcers and wounds, and repressing destuxions of thin acrid humours upon the eyes. It is sometimes used in injections for checking a gonorrhea, after the virulence is expelled. A preparation much resembling this is said, in the Memoirs of the French academy, to be greatly esteemed among the surgeons in the army as a vulnerary.

SPECIFICUM ADSTRINGENS MAETZII.

An astringent preparation taken from Maetz, which has been sold under the name of Colbatch's styptic powder. Take any quantity of iron filings, and as much spirit of salt as will rise above them three or four inches. Digest them together with a gentle heat, till the spirit cease to act on the metal. Then pour off the liquor, evaporate it to one half, and add thereto an equal weight of sugar of lead. Continue the evaporation, with a small heat, until the matter remain dry, and assume a red colour.

If the process be stopt as soon as it becomes dry, it has exactly the appearance of Colbatch's powder. It must be kept close from the air, otherwise it deliquiates.

This is faid to be the flyptic, with which so much noise was made some time ago by the author of the novum lumen chirurgiæ; and for the sale of which, a patent was procured: only in that was used oil of vitriol, instead of the spirit of salt in this; a difference not very material. The preparation stands recommended in all kinds of hæmorrhages and immoderate sluxes, both internally and externally: the dose is from sour grains to twelve.

It is undoubtedly an efficacious styptic, but for internal use a dangerous one. See the article LEAD, and its preparations.

ANTIHECTICUM POTERII.

Poterius's antibectic.

Take of

Martial regulus of antimony, fix ounces;

Fine tin, three ounces.

Melt these together in a crucible; then pour them out into a warm greafed mortar, and when the mass is grown cold, grind it into a powder. Add to this thrice its weight of pure nitre, and deflagrate the mixture in a crucible, throwing in only a spoonful at a time; then calcine it [that is, keep it in fusion for an hour; and, having afterwards ground it into an impalpable powder, pour on it a fufficient quantity of warm water. Stir them well together with a peftle, till the water grows milky, which, thus loaded with the finer parts of the powder, is to be poured off, and fresh water put to the remainder. Repeat this operation till nothing but indiffoluble feces remain behind. Suffer all the milky liquors to reft. A powder will fall to the bottom, which is to be washed with repeated affusions of warm water, and lastly dried for use.

THE regulus of antimony should be melted before the tin is added to it; for, if they both be put into the crucible together, a part of the tin will be dissipated by the heat requisite for the fusion of the regulus.

The chemists have been greatly divided with regard to the proportion which these two ingredients ought to bear to one another. Some vary so much from the present prescription, as to order two parts of the antimonial regulus to one of tin; others

no more than one part to fix. Nor have they agreed upon the colour which this preparation ought to have; fome preferring that which is perfectly white, whilit others look upon a blueish tinge as a mark that the proportions have been duly observed, and the operation regularly performed. In the process above, it seems intended to be white: for without the observance of certain encheireles, not there mentioned, as particularly calcining the powder after the ablution, it will fcarce have any thing of a blueish caft.

Practical physicians do not differ less in the accounts which they give of the virtues of this celebrated medicine. Some extol it as an excellent diaphoretic, &c. others are ready to vouch, that it has done most eminent service in hectical cases; whilst many, of no small note, are not only confident that it has none of the virtues attributed to it, but utterly condemn it as unfafe, and capable of producing the very diforders faid to be remedied by its use. This affair probably will not be fatisfactorily determined, till the virtues of calx of tin and calx of antimony (of which this medicine is a mixture) shall be better ascertained than they are at present. In the mean time, the vie of the antibectic is in common practice laid afide; and is not likely to be ever introduced again.

Bezoar with tin.

Take of

Regulus of antimony, three ounces;

Pure tin, two ounces;

Corrofive fublimate mercury, five ounces.

Melt the regulus of antimony in a crucible, and put to it the tin, fo as to make a new regulus; to which,

which, after being levigated, add the corrosive sublimate, and distil the mixture in a retort. Let the butter which arises in this process, be fixed, by three repeated distillations, with thrice its own quantity of spirit of nitre. The powder is then to be calcined; thrown, whilst ignited, into a proper quantity of spirit of wine; and afterwards dried for use.

different from the foregoing. The butter feems to contain more of the tin, than of the antimonial regulus, united with the marine acid of the fublimate. The nitrous spirit expels the marine, and is itself afterwards expelled in the calcination; leaving the powder a mere calx, similar to one prepared from the same ingredients in a less troublesome manner, by designation with nitre.

Antimonial ethiops.

Let equal quantities of antimony and fea falt be melted together in a crucible for an hour; when grown cold, a regulus (improperly fo called) will be found in the bottom. This is to be feparated from the fcoriæ that lie above it, and ground with an equal weight of purified quickfilver, until they are united.

This medicine is faid to be of remarkable efficacy in venereal cases of long standing, in cancerous tumours, scorbutic and scrophulous disorders, obstinate glandular obstructions, and sundry other chronical distempers which clude the force of the common medicines. A few grains may be given at sirst; and the dose gradually increased, according to its operation, to a scruple or more. It acts chiefly by

promoting perspiration. In some constitutions, it proves purgative; and, in others, if the dose be considerable, emetic.

Sundry other preparations of this kind have been held by some people in considerable esteem, though not taken notice of by common practice. They have been generally composed of mercury united by triture either with crude antimony, the medicinal regulus, or the golden or precipitated sulphur.

Mr. Malouin, of the faculty of Paris, made trial of different methods for uniting mercury and crude antimony into an ethiops. Those which succeeded I shall here extract from his chimic medicinale.

On grinding together two parts of antimony and one of mercury, the mercurial globules disappeared in three hours, and the compound proved fimilar in appearance to the ethiops made with the fame proportions of mercury and common fulphur. Equal parts of the antimony and mercury were united with much more difficulty, requiring the triture to be continued for two days; though it was found also, even with these proportions, that when the mercury was added, not all at once, but by little and little, the union might be effected in five hours. As common ethiops is made more perfect, in regard to the intimate union of the ingredients, by heat than by triture; the most perfect antimonial ethiops also was obtained by means of fire, in the following manner.

A heated crucible is to be rubbed in the infide with tallow, immediately covered, and fet in the fire. When red-hot, throw in the antimony beaten into coarse powder, and cover the vessel again. When the antimony is melted, take the crucible out of the fire, throw

throw in a small bit of tallow. pour an equal weight of heated mercury on different parts of the furface, cover the crucible for a moment, and, while the mixture is still fluid, pour it out into a heated iron mortar. When grown cold, reduce it into a powder, which is to be levigated on a marble.

On this black powder the author directs some spirit of wine to be burnt two or three times. This may very fafely be omitted, as it can nowife affect the medicine. The only difficulty in the process relates to the degree of heat of the melted antimony. If it be not fuf-

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ficiently fluid, the mercury cannot equally unite with it; and, if over hot, great part of the mercury will be diffipated.

Mr. Malouin commends this ethiops, as a medicine of great efficacy in glandular obstructions, obstinate cutaneous maladies of different kinds, inveterate rheumatisms, &c. It acts most commonly by urine and perspiration, rarely purges, or occasions only some flight nauseæ. The dose is from one grain to twenty, two or three times a day, that is, from one to fixty grains in a day. In fome persons a dram has no sensible operation; others are moved by fix grains. I de Las . sources son son

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# PART IV.

# MEDICINAL COMPOSITIONS.

## CHAPTER I.

### Powders.

HIS form receives such materials only, as are capable of being fufficiently dried to become pulverable, without the loss of their virtue. There are many fubstances, however, of this kind, which cannot be conveniently taken in powder. Bitter, acrid, fetid drugs, are too difagreeable; emollient and mucilaginous herbs and roots are too bulky; pure gums cohere, and become tenacious in the mouth; fixt alkaline falts liquefy upon exposing the composition to the air; and volatile alkalies exhale.

The dose of powders, in extemporaneous prescription, is generally about half a dram: it rarely exceeds a whole dram; and is not often less than a scruple. Substances which produce powerful effects in smaller doses, are not trusted to this form, unless their bulk be increased by additions of less efficacy. Those which require to be given in larger ones, are better fitted for other forms.

The usual vehicle for taking the lighter powders, is any agreeable thin liquid. The ponderous pow-

ders, particularly those prepared from metallic substances, require a more consistent vehicle, as syrups; for, from thin ones, they soon substances likewise are most commodiously taken in thick liquors: in thin ones, they are apt to run into lumps, which are not easily again dissoluble.

General rules for making powders.

Ι.

Particular care ought to be taken that nothing carious, decayed, or impure, be mixed in the composition of powders: the stalks and corrupted parts of plants are to be separated [E.]

II.

The dry aromatics ought to be fprinkled, during their pulverization, with a few drops of any proper water [E.]

III.

The moister aromatics may be dried with a very gentle heat, before they are committed to the mortar [E.]

N n

IV. Gums,

IV.

Gums, and fuch other fubstances as are difficultly pulverable, should be pounded along with the drier ones, that they may pass the sieve together [E.]

V

No part should be separated for use, until the whole quantity put into the mortar has passed the sieve, and the several sistings been mixed together; for those parts of one and the same subject, which powder first, may prove different, at least in degree of essicacy, from the rest.

VI.

Powders of aromatics are to be prepared only in small quantities at a time, and kept in glass veffels very closely stopt [E.]

If powders be long kept, and not carefully secured from the air, their virtue is in great measure destroyed, although the parts in which it consists should not in other circumstances prove volatile. Thus, though the virtues of ipecacuanha be so fixt as to remain entire even in extracts made with proper mension, yet, as the college of Wirtemberg observes, if the powdered root be exposed for a length of time to the air, it loses its emetic quality.

PULVIS ANTILYSSUS.

Powder against the bite of a mad dog.

L. E.

Take of

Afh-coloured ground liverwort, two ounces;

Black pepper, one ounce. Beat them together into a powder.

In a former pharmacopæia, the quantity of pepper was equal to that of the herb: which rendering the powder greatly too hot, the

above diminution of it became neceffary. The virtue which this medicine has been celebrated for, is expressed in its title. The dose is a dram and a half, to be taken in the morning fasting, in half a pint of cow's milk warm, for four mornings together.

PULVIS ARI COMPOSITUS.

Compound powder of arum.

Lond.

Take of
Arum root, fresh dried, two
ounces;
Yellow water-flag roots,
Burnet saxifrage roots, each one
ounce;
Crabs-eyes prepared,
Cinnamon, each half an ounce;
Salt of wormwood, two drams.
Beat them into a powder, which is
to be kept in a close vessel.

In former editions of the London pharmacopæia, one of the ingredients in this composition was called acorus vulgi or vulgaris; a name which has been applied, by different writers, both to calamus aromaticus, and to the gladiolus luteus, or common yellow water-flag. In this uncertainty, the compounders generally took the former. But as the medicine was first contrived by a German physician, Birkmann; and as in some of the German pharmacopceias, the acorus vulgaris is explained to be the water-flag; the London college have now, rather in conformity to the original prescription, than from an opinion of the virtues of the water-flag (which appear, when the root is dried and powdered, to be very inconfideraable), made choice of this last, and expressed it by the name which more clearly diffinguishes it from the other. The caution of keeping the powder in a close vessel, is a very necessary one; for if exposed

to the air, the alkaline falt, imbibing moisture from it, would run into a liquid state. Two alkaline falts have been generally directed; but as they differ from one another only in name, one of them is here juftly omitted, and supplied by a proportionable increase of the other. Possibly the prepared crabs - eyes might also have been dropt, unless they be intended to augment the volume of the medicine (an intention not very necessary in this compolition), for they do not appear to have any medicinal virtue which alkaline falts do not possess in a greater degree.

Agreeably to the above remark in a former edition of this book, the college of Edinburgh, in a late revifal of their pharmacopœia, have omitted the crabs-eyes, and continued the former practice of using calamus aromaticus for the acorus vulgaris. They have likewise exchanged the cinnamon for canella alba; and the alkaline falt for a neutral one, better fuited to the form of a powder. Their present formula is as follows.

Take of

Arum roots, newly dried, two ounces; Calamus aromaticus. Burnet faxifrage roots, each one ounce; Canella alba, fix drams; Vitriolated tartar, two drams. Mix and make them into a powder.

THE pulvis ari compositus was originally intended as a stomachic: and in weaknesses and relaxations of the stomach, accompanied with a furcharge of viscid humours, it is doubtless a very useful medicine. It frequently also has good effects in rheumatic cases, of which I have

known fome instances. The dose may be from a scruple to a dram, two or three times a day, in any convenient liquor. It should be used as fresh as possible, for its virtue fuffers greatly in keeping. The arum root in particular, its capital ingredient, foon loses the pungency in which its efficacy principally confifts.

### PULVIS e BOLO COMPOSITUS fine OPIO.

Compound powder of bole without opium.

Lond.

Take of

Bole armenic, or French bole, half a pound; Cinnamon, four ounces; Tormentil root, Gum Arabic, each three ounces; Long pepper, half an ounce. Reduce these ingredients into powder.

#### PULVIS e BOLO COMPOSITUS cum OPIO.

Compound powder of bole with opium.

Lond.

Take of opium strained, three

Dry it a little, so as to render it easily pulverable; and add to it the foregoing species, that they may all beat into a powder together.

This powder, with opium, is an elegant reform of the species of Fracastorius's confection, commonly called diafcordium; confifting only of fuch of the ingredients of that composition, as are most conducive to the intention for which it is at present prescribed. Forty-five grains of the powder contain one of opium.

N n 2

The powder is directed to be kept in the shops without opium, for cases where the assistance of that drug is not wanted. It is a warm, glutinous astringent; and is given, in sluxes, or other disorders, where medicines of this class are proper, in doses of a scruple or half a dram.

PULVIS e CERUSSA COM-POSITUS.

Compound powder of cerusse.

Lond.

Take of

Cerusse, sive ounces;
Sarcocolla, an ounce and a half;
Gum tragacanth, half an ounce.
Beat them together into a powder.

This composition is the trochiscially of Razi, brought back to its original simplicity with regard to the ingredients, and without the needless trouble of making it into troches. It is employed for external purposes, as in collyria, lotions, and injections, for repelling acrimonious humours, and in instammations.

PULVIS e CHELIS CANCRO-RUM COMPOSITUS.

Compound powder of crabs claws.

Lond.

Take of
The tips of crabs-claws prepared, one pound;
Pearls prepared,
Red coral prepared, each three
ounces.
Mix them together.

Edinb.

Take of
Red coral prepared, one ounce;
Black tips of crabs-claws prepared, two ounces.
Mix them together.

THESE powders have lost feveral

of their ingredients, without any injury to their virtues; and possibly they would still bear a further reduction; for both the crabs-eyes and claws are by themselves at least as effectual as any composition of them with pearls and coral. In some of our hospitals, the following composition is substituted.

Pulvis Testaceus Compositus.

Compound testaceous powder.

Take of

Oyster shells prepared, one pound; White chalk, half a pound. Mix them together.

THIS cheap absorbent powder is at least equally valuable, as a medicine, with the more costly and compounded crabs-claw and bezoardic powders of the shops. These kinds of preparations are given from half a scruple to half a dram, for abforbing or destroying acidities in the first passages; which seems to be the only good effect that can be reasonably expected from these fimple antacid earths. If they meet with no acid to dissolve them, they promise to be injurious rather than beneficial. They have often been given in fevers, under the notion of alexipharmacs and fudorifics, from a supposition that these disorders are occasioned by a latent acid; and, though this theory is now exploded, the practice built upon it is, in good measure, sill continued. So far are absorbents from being useful in these cases, that substances of a directly contrary quality, mild acidulous liquors, are in general the most successful remedies, wherever the vis vitæ is not too far depressed; and, where it is, the infipid indolent earths can contribute nothing to Support or raile it.

It may here be proper to take notice of a quality hitherto little expected from these kinds of substances; that of strongly promoting putrefaction. Flesh mixed with a small proportion of chalk, and exposed to a heat equal to that of the human body, not only corrupts fooner than without this addition, but likewife in a far greater degree, refolving in a few days into a perfect mucus. This quality of the absorbent powders (for the discovery of which, with many other curious experiments on the fame subject, the public is obliged to the ingenious Dr. Pringle) feems to forbid their use in all those kinds of fevers, where the animal juices are already too much disposed to a putrefactive state. We have before observed, that, in these cases, though very frequently employed, they are at best unserviceable. Perhaps their ill effects would be oftener feen, if it were not for the quantity of acids usually given in acute diseases.

# PULVIS BEZOARDICUS. Bezoardic powder. Lond.

Take of

Compound powder of crabsclaws, one pound;

Oriental bezoar prepared, one ounce.

Mix them together.

BEZOAR has hitherto been an ingredient in the foregoing composition, which was then called Gascoigne's powder; though notwithstanding the addition which this article made to the price, it added nothing to the virtue of the medicine. The college of London has therefore very prudently directed an absorbent powder, without this costly article; and composed another, distinguished by its name, for the use of those who expect any particular

virtues from it. The Edinburgh college have entirely expunged this unnecessary drug, and take no further notice of it in their pharmacopæia, than barely giving it a place in the catalogue of simples.

#### PULVIS CONTRAYERVÆ COMPOSITUS.

Compound powder of contrayerva.

Lond.

Take of

Compound powder of crabsclaws, a pound and a half; Contrayerva root, five ounces. Make them into a powder.

#### Edinb.

Take of

Contrayerva root, fix drams;
Virginian fnakeroot, two drams;
English saffron, one dram;
Compound powder of crabsclaws, two ounces.
Make them into a powder.

THESE powders were formerly directed to be made up into balls with water (and then called LAPIS CONTRAYERVÆ); a piece of trouble now laid ande as needless; for it was necessary to reduce the balls into powder again before they could be used. Nor did that form contribute, as has been imagined, to their prefervation; for it is fcarce to be supposed, that the powder will lofe more by being kept for a reasonable length of time in a close-slopt glass, than the balls will, in the humectation with water, and exficcation in the air, before they are fit for being put by to keep. These medicines have a much better claim to the title of alexipharmac and fudorific, than the two foregoing compositions. The contrayerva, Inakeroot, and faffron, by themselves are such, and prove very ferviceable in low fevers, where the vis vitæ is weak, and a Nn 3 diaphorefis

diaphoresis to be promoted. It is possible, that the crabs-claw powders are of no further service, than as they divide these powerful ingredients, and render them supportable to the stomach.

PULVIS ad EPILEPTICOS de GUTTETA dictus.

Epileptic powder.

Edinb.

Take of

Wild valerian root, Peony root, of each equal parts. Make them into a powder.

This powder has undergone a great reduction of its ingredients, to its advantage as a medicine; the articles rejected being either infignificant, or at best far inferior to those retained, and consequently increasing the bulk of the compofition, without communicating a proportionable share of esticacy. Perhaps, for the fame reason, the peony roots are not altogether unexceptionable. The powder, however, as now reformed, may be looked on as a medicine of fome importance for the purposes expressed in its title, far superior to those of similar intention in other pharmacopæias. The dose is from ten grains to half a dram for children, and from half a dram to The abtwo drams for adults. forbent powders, generally directed in these kinds of compositions, are here more prudently omitted, as they may easily be mixed extemporaneously, where particular cases may require them. For children, these additions are often necessary, as in most of their disorders, acidities in the first passages have a confiderable share. In adults, they are rarely of use.

PULVIS e MYRRHA COMPO-SITUS. Compound powder of myrrh.

Lond.

Take of
Rue leaves, dried,
Dittany of Crete,
Myrrh, each an ounce and a
half;
Afafetida,
Sagapenum,
Russia castor,
Opopanax, each one ounce.

Beat them together into a powder:

This is a reformation of the trochifci e myrrba, a composition contrived by Razi against uterine obstructions. It may be taken in any convenient vehicle, or made into boiluses, from a scruple to a dram or more, two or three times a day.

PULVIS ad PARTUM.

Powder to promote delivery.

Edinb.

Take of
Borax, half an ounce;
Caftor,
Saffron, each a dram and a half;
Oil of cinnamon, eight drops;
Oil of amber, fix drops.
Beat the species together into a powder, to which add the oils, and mix the whole well together.

This medicine has long been held in esteem for the purpose expressed in its title : nevertheless, its real efficacy, and what share thereof is owing to each of the ingredients, has not been sufficiently determined: the borax, though by fome thought to be of little importance, does not perhaps contribute the least to its virtue. The dofe is from a scruple to a dram, or fo much as can be conveniently taken up at once on the point of a knife. It should be kept in a very close vessel, otherwise it will soon loie lose a considerable deal of its more valuable parts.

PULVIS e SCAMMONIO COM-POSITUS.

Compound powder of scammony.

Lond.

Take of

Scammony, four ounces; Calcined hartshorn prepared, three ounces.

Grind them diligently together into a powder.

HERE the scammony is divided by the earthy calx, and thus rendered somewhat more soluble, and less adhesive. Hence its purgative quality is promoted, at the same time that it becomes less griping. The dose of the compound is from fifteen grains to half a dram.

This powder has been usually prepared with diaphoretic antimony and crystals of tartar (instead of the calcined hartshorn before directed) and called, from its first publisher, PULVIS CORNA-CHINI, which, in the Edinburgh pharmacopæia, is thus directed.

Take of

Diaphoretic antimony, Cream of tartar, Scammony, each equal parts. Make them into a powder.

This may be given to the quantity of a dram or more. In other prescriptions, the tartar and antimonial calx bear nearly the same proportion to the scammony, as the calcined hartshorn in the preceding formula. It appears probable, that neither of these ingredients are of any further use, than as they divide the texture of the scammony; though Cornachini proposes notable advantage from some deobstruent quality in the tartar, whereby the vessels shall be opened, and the noxious humours

prepared for expulsion; and from the preparation of antimony, tho' it have no fensible operation, he expects some share of the same success, which sometimes attends the rougher preparations of that mineral.

PULVIS e SENA COMPO-SITUS.

Compound powder of Sena. Lond.

Take of
Crystals of tartar,
Sena, each two ounces;
Scammony, half an ounce;
Cloves,
Cinnamon,

Ginger, each two drams.

Powder the scammony by itself;
and all the other ingredients together. Then mix them.

# PULVIS DIASENNÆ.

Take of
Cream of tartar,
Sena, each two ounces;
Scammony,
Ginger, each half an ounce.
Make them into a powder.

THESE powders are given as cathartics, in the dose of two scruples, or a dram. The spices are added, not only to divide, but to warm the medicine, and make it sit easier on the stomach. The scammony is used as a stimulus to the sena. The quantity of the latter necessary for a dose, when not assisted by some more powerful material, is too bulky to be conveniently taken in this form.

# PULVIS STERNUTATORIUS. Sternutatory powder.

Take of
Afarum,
Marjoram,
N n 4

Marum

Marum Syriacum leaves, dried, Lavender flowers, dried, each equal weights.

Rub them together into a powder.

# PULVIS CEPHALICUS. Cephalic powder. Edinb.

Take of

The leaves of afarum, three parts;

Leaves of marjoram, one part. Beat them together into a powder.

THE titles of these powders sufficiently express their intention. They are both agreeable and essicacious errhines, and superior to most of those usually sold under the name of herb snuff.

# PULVIS STYPTICUS. Styptic powder. Edinb.

Take of

Alum, half an ounce; Gum kino, three drams. Rub them together into a powder.

This powder has long been in repute as an aftringent, under the title of Pulvis stypticus Helverii. It is undoubtedly a very powerful medicine: though the gum kino feems to have little share in its effects. Some direct the ingredients to be melted together before they are powdered. But this circumstance does not appear to be necessary.

#### PULVIS e SUCCINO COMPO-SITUS.

Compound powder of amber. Lond.

Take of
Amber prepared,
Gum Arabic, each ten drams;
Juice of hypocistis,
Balaustines,
Japan earth, each five drams;

Olibanum, half an ounce; Strained opium, one dram. Beat them together into a powder.

This powder is composed of the more unexceptionable ingredients of the Trochisci E CARABE of a former pharmacopæia. The articles omitted, which are as many in number as those now retained, were manifestly abfurd or superfluous; and the making it up into troches, a very unnecessary trouble. The medicine, as now reformed, may be looked upon as an uleful, and tolerably elegant aftringent; though possibly the ingredient which it receives name from, contributes little to its virtue. Two scruples of the composition contain one grain of opium.

# PULVIS e TRAGACANTHA COMPOSITUS.

Compound powder of gum tragacanth. Lond.

Take of

Gum tragacanth,
Gum Arabic,
Marshmallow root, each an ounce
and a half;
Starch,

Liquorice, each half an ounce; Double refined fugar, three ounces.

Grind them into a powder.

# PULVIS DIATRAGACANTHI. Edinb.

Take of

Gum tragacanth, one ounce and a half;

Marshmallow root, Liquorice,

Starch, each half an ounce. Beat them together into a powder.

BOTH these powders are mild emollients; and hence become serviceable in hectic cases, tickling coughs

coughs, strangury, some kinds of alvine fluxes, and other diforders proceeding from a thin acrimonious state of the humours, or an abrasion of the mucus of the intestines. They foften, and give a greater degree of confiltency to the former, and defend the latter from being irritated or excoriated by them. All the ingredients coincide in thefe general intentions. The marshmallow root, however, is fomewhat too bulky for this form, and likewife fubjects the composition to grow mouldy in keeping; an inconvenience to which the cold feeds formerly employed in these powders were particularly liable. The dofe is from half a dram to two or three drams, which may be frequently repeated.

# HIERA PICRA.

Take of

The gum extracted from Socotorine aloes, one pound; Canella alba, three ounces. Beat them separately into powder, and then mix them together.

# Pulvis HIERA PICRA dictus. Edinb.

Take of

Socotorine aloes, four ounces;
Virginian inakeroot,
Ginger, each half an ounce.
Mix, and beat them into a powder.

THESE compositions were originally directed to be made into an electary. With us, they have been rarely used in that form, and not often in this of a powder, on account of their great nauseousness. They are chiefly employed as the basis of a tincture called tinctura sacra.

### SPECIES AROMATICA.

# Aromatic Species.

Take of

Cinnamon, two ounces; Lesser cardamom seeds, husked, Ginger,

Long pepper, each one ounce. Beat them together into a powder.

## PULVIS DIAROMATON.

Aromatic powder.
Edinb.

Take of

Nutmegs, Lesser cardamom seeds, Ginger, each equal parts.

Beat them together into a powder.

BOTH these compositions are agreeable, hot, spicy medicines; and may be usefully taken in cold phlegmatic habits, and decayed constitutions, for warming the stomach, promoting digestion, and strengthening the tone of the viscera. The dose is from ten grains to a scruple and upwards. The first is considerably the warmest.

# SPECIES e SCORDIO fine OPIO.

Species of scordium without opium.

Lond.

Take of

Bole armenic, or French bole,
four ounces;
Scordium, two ounces;
Cinnamon, an ounce and a half;
Storax strained,
Tormentil root,
Bistort root,
Gentian,
Dittany of Crete,
Galbanum strained,
Gum Arabic,
Red roses, each one ounce;
Long pepper,
Ginger, each half an ounce.
Reduce them into powder.

SPECIES

SPECIES e SCORDIO cum OPIO.

Species of scordium with opium.

Lond.

Take of strained opium, three drams.

Dry it a little, that it may easily pulverize; and add it to the foregoing species in the beating, that they may be all reduced into a powder together.

This is the specie of Fracastorius's confection or diascordium, which has been hitherto kept in the shops in the form of an electary only, but is now judiciously directed in that of a powder also, both with and without the opium. When made into an electary, the medicine, in keeping, lofes much of its aftringency, in which confifts great part of its virtue. As this composition has in common practice been looked upon as a medicine of great consequence, and its effects determined by long experience; the college has made no further alteration in its ingredients, than fubilituting red roles themfelves to the fugar of roles; omitting forrel feeds, which are certainly infignificant; and supplying the Lemnian earth, which with us is scarce ever met with genuine, by a proper increase of the bole. They have nevertheless given an elegant reformation of it, in the pulvis e bolo, cum et fine opio. There, the fcordium, florax, gentian, dittany, ginger, and galbanum, are rejected, as being either superfluous or contrary to the intention; whilst an increase of the tormentil root amply supplies the loss of the bistort and roles. The quantity of opium is the fame in both, viz. one grain in forty-five of the composition.

CERATUS.

Cerated testaceous powder.

Melt fome yellow bees-wax over a gentle fire; and carefully stir into it, by little and little, as much of the compound powder of crabsclaw as the wax will take up.

This preparation, made with oyster-shells, instead of the crabs-claw powder, has been in use for some time in the Edinburgh infirmary. It is given to the quantity of a dram, twice a day, in diarrhæas and dysenteries, wherever the viscera are subject to be eroded by acrimonious humours, and in immoderate uterine discharges. Its virtue seems to depend wholly upon the wax, the earthy powder being of no further use than to divide that concrete, and render it miscible with the animal sluids.

Pulvis ARTHRITICUS AMARUS.

Bitter gout jouder.

Parif.

Take of
Gentian root,
Round birthwort root,
Rhapontic root,
Germander leaves,
Groundpine leaves,
Lesser centaury tops, of each
equal parts.
Make them into a powder.

Compositions of this kind were in use among the ancient Greek physicians, and made a considerable part of their practice in gouty and arthritic complaints. But while they bestow great praises on them in cold and phlegmatic constitutions, they very properly condemn them as being extremely hurtful in the hot and bilious. Afterwards, on account probably of the ill confequences

sequences arising from their indiscriminate use, these medicines fell into neglect, till the introduction of the Greek volumes into the western parts of Europe, when they were transcribed by some of the earlier medical writers, and brought into some esteem in Italy, Germany, Switzerland, &c. A form differing from the above only in the omission of the rhapontic root, was some years ago brought thence, as a family receipt, by a person of high rank, who having experienced remarkable benefit from it in an hereditary gout, ordered it to be printed, and copies delivered to all who should ask for them. (See the Medical Observations and Inquiries, published by a society of physicians in London, vol. i. p. 126.) The directions for using this medicine are to the following effect.

" Take one dram of the powder " every morning falling, in a cup " of any agreeable liquor, fasting " an hour and a half after it. " Continue this for three months " without interruption, then di-" minish the dose to three quarters " of a dram for three months " longer, then to half a dram for " fix months more. After the first " year, it will be sufficient to take " half a dram every other day. " As this medicine operates in-" fenfibly, it will take perhaps " two years before any great be-" nefit is received. In rheuma-" tisms that are only accidental, a few of the dram doles may do: " but in habitual rheumatisms, " and fuch as are of long standing, " it must be taken as for the gout.

Dr. Clephane remarks (in the learned and judicious paper above referred to) that this medicine will probably do good in many cases,

"The remedy requires patience, as

" it operates but flow in both

for in many cases there is reason to believe it extremely proper; but that an indiscriminate use of it will probably again do what a like abuse formerly did, bring a good medicine into disrepute.

Pulvis Catharticus salinus.

Saline cathartic powder.

Take of

Vitriolated tartar

Vitriolated tartar,
Crystals of tartar, each one dram;
Sal prunel, or purified nitre, one
fcruple.
Make them into a powder.

This is an useful cathartic in inflammatory disorders, and a viscid impure state of the juices. The quantity here directed is intended for one dose, which should be accompanied with plentiful dilution.

Pulvis CARMINATIVUS.

Carminative powder.

Take of
Anifeed,
Sweet fennel feed, each two
fcruples;
Ginger, one fcruple;
Nutmegs, half a fcruple;
Fine fugar, half a dram.
Reduce them into a powder, for four dofes.

This powder is employed for expelling flatulencies arising from indigestion, particularly those to which hypochondriacal and hysterical persons are subject. It is likewise usefully given in the gripes of young children, either mixed with their food or otherwise.

Pulvis diureticus.

Diuretic powder.

Sal prunel, ten grains;
Salt of amber, four grains;
Oil of turpentine, three drops;
Fine sugar, one scruple.
Drop

Drop the oil upon the fugar, then add the falts, and grind the whole together.

This powder is a very efficacious diuretic, and may be given to advantage in cases where the assistance of such forcing medicines is required. The salts somewhat abate the heating quality of the oil, and, at the same time, cool and relax the passages.

> Pulvis Roborans. Strengthening powder.

Take of

Extract of Peruvian bark, twelve

Salt of steel, two grains; Oil of cinnamon, one drop; Fine sugar, half a dram.

Having mixed the oil with the fugar, add the other ingredients, and grind the whole well together, for two doses.

This medicine has a much better title to the appellation of a strengthener, than those usually met with under that name in dispensatories. In lax habits, debilities of the nervous system, and the weaknesses peculiar to either sex, it has generally good effects.

Pulvis ad strumas.

Powder against the king's evil.

Take of

Burnt sponge, one scruple; Nitre,

Coralline,

Fine fugar, each half a scruple. Reduce them into powder.

This powder is recommended in scrophulous disorders and obstructions of the glands. It is supposed to open and deterge the minute vessels, and carry off the offending matter by urine. Dr. Mead informs us, in his Monita medica, that he very frequently experienced its good effects. He used to give the quantity above prescribed twice a day, with three or four glasses of the less compounded limewater along with each dose. If the patient were much emaciated, the lime-water was mixed with about an equal quantity of milk.

PULVIS TEMPERANS.

Take of

Vitriolated tartar,

Purified nitre, each three drams; Cinnabar, finely levigated, two fcruples.

Make them into a fubtile powder.

These kinds of powders are in frequent use among foreign phyficians in all disorders accompanied with immoderate heat or exagitation of the humours. They are called also, especially when absorbents are joined, pulveres pracipitantes, and antispasmodici. They are given in doses of only a few grains at a time, but repeated at thort intervals.

Pulvis vermifugus. Vermifuge powder.

Take of
Tanfy flowers,
Worm-feed, each three drams;
Salt of fteel, one dram.
Make them into a powder.

Take of

Tin reduced into fine powder,
two drams;
Ethiops mineral, half a dram;
Fine fugar, one fcruple.
Mix them well together.

Take of 3.
Choice rhubarb, three drams;
Scammony,
Calomel, each one dram.

Mix and make them into a powder.

ALL

ALL these compositions are well calculated for the purpose expressed in the title. The first is given in the hospitals, in doses of half a dram twice a day; which quantity contains about four grains and a half of the salt of steel. The second is divided into three or four

doses; one of which is taken every morning, and a cathartic on the day following. The third, which is a brisk purgative, is used, in the quantity of half a dram, after the others have been premised; or it is taken once or twice a week without their assistance.



### CHAPTER II.

### Troches and lozenges.

ROCHES and lozenges are composed of powders made up with glutinous substances into little cakes, and afterwards dried. This form is principally used for the more commodious exhibition of certain medicines, by fitting them to dissolve slowly in the mouth, fo as to pais by degrees into the flomach. Hence these preparations have generally a confiderable proportion of fugar, or other materials grateful to the palate. Some powders have likewise been reduced into troches, with a view to their preservation; though possibly for no very good reasons. Since the moistening, and afterwards drying them in the air, must in this light be of greater injury, than any advantage accruing from this form can counterbalance.

General rules for making troches.

I.

The three first rules laid down for making powders, are also to be observed in the powders for troches [E.]

11.

If the mass prove so glutinous as to stick to the singers in making up, the hands may be anointed with any convenient sweet or aromatic oil; or sprinkled with powder of starch, or with that of siquorice [E.]

HI.

In order to thoroughly dry the troches, put them on an inverted fieve, in a fhady, airy place, and frequently turn them [E.]

IV.

Troches are to be kept in glass vessels, or in earthen ones well glazed [E.]

TROCHISCI ALBI RHASIS,

feu SIEF ALBUM.

The white troches, or dry collyrium

of Razi.

Edinb.

Take of

Cerusse, three ounces;
Sarcocolla, one ounce;
Gum tragacanth, three drams;
Camphor, one dram;
Rose-water, as much as is sufficient.

Make them into troches according to art.

THE making of these ingredients into troches is an unnecessary trouble; since, before they are used, they must be powdered again, for being mixed with rose-water or other liquors, for the purposes of a cooling, antacrid, and moderately astrictive collyrium, injection, &c. The London college has therefore directed them to be kept in the form of powder (under the title of pulvis e cerussa compositus) omitting the camphor, which is not found in the original of Razi.

TROCHISCI BECHISI ALBI.

White pestoral troches.

Lond.

Take of
Double-refined fugar, a pound
and a half;
Starch, an ounce and a half;
Liquorice, fix drams;
Florence

Florence orris root, half an ounce.

Reduce these ingredients into powder, which is to be made up into troches with a proper quantity of mucilage of gum tragacanth.

#### Edinb.

Take of
White fugar, one pound;
Gum Arabic, four ounces;
Starch, one ounce;
Flowers of benzoine, half a dram.
Reduce them to a fine powder, and

Reduce them to a fine powder, and make them into a mass with rose water, and form them into troches.

THESE compositions are very agreeable pectorals, and may be used at pleasure. They are calculated for softening acrimonious humours, and allaying the tickling in the throat, which provokes coughing.

### TROCHISCI BECHICI NIGRI.

Black pectoral troches.

Lond.

Take of

Extract of liquorice,
Double-refined fugar, each ten
ounces;

Gum tragacanth, half a pound.

Drop upon these ingredients so much water as will make the mass soft enough to be formed into troches.

### Edinb.

Take of
Extract of liquorice,
Gum Arabic, each four ounces;
White fugar, eight ounces.

Dissolve them in boiling water, and strain; afterwards evaporate the liquor with a gentle fire, to a proper consistence to be made into troches.

THESE compositions are defigned for the same purposes as the white pectoral troches before described. In foreign pharmacopæias there are some other troches of this kind, under the titles of trochisci becchici flavi and rubri; the former are coloured with faffron, the latter with bole armenic. The diffolying and straining of the extract of liquorice and gum Arabic, as now ordered in the latter of these prefcriptions, is a confiderable improvement; not only as they are by those means more uniformly mixed than they can well be by beating; but likewise as they are thereby purified from the heterogeneous matters, of which both those drugs have commonly no small admix-

# TROCHISCI de MINIO. Red lead troches. Edinb.

Take of

Red lead, half an ounce; Corrofive mercury fublimate, one ounce;

Crumb of the finest bread, four ounces.

Make them up with rofe-water into oblong troches.

THESE troches are employed only for external purposes as escharotics. They are powerfully such, and require a good deal of caution in their use.

# TROCHISCI de MYRRHA. Troches of myrrh. Edinb.

Take of

Myrrh, one ounce and a half;

Lovage feed,

Pennyroyal leaves,

Russia castor,

Galbanum, each one ounce;

Essential oil of savin, half a

dram;

Elixir

Elixir proprietatis, as much as is fufficient.

Let the gum be fostened with the elixir into a mass of the consistence of honey; then add the oil and powders, and make the whole into troches according to art.

THESE troches are very well contrived, in regard to efficacy, and fuperior to those in most other pharmacopœias, under the same title. Madder and cummin feed, two of their former ingredients, which were objected to in a former edition of this work, are now expunged ; the one as being an unnecessary article; the other as being an offensive one, and not of fimilar intention with the rest. In the place of this last, lovage feed is introduced, which is doubtless more agreeable to the intention of the medicine. Afafetida is supplied by an increase of the galbanum; and the effential oil of rue, by an increase of the oil of favin. There feems to be no occasion for making a medicine of this kind into troches, as it cannot be conveniently taken in that form. The London college have therefore exchanged their TROCHISCI e myrrha for a Pulvis e myrrba compositus, which fee.

## TROCHISCI e NITRO. Troches of nitre. Lond.

Take of

Nitre purified, four ounces;
Double-refined fugar, one pound.
Make them into troches, with mucilage of gum tragacanth.

This is a very agreeable form for the exhibition of nitre; though, when the falt is thus taken without any liquid (if the quantity be confiderable), it is apt to occasion uneafiness about the stomach, which can only be prevented by large dilution with aqueous liquors.

# TROCHISCI e SCILLA. Troches of squills. Lond.

Take of

Baked fquills, half a pound;
Wheat flower, four ounces.
Beat them together, and form the mass into troches, which are to be dried with a gentle heat.

This preparation is used only as an ingredient in the theriaca. The design of baking the squills is, to abate their acrimony; and making it afterwards into troches seems the most convenient way of drying it. Common wheat slower is as sit for this purpose as any, though that of the white vetch has been generally directed.

# TROCHISCI e SULPHURE. Troches of sulphur. Lond.

Take of

Flowers of fulphur, washed, two ounces;

Double-refined fugar, four oun-

Beat them together, and adding fome mucilage of quince feeds, form them into troches.

### TROCHISCI DIASULPHURIS. Troches of fulphur.

Take of

Flowers of sulphur, two ounces; Of benzoine, one scruple; Factitious cinnabar, half a dram; White sugar, sour ounces.

Mix them well together, and form them into troches with mucilage of gum tragacanth.

THESE compositions are to be considered only as agreeable forms for

for the exhibition of sulphur, no alteration or addition being here made to its virtue; unless that, by the flowers of benzoine in the second prescription, the medicine is supposed to be rendered more efficacious as a pectoral.

TROCHISCI e TERRA
JAPONICA.
Troches of Japan earths
Lond.

Take of

Japan earth, Gum Arabic, each two ounces; Sugar of roles, fixteen ounces.

Beat them together, and, dropping in fome water, make them into troches.

Edinb.

Take of

Japan earth, two ounces;
Gum tragacanth, half an ounce;
White fugar, one pound;
Rose-water, a sufficient quantity.
Make them into troches.

A preparation of this kind, with the addition of ambergris and musk, which are here more prudently omitted, has long been in fome esteem as a mild restringent, &c. under the title of CATECHU. Medicines of this class in general are excellently fitted for the form of troches; for, when flowly and gradually received into the stomach, as this form occasions them to be, they produce much better effects, than if an equal quantity were The troches of Jataken at once. pan earth are sufficiently palatable, and of confiderable fervice in some kinds of coughs, thin acrid defluxions, diarrheas, &c.

### TABELLÆ CARDIALGICÆ. Cardialgic lozenges.

Take of Chalk prepared, four ounces; Crabs-claws prepared, two ounces; Bole armenic, or French bole, half an ounce;

Nutmegs, one scruple; Double - refined sugar, three

Reduce these ingredients into powder, and make them into troches with-water.

### TROCHISCI CARDIALGICI.

Take of
Oystershells prepared,
White chalk powdered, each
two ounces;
Gum Arabic, half an ounce;
Nutmegs, half a dram;
White sugar, six ounces;
Common water, a sufficient quantity.
Make them into troches according

These compositions are calculated against that uneasy sensation at the stomach, improperly called the heartburn; in which they often give immediate relief, by absorbing and neutralizing the acid juices that occasion this disorder. The absorbent powders here made use of, are of the most powerful kind, though there does not seem to be any occasion for using more than one of them. Some have pre-

TABELLE ANTACIDE.

Antacid loxenges.

scribed the following formula.

Take of

to art.

Prepared white chalk, four drams;

Candied ginger, three drams; Cinnamon, one dram;

Fine fugar, dissolved in water, as much as is sufficient to reduce the whole into a due confistence for being formed into lozenges.

00

HERE

HERE it may be observed, that all these compositions, though very effectual for the intention, are accompanied with an inconvenience, which is frequently complained of in their use; their binding the belly. The use of the chalk, oystershells, and crabs-claws, is to absorb acidities; and both these and the other common absorbents, united with acids, compose astringent concretes. The following composition is free from this inconvenience.

TABELLÆ ANTACIDÆ LAX-ANTES.

Laxative antacid lozenges.

Take of

Magnefia alba, fix ounces; Double-refined fugar, three ounces;

Nutmegs, one scruple.

Mix them well together, and form them into troches with mucilage of gum tragacanth.

SACCHARUM ROSACEUM.
Sugar of Roses.
Lond.

Take of

Red rose buds, freed from the heels, and hastily dried, one

Double-refined sugar, one pound.
Reduce them separately into powder, then mix, and moissen them with water, that they may be formed into troches, which are to be dried by a gentle heat.

In the Edinburgh pharmacopæia, this preparation is directed as follows.

TABELLÆ ROSACEÆ.

Rose tablets.

Edinb.

Take of Conserve of red roses, four ounces; White fugar, in powder, one pound.

If any moisture be required, take of fyrap of dry roses a sufficient quantity for forming them into troches, which are to be dried with a gentle heat.

THE fugar of roses was formerly made, by boiling a pound of fine fugar with four ounces of the juice of red rofes, over a gentle fire, till the juice was almost all evaporated; then throwing in an ounce of dry red rofes reduced to a very fine powder; after which the matter was poured out upon a marble, and formed into lozenges. The two methods above directed, are more fimple and commodious; though, if any virtue be expected from the roses, the medicine is not at all improved by the alteration. As the conferve contains only one-fourth of its weight of roles, in a fresh state, it is obvious that the quantity of fresh roses in the second prefcription is less than that of the dry ones in the first.

These preparations are chiefly valued for their agreeableness to the eye and palate. Some like-wise esteem them, medicinally, as light restringents; and look upon them, not undeservedly, as an excellent addition to milk in phthiscal and hectic cases. Some have been accustomed to add a portion of acid in making these preparations, which improves the colour, but renders them unfit to be taken with milk.

TABELLÆ ANTHELMINTICÆ.

Anthelmintic Jugar-cakes.

Take of
Powdered tin, half a dram;
Fine fugar, half an ounce;
Rose-water, a sufficient quantity
to make them into a mass for
tablets.
Take

Take of 2.

Mercurius dulcis, each four grains;

Fine fugar, half an ounce; Rose water, a sufficient quantity to make them into tablets.

THESE compositions are calculated for children, who are not easily prevailed on to take anthelmintic medicines in less agreeable forms. If the first be made use of, it must be repeated three or four mornings successively, after which a purge is to be taken: the second, if it require repetition, is to be given only every other morning. The proportions of the ingredients are to be varied, according to the age and strength of the patient.

### TROCHISCI NERVINI. Nerwe troches.

Take of

Compound spirit of lavender, fixty drops;

Oil of cinnamon,

Oil of rosemary, each four drops;

Florence orris root, two drams;

Fine fugar, one ounce;

Mucilage of gum tragacanth, as much as will reduce them into a mass, which is to be formed into troches of about half a scruple each.

ONE or two of these troches, taken occasionally, and suffered to dissolve in the mouth, prove serviceable to those who are subject to paralytic and other nervous disorders. Warm aromatic medicines given in this form and manner, are supposed, from their slow dissolution in the mouth, to affect the nervous system more immediately than if received at once into the stomach.

Morsuli purgantes.

Purging tablets.

Take of

Crystals of tartar, half an ounce; Scammony, three drams; Oil of cinnamon, four drops; Double - refined sugar, eight ounces.

Make them up, with rose-water, into troches, weighing each about a dram.

This is a fufficiently elegant form for purgative troches. Each of the morfuli contains two grains and a half of fcammony.

Morsuli de RHABARBARO.

Rhubarb troches.

Take of

Cream of tartar, Rhubarb, each two drams; Fresh lemon peel, half a dram; Fine sugar, four ounces.

Make them into troches with rofewater.

Two drams of these troches contain about seven grains of rhubarb, and as much of cream of tartar. Both this and the preceding composition are among the officinals of the Brandenburgh pharmacopeia.

### Morsuli restaurantes Kunckelii.

Kunckel's antimonial tablets.

Take of

The best Hungarian antimony, levigated into an impalpable powder, three drams and a half;

Sweet almonds peeled, Fresh pine nuts, each half an

Cinnamon, one dram;

Lesser cardamom seeds, husked, half a dram;

Double-refined fugar, four ounces.
Dissolve the sugar in equal quantities of cinnamon-water and roseO o 2 water;

water; then mix therewith the other ingredients, and form the whole into tablets weighing one dram each.

THESE tablets were brought into esteem by Kunckel, at a time when the internal use of crude antimony was almost univerfally reckoned poisonous. He had recourse to them as a desperate medicine, in violent pains and contractions of the arms, after all the common methods of cure had been used without any relief; and being happily, in a short time, perfectly freed from his complaints, he made trial of them in feveral other cases, with remarkable fuccess. He seems to have begun with dofes of four or five grains (that is one of the tablets before prescribed) which were repeated thrice a day, and gradually increased to a dram or more of the antimony every day.

TROCHISCI SIALAGOGI.

Take of

Pellitory of Spain, half an ounce; Mastich, two drams;

Oil of cloves and marjoram, each one dram;

Yellow wax, a sufficient quantity

Make them into troches or pellets. ONE of these troches is to be occasionally held in the mouth, and chewed, to promote a discharge of saliva; which they effect by warming and stimulating the salival glands.

TROCHISCI STOMACHICI.
Stomachic troches.

Take of
Hard extract of Peruvian bark,
one dram;
Oil of cinnamon,

Oil of mint, each ten drops; Fine sugar, four ounces.

Make them into troches, with mucilage of gum tragacanth.

THESE troches are of fervice for warming and strengthening the stomach, expelling statulencies, and promoting digestion. For these purposes they are as effectual as any thing that can well be contrived in this form.

TROCHISCI SUAVEOLENTES.
Sweet-fmelling troches.

Take of

Strained storax, one scruple;
Ambergris, sisteen grains;
Musk, seven grains;
Oil of cinnamon, six drops;
Fine sugar, one ounce.
Make them into small troches with
mucilage of gum Arabic.

### CHAPTER III.

### Pills.

To this form are peculiarly adapted those drugs which eperate in a small dose; and whose nauseous and offensive taste or smell require them to be concealed from

the palate.

Pills diffolve the most difficultly in the stomach, and produce the most gradual and lasting effects, of all the internal forms. This is in some cases of great advantage; in others it is a quality not at all defirable, and sometimes may even be of dangerous consequence; particularly with regard to emetics, which, if they pass the stomach undissolved, and afterwards exert themselves in the intestines, operate there as violent cathartics. Hence emetics are, among us, scarce ever given in pills. hence to the refinous and difficultly foluble substances, saponaceous ones ought to be added, in order to promote their folution.

Gummy refins and inspissated juices, are sometimes soft enough to be made into pills, without addition. Where any moisture is requisite, spirit of wine is more proper than syrups or conserves, as it unites more readily with them, and does not sensibly increase their bulk. Light, dry powders require syrup, or mucilages: and the more ponderous, as the mercurial and other metallic preparations, thick honey, con-

ferve, or extracts.

Light powders require about half their weight of fyrup; and of honey, about three-fourths their weight; to reduce them into a due

confistence for forming pills. Half a dram of the mass will make five or six pills of a moderate size.

General rules for making pills from the Edinburgh pharmacopæia.

I.

The three first rules, formerly laid down for making powders, are here also to be carefully obferved.

II.

Gums and inspissated juices, are to be first softened with the liquid prescribed: then add the powders, and continue beating them altogether till they are 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 liquid with which the mass was made up, or with some proper aromatic oil.

## PILULÆ AROMATICÆ. Aromatic pills. Lond.

Take of

Socotorine aloes, an ounce and a half;

Gum guaiacum, one ounce; Aromatic species,

Balfam of Peru, each half an

Reduce the aloes and gum guaiacum separately into powder, then mix them with the rest, and make the whole into a mass O o 3 with with a fufficient quantity of fyrup of orange peel.

IT is somewhat difficult to unite these ingredients into a mass fit for making pills. The best way is, to first rub the aromatic species with the balfam, then to add the powdered aloes, and afterwards the guaiacum. When these are well mixed together, drop in the fyrup by little and little at a time. These pills are contrived to supply the place of the PILULE DIAMBRE of our former pharmacopæia. They are far more elegant as well as fimple, truly uniform in their ingredients, and excellently adapted to the purposes they seem designed for. Taken in small doses, as half a fcruple, or little more, and occasionally repeated, they warm the ftomach, and by degrees the whole habit, promote perspiration, and all the natural secretions. If the dose be confiderable, they operate gently by stool: and, if continued for some time in fmaller dofes, they prove at length purgative, or introduce a falutary loofeness.

PILULÆ ALOETICÆ.

Aloetic pills.

Edinb.

Take of

Socotorine aloes in powder, Hard extract of gentian, each two ounces.

Make them into a mass with simple syrup.

This composition has been in use for some time in the Edinburgh infirmary, as a deobstruent in cachectic indispositions; and thence it is received into the pharmacopæia of the college. A scruple or half a dram of the mass is directed to be made into pills of a moderate size for one dose.

PILULÆ de JALAPPA.

Jalap pills.

Edinb.

Take of

Extract of jalap, two ounces; Aromatic species, half an ounce; Simple syrup, enough to make them into a mass.

This composition also is now received into the pharmacopæia. One of the same kind, with powdered jalap in substance instead of the extract, is used in some of our hospitals, as a cheap and effectual purge.

PILULÆ E SCAMMONIO CUM

Pills of Scammony with aloes. Take of

Socotorine aloes, one dram; Aromatic species, half a dram; Scammony, one scruple;

Soft extract of liquorice, as much as is sufficient to reduce them into a mass of a due consistence for being formed into pills.

This warm purgative is recommended for removing the crudities, &c. after a furfeit or debauch, and for preventing arthritic and other complaints incident to those who live high. The quantity above described may be made into thirty pills, of which five or fix are to be taken for a dose.

### PILULÆ e COLOCYNTHIDE SIMPLICIORES.

The more simple colocynth pills.

Take of

Pith of colocynth,

Scammony, each two ounces; Oil of cloves, two drams.

Pulverize the coloquintida and feammony by themselves, then

mix

mix in the oil, and make the whole into a mass with syrup of buckthorn.

THE operator should be careful, in pulverizing the colocynth, to avoid the finer particles that fly off. from it; which, though they do not confiderably affect the mouth or fauces, have sometimes been obferved to occasion violent purging. The drug should first be well dried, cut with a sheers into small pieces, and freed from the feeds. Then rub it in an oiled mortar, adding a few drops of sweet oil occasionally during the trituration : afterwards mix this powder with the powdered scammony, and the effential oil prescribed, and make the mixture into a mass, as before directed. The composition is apt to grow stiff and dry in keeping, and therefore ought to be made pretty foft at first. The pills should be formed as they are wanted; for when long kept, they become fo hard, as to have sometimes passed through the intestines undissolved.

These pills (formerly called Pr-LULZE DE DUOBUS, or pills of two ingredients) are very strong cathartics, and ought not to be ventured upon in cases where less violent medicines will take effect. They have been often made use of in large doses, along with large doses also of mercurials, in venereal complaints, both in recent gonorrheas, and in the swellings and inslammations which fometimes follow from the Tuppression of the discharge; but in both these cases they are apparently improper, as they generally injure the constitution, and as the latter complaint is for the most part aggravated by them. The effential oil, which is added as a corrector to the purgative ingredients. does not contribute fo much, as is commonly supposed, to abate the

roughness of their operation. The dose of these pills is from fifteen grains to half a dram; some have imprudently gone as far as two scruples. Half a dram contains ten grains of coloquintida, and as much scammony.

PILULÆ COCCIÆ.

The pills called cochiæ.

Edinb.

Take of
Coloquintida,
Scammony,
Socotorine aloes,

Socotorine aloes, each one ounce; Vitriolated tartar, two drams; Oil of cloves, one dram; Syrup of buckthorn, a fufficient

quantity.

Beat them into a mass.

This composition, like the foregoing, is strongly cathartic; not less effectual, though some that less irritating. Half a dram contains above six grains and a half of coloquintida, the same quantity of scammony, and the same of aloes.

PILULÆ ex COLOCYNTHIDE cum ALOE.

Colocynth pills with aloes.

Take of
Socotorine aloes,
Scammony, each two ounces;
Pith of colocynth, one ounce;
Oil of cloves, two drams.

Let the dry species be separately reduced into powder; then mix in the oil, and make the whole into a mass with syrup of buckthorn.

By the diminution of coloquintida in this prescription, the ingredients are reduced to the proportions wherein they are set down in the original of Galen; and what is of greater consequence, the medicine becomes less ungrateful to

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the stomach, and less virulent in its operation. Half a dram of the mass contains nearly four grains of coloquintida, eight of aloes, and eight of scammony.

PILULÆ ECPHRACTICÆ.

Deobstruent pills.

Lond.

Take of the
Aromatic pills, three ounces;
Rhubarb,
Extract of gentian,
Salt of steel, each one ounce;
Salt of wormwood, half an ounce.
Beat them together into a mass,
with solutive syrup of roses.

IT is difficult to bring this mass into the due confidence, the two falts acting upon one another, fo as to make it fwell and crumble. Notwithstanding the alkaline falt employed, the pill does not prove at all alkaline; for the acid of the falt of steel forfakes its metal, and unites with the alkali, into a vitriolated tartar; whence fome have proposed using, instead of the two falts here directed, an ounce of vitriolated tartar already made, and half an ounce of any of the calces of iron. This they observe prevents the inconveniency above mentioned, without making any apparent alteration in the quality of the medicine.

PILULÆ ECPHRACTICÆ CHALYBEATÆ. Chalybeate ecphractic pills. Lond.

Take of

The mass of common pills, called Rusu's pills, described hereaster, one ounce and a half;
Gum ammoniacum,
Resin of guaiacum, each half an ounce;
Salt of seel, sive drams;
Syrup of orange-peel, as much as

is sufficient to reduce the whole into a mass.

THE falt of steel, which is one of the most active preparations of that metal, remains here undecompounded. Both these and the foregoing pills are very well calculated for answering the intention expressed in the title. A dram of the mass may be made into twelve pills, and two or three of these taken every night, or oftener, in chlorotic, or other cases, where warm, aperient, or deobstruent medicines are proper.

### PILULÆ ECPHRACTICÆ PURGANTES.

Purging deohstruent pills.

Edinb.

Take of
Socotorine aloes,
Extract of black hellebore,
Scammony, each one ounce;
Gum ammoniacum,
Refin of guaiacum, each half an
ounce;
Vitriolated tartar, two drams;
Effential oil of juniper berries,
one dram.
Beat them into a mass, with a suf-

Beat them into a mass, with a sufficient quantity of syrup of buckthorn.

This composition may be given, from eight or ten grains to a scruple or half a dram, according as it is intended to keep the belly open or to purge. Half a dram of the mass contains about six grains of each of the capital purgative ingredients; aloes, scammony, and extract of hellebore.

PILULÆ FŒTIDÆ.

Ferid pills.

Edinb.

Take of Afafetida, Russian castor, each one dram and a half; Camphor, half a dram;

Oil of hartshorn, twenty-four

Beat the camphor with the asafetida, then add the castor and oil of hartshorn, and make the whole into a mass.

### PILULÆ GUMMOSÆ. Gum pills.

Lond.

Take of
Galbanum,
Opoponax,
Myrrh,
Sagapenum, each one ounce;
Afafetida, half an ounce.
Make them into a mass with syrup of saffron.

Edinb.

Take of
Afafetida,
Galbanum,
Myrrh, each one ounce;
Oil of amber, rectified, one dram.

Make them into a mass with simple syrup.

All these pills are designed for antihysterics and emmenagogues, and very well calculated for answering those intentions: half a scruple, a scruple, or more, may be taken every night or oftener. The fetid pills of our former pharmacopæias were considerably purgative. The purgative ingredients are now omitted, as the physician may easily, in extemporaneous prescription, compound these pills with cathartic medicines, in such proportions as particular cases shall require.

The following compositions are calculated for the same intentions as the foregoing deobstruent, setid, and gum pills.

Take of 1. Afafetida, Wood-foot,
Myrrh, each two ounces;
Oil of amber, one dram and a
half;
Syrup of fugar, a fufficient quantity.
Mix and make them into a mass,
according to art.

Take of

Afafetida, one dram;

Martial flowers, half a dram;

Oil of amber, eight drops;

Balfam of Peru, a fufficient

quantity to reduce them into a

mafs.

Take of
Afafetida,
Gum ammonizcum,
Myrrh,
Aloes,
Rust of steel prepared,
Extract of gentian, each one
fcruple;
Syrup of ginger, as much as will
make the other ingredients into a mass.

Take of
Galbanum, one dram;
Salt of steel, half a dram;
Asafetida,
Aromatic species, each one scruple;
Tincture of myrrh, as much as will make them into a mass.

In hysterical disorders, after bleeding and purging, where a sanguine and plethoric habit indicates these evacuations, chalybeate medicines are in general the most to be relied upon; especially when joined, as in these compositions, with bitters and deobstruent gums. At first taking, they are apt to increase the complaints (as the experienced Sydenham observes), and occasion great disorders both of body and mind; which, however, soon go off,

or may be relieved by a proper dose of opium given at bed-time. A dram of either of the masses is to be made into twelve pills, one or two of which may be taken for a dose, twice or thrice a day.

# PILULÆ MERCURIALES. Mercurial pills. Edinb.

Take of
Quickfilver,
Honey, of each one ounce;
Crumb of bread, two ounces.

Rub the quickfilver with the honey in a glass mortar, till the mercurial globules cease to appear, adding a little simple syrup occasionally; afterward put to it the crumb of bread, and with a little water beat it into a mass, and form it immediately into four hundred and eighty pills.

#### Lond.

Take of

Quickfilver, five drams; Strasburgh turpentine, two drams; Cathartic extract, four scruples; Rhubarb, powdered, one dram.

Grind the quickfilver with the turpentine, until they are perfectly incorporated; then let the other ingredients be beaten up with this mixture into a mass. If the turpentine happen to be too thick, soften it with a little oil olive.

### PILULÆ MERCURIALES LAXANTES.

Laxative mercurial pills.

Edinb.

Take of
Pure quickfilver, one ounce;
Refin of guaiacum,
Extract of black hellebore,
Powdered rhubarb, each half an
ounce;
Common fyrup, a sufficient quantity.

Grind the quickfilver with the refin of guaiacum, until they are perfectly incorporated; then add the other ingredients, and beat the whole into a mass according to art.

THE three foregoing compositions are useful mercurial pills; the first as an alterative, the other two as purgative mercurials. They are all, however, liable to an inconvenience; uncertainty in regard to their strength. For the mercury is but loofely united with the other ingredients, and very apt to feparate and run together in its original form, in which state it never exerts its proper virtue. Though it appears perfectly extinguished by the matters it is ground with at first, part of it is apt to be spued out on beating up the mixture with the other ingredients into a mais.

# PILULÆ de GAMBOGIA. Gamboge pills. Edinb.

Take of
Socotorine aloes,
Extract of black hellebore,
Gamboge,
Mercurius dulcis, each two
drams;
Effential oil of juniper berries,
half a dram;
Syrup of buckthorn, a fufficient
quantity.
Beat them into a mass.

This is a strong mercurial purgative, in which the mercurial preparation is not liable to the uncertainty with which the crude quicksilver is accompanied in the foregoing compositions. The dose is from ten or sisteen grains to half a dram, This last quantity contains of aloes, extract of hellebore, gamboge, and mercurius mercurius dulcis, about five grains each.

# PILULÆ ÆTHIOPICÆ. Ethiopic pills. Edinb.

Take of
Quickfilver, fix drams;
Honey, half an ounce;
Precipitated fulphur of antimony,
Gum guaiacum powdered, of
each half an ounce.

Rubthequickfilver with the honey in a glass mortar, till the mercurial globules cease to appear; afterwards add the sulphur of antimony and guaiacum, and make it into a mass with the mucilage of gum Arabic.

THESE pills are much more efficacious than those of a former edition; the ethiops mineral, there ordered, being exchanged for a more active composition. In their present form, they resemble Dr. Plummer's pills, described in the Edinburgh esfays, to which they are preferable in one respect, that they are less apt to run off by stool. They are an useful alterative both in cutaneous and venereal diforders. One fourth part of the quantity above prescribed may be made into fixty pills; of which, from one to four may be taken every night and morning, the patient keeping moderately warm during the whole time that this course is continued.

I shall here insert some other formulæ of mercurial pills, which may be occasionally had recourse to, and of which the greater part has been kept as secrets in particular hands.

Take of 1.
Crude quickfilver,
Hard extract of guaiacum, each
one dram and a half;

Essential oil of fassafras, twenty

Venice turpentine, a fufficient quantity.

Grind the quickfilver with the turpentine, till they are perfectly incorporated. Then add the other ingedients, and reduce the whole into an uniform mass; which is to be made into forty pills. Two, three, or more of these, may be taken for a dose.

Take of z.

Mercurius dulcis,

Prepared chalk, each one scruple;

Mucilage of gum Arabic, a sufficient quantity.

Make them into twelve pills, of which the dofe is from one to three.

Take of 3.

Mercurius dulcis, half a fcruple;

Softer extract of guaiacum, one dram;

Effential oil of faffafras, ten

Essential oil of sassafras, ten drops.

Mix, and make them into a mass, for twenty pills; the dose of which is from one to six.

Take of
Mercurius dulcis, half a scruple;
Camphor, half a dram;
Soft extract of guaiacum, as
much as is sufficient to make
them into a mass, which is to
be formed into twenty pills:
the dose is from one to six.

Take of

Mercurius dulcis, half a scruple;

Venice turpentine, as much as
will reduce it into a mass of a
proper consistence; which is
to be formed into five pills, for
as many doses.

Take of 6.
Calcined mercury, commonly called pracipitate per fe,
Thebaic

Thebaic extract, each two grains; Balfam of Peru, as much as will make them into a mais; which is to be formed into two pills, for two doles.

Take of Turbith mineral, two scruples; Thebaic extract, one scruple; Mucilage of gum Arabic, as much as is sufficient to reduce them into a mass, which is to be formed into twenty pills, for as many doies.

The mercurius corallinus may be made into pills in the same manner, and taken in the same

dofe.

Take of Mercurius dulcis, half a scruple; Crude antimony, finely levigat-

ed, one dram;

Conferve of orange - peel, as much as will reduce them into a mais.

This is to be formed into ten pills. The dose is from one to three.

Take of Mercurius dulcis. Precipitated fulphur of antimony, each five grains; Socotorine aloes, fifteen grains; Balfamic fyrup, a fusicient quantity to reduce them into a mals; which is to be made into five pills, for as many dofes.

THE method of managing these mercurial medicines, as alteratives, is, to give small doses every morning and evening; and rather prolong the time of continuing their use, than increase the dose. The patient ought to keep warm, and drink of warm diaphoretic liquors; as infulion of faffafras, decoction of the woods, the fimple or compound lime water, &c.

PILULÆ PACIFICÆ. The pacific pills, commonly called Mathews's pills.

Take of

Gum ammoniacum, three oun-

Ruffian caftor, two ounces; English fastron,

Opium, each one ounce;

Common fyrup, as much as is fufficient.

Mix, and make them into a mais, according to art.

THESE pills are contrived by a chemical empiric, Starkey, and communicated by him to Mathews, under whose name they were once greatly celebrated. The form here given differs from the original in omitting a fmall portion of black hellebore, an ingredient of no great fervice; forthough this article, as the London committee observes, might perhaps promote a flool the day after the medicine is taken, that advantage, in cases which require it, may with greater certainty be obtained by more obvious means.

Soap of tartar, as it is called, another ingredient in the original, on which the contriver of the compofition laid no small stress, and which the Edinburgh college retained in former editions, is here, without any injury to the medicine, exchanged for an equal quantity of ammoniacum. Nor indeed are any of the ingredients of much confequence, except the opium; their quantity being too inconsiderable to answer any useful purpose, Eight grains of the compolition contain

nearly one of opium.

### PILULÆ SAPONACEÆ. Saponaceous pills. Lond.

Take of Almond foap, four ounces; Strained Strained opium, half an ounce; Essence of lemons, one dram. Soften the opium with a little wine, and then beat it with the rest, until they are perfectly mixed.

This pill is introduced in the room of Mathews's. The foap promotes the folution of the opium in the stomach, and thus occasions it to act the more quickly; which is the only intention that the more laborious soap of tartar can answer. The essence of lemons gives an agreeable slavour, makes the medicine sit easier on the stomach, and prevents a nausea, which it would otherwise be apt to occasion. Ten grains of the pill contain nearly one grain of opium.

# PILULÆ e STYRACE. Storax pills. Lond.

Take of
Strained storax, two ounces;
Saffron, one ounce;
Strained opium, five drams.
Beat them together till perfectly united.

THESE are contrived for diffolving more flowly in the stomach than the saponaceous or Mathews's pills, and consequently for producing more gradual and lasting effects. One grain of opium is contained in five grains and sourfifths of a grain of the mass.

# PILULÆ ex OLIBANO. Olibanum pills. Edinb.

Take of
Olibanum, two ounces;
Myrrh, one ounce;
Opium, five drams;
Balfam of Peru, two drams;
Common fyrup, a fufficient quantity.

Make them into a mass, which supplies the place of the storax pills.

# PILULÆ PECTORALES. Pectoral pills. Edinb.

Take of
Gum ammoniacum, half an
ounce;
Balfam of Tolu, two drams;
Flowers of benzoine,

English sassron, each one dram; Common syrup, a sufficient quantity.

Make them into a mass according to art.

This composition is very well contrived for promoting expectoration, and may be usefully given in common colds, and in difficulty of breathing proceeding from viscid phlegm: the dofe is from fix or eight grains to a scruple or more. It is here confiderably improved. The balfam of Tolu is introduced in the room of myrrh, the flowers of benzoine for benzoine in substance, and anisated ballam of sulphur, which encumbered the old form, is Here it may be obomitted. ferved, that though feveral compolitions be denominated pectorals, they are nevertheless in virtue very diffimilar. Thus the pectoral decoction, the fyrup, and the troches, are calculated for foftening, lubricating, and incraffating thin tickling humours; whilft the pectoral pills, the elixir, and the oxymel, tend to stimulate and deterge the vessels, and attenuate or dissolve thick, tenacious juices.

PILULÆ RUFI.
Rufus's pills.
Lond.

Take of
Socotorine aloes, two ounces;
Myrrh,
Saffron.

Saffron, each one ounce.

Make them into a mass with syrup of saffron.

PILULÆ COMMUNES, vulgo RUFI.

The common pills, vulgarly called Rufus's pills.

Edinb.

Take of
Socotorine aloes, two ounces;
Myrrh, one ounce;
Saffron, half an ounce.

Beat them into a mass with a proper quantity of common syrup.

The virtues of this medicine may be easily understood from its ingredients. See Elixir proprietatis. The pills, given to the quantity of half a dram or two scruples, prove considerably cathartic, but they answer much better purposes in smaller doses as laxatives or alteratives.

## PILULÆ STOMACHICÆ. Stomachic pills. Edinb.

Take of
Rhubarb, one ounce;
Socotorine aloes, fix drams;
Myrrh, half an ounce;
Vitriolated tartar, one dram;
Effential oil of mint, half a dram;
Syrup of orange-peel, a fufficient
quantity.
Make them into a mass.

This pill is intended for moderately warming and strengthening the stomach, and evacuating crude viscid humours. A scruple of the mass may be taken twice a day.

### PILULÆ SCILLITICÆ. Squill pills.

Take of
Spanish soap, one ounce;
Gum ammoniacum,
Millepedes prepared,
Fresh squills, each half an ounce;

Balfam of Copaiba, as much as is fufficient.

Reduce them into a mass according to art.

This is an elegant and commodious form for the exhibition of iquills, whether for promoting expectoration, or in the other intentions to which that medicine is applied. As the virtue of the compound is chiefly from the fquills, the other ingredients are often varied in extemporaneous prescription. The foap is commonly omitted, as being of no great use in the quantity that goes to a dofe of the composition; and other powders, as the leffer cardamom feeds, are fubitituted for the millepedes, whose virtues, in such small doses, are very infignificant.

Agreeably to these remarks in a former edition of this work, the college of Edinburgh has now given the following improvement of this

composition.

Take of

Gum ammoniacum, Lesser cardamom seeds, in powder,

Extract of liquorice, of each one dram;

Squills, dried, and finely powdered, one fcruple.

Mix them well together, and make them into a mass with simple syrup.

PILULÆ AD DYSENTERIAM.

Pills against the dysentery.

Take of

Yellow wax, half an ounce; Spermaceti, Japan earth, each one dram; Oil of cinnamon, twelve drops.

Make them into a mass.

This medicine has often been of great benefit for the purpose expressed in its title, at the same time strengthening strengthening the intestines, and covering them with a soft mucus, which defends them from being irritated by the acrimony of the humours. Each half dram of the mass may be formed into sive or six pills for one or two doses.

PILULÆ PICEÆ.

Take any quantity of tar, and mix with it as much powdered elecampane root as will reduce it to a proper thickness for being formed into pills.

The powder here mixed with the tar, though of no great virtue, is a very useful addition, not only for procuring it a due confishence, but likewise as it divides the resinous texture of the tar, and thus contributes to promote its solution by the animal juices. In the Edinburgh insirmary, half a dram of the mass, made into middle-sized pills, is given every morning and evening, in disorders of the breast, scurvies, &c.

PILULÆ ROBORANTES.
Strengthening pills.

Take of

Hard extract of Peruvian bark,

one dram;

Salt of fleel ten grains:

Salt of steel, ten grains;
Oil of cinnamon, five drops;
Balfam of Peru, as much as will reduce them into a mass.

Take of
Olibanum, one dram;
Styptic powder, two fcruples;
Salt of fteel, one fcruple;
Syrup of fugar, a fufficient quantity to make them into a mass.

IN a lax state of the fibres, debilities of the nervous system, and some decays of constitution, the first of these compositions is an effectual strengthener and restorative. If the quantity prescribed be made into twenty pills, one or two of these may be taken for a dose, and repeated twice a day. The other is a stronger styptic, and is used for restraining immoderate alvine evacuations, and sanguineous or serous discharges from the remoter parts.

3.

Take of Aromatic species,

Extract of gentian, each one dram;

Extract of Peruvian bark, half

Elixir of aloes, as much as will reduce them into a mass.

THESE pills are ferviceable for warming and strengthening a weak cold stomach, expelling statulencies, and promoting digestion. If ten pills be made out of a dram of the mass, two may be taken thrice a day, about an hour before meals.

PILULÆ E SPERMATE CETI.

Spermaceti pills.

Take of

Spermaceti, one dram;

White Sugar-candy in powder, two drams;

Balfamic fyrup, as much as is fufficient.

Grind the spermaceti with the sugar, till they are persectly mixed; then, adding the syrup, rub them with a warm pessle into an uniform mass.

WHERE spermaceti cannot be commodiously exhibited in any other form, three or four moderate-sized pills, made from this mass, may be taken two or three times a day, in erosions of the viscera by acrimonious humours, tickling coughs, and similar disorders.

CHAP-

### CHAPTER IV.

### Bolufes.

B OLUSES differ little in confiftence from electaries, being only fomewhat stiffer, so as to retain their figure without spreading

or falling flat.

This form is very convenient for the exhibition of the more powerful medicines, which require their dose to be exactly adjusted, as the stronger alexipharmacs, cathartics, and opiates. As boluses are chiestly intended for immediate use; volatile salts, and other materials, which if the mass were to be kept, would exhale or swell it, are frequently admitted into them.

The quantity of a bolus very feldom exceeds a dram. If the ingredients be of the lighter kind, even this will be too bulky to be

commodiously swallowed.

The lighter powders are made up with fyrup; a scruple or twentyfix grains of the powder, with as much syrup as will bring it to a due consistence, makes a bolus suf-

ficiently large.

The more ponderous powders, as the mercurial ones, are commonly made up with conferve: fyrups fcarce holding them together. For the testaceous powders also an addition of conferve is used; though if made up with this alone, they would be too bulky.

Both the light and ponderous powders may be conveniently made up with mucilage, which increases the bulk less than the other additions, and occasions them to pass

down more freely.

The officinal pharmacopæias have no formula of this kind: most of the following compositions are taken from our hospitals.

Bolus Alexipharmacus.

Alexipharmac bolus.

Take of 1.

Compound powder of contrayerva, half a scruple;

Syrup of wild poppies, a fufficient quantity to make it into a bolus.

2.

Take of

Contrayerva root, half a scruple; Syrup of saffron, as much as is sufficient.

Make them into a bolus.

3.

Take of

Virginian fnakeroot, half a fcruple;

Confection of kermes, as much as is sufficient.

Mix and make them into a bolus.

4.

Take of

Virginian snakeroot,
Contraverva root, each eight
grains;
Saffron three grains

Saffron, three grains;

Syrup of meconium, a fufficient quantity to reduce them into a bolus.

5.

Take of

Virginian fnakeroot, fifteen grains;

Castor, ten grains;

Syrup of fugar, as much as is fufficient.

Mix and make them into a bolus.

6.

Take of

Camphor, two grains; Saffron five grains;

Cordial confection, one fcruple. Mix and make them into a bolus.

Take of

Camphor, two grains;

Nitre,

Contrayerva root, each ten grains;

Syrup of clove july-flowers, as much as will make them into a bolus.

8.

Take of
Musk, ten grains;
Cordial confection, one scruple.
Make them into a bolus.

9.

Take of

Musk, ten grains;
Salt of hartshorn, or of sal ammoniac, five grains;
Thebaic extract, half a grain;
Syrup of saffron, a sufficient

quantity.

Make them into a bolus.

THESE boluses are designed for low depressed severs, in which medicines of this kind are generally prescribed, for keeping up the vis vitæ, raising the pulse, and promoting a diaphoresis. The compositions differ in strength, nearly according to the order in which they stand. The two last are of great power, and are designed chiesly for cases accompanied with convulsive symptoms, which are often abated by them.

Bolus EX ALUMINE.

Alum bolus.

Take of
Alum.
Extract of Peruvian bark,
Nutmeg, each ten grains;
Simple fyrup, as much as will
reduce them into a proper confiftence for a bolus.

THIS composition is a very strong astringent, and is used with success in violent uterine hamorrhages, and other immoderate fecretions which require to be speedily restrained. It may be taken twice a day; or if the flux be very violent, every four or six hours, till it abate.

> Bolus e CAMPHORA: Camphor bolus.

Take of

Camphor, half a scruple; Gum Arabic, half a dram; Syrup of marshmallows, a sufficient quantity to make them into a bolus.

This is a very convenient form for the exhibition of camphor: this drug, however, when thus given by itself in large doses, is apt to nauseate the stomach; and rarely has so good effects as when mixed in small quantities with nitre or similar substances, and frequently repeated.

Bolus e castoreo.

Caftor bolus.

Take of

Castor, one scruple;
Salt of hartshorn, sive grains;
or oil of hartshorn, sive drops;
Simple syrup, a sufficient quantity.

Make them into a bolus.

This medicine is given in hysterical and hypochondriacal disorders, and likewise as an alexipharmac in fevers. Its virtues, which are great and unquestionable, seem to depend more upon the setid animal oil, or volatile salt, than on the drug from which it takes its name.

Bolus CATHARTICUS.

Purgative bolus.

Take of

Rhubarb, half a dram;

Solutive fyrup of roses, a suffi
P p cient

cient quantity to make a bo-

2.

Take of
Jalap, one scruple;
Jamaica pepper,
Crystals of tartar, each five
grains;
Syrup of buckthorn, as much as
will reduce them into a mass
of a due confistence.

3

Take of
Scammony, ten grains;
Soluble tartar, one scruple;
Soft extract of liquorice, a sufficient quantity.

Let the scammony be well ground with the soluble tartar, then add the extract, and make them into a bolus.

4.

Take of
Gamboge,
Crystals of tartar, each eight
grains;
Syrup of ginger, a sufficient
quantity to reduce them into
a bolus.

E .

Take of
Elaterium, two grains;
Extract of jalap, half a fcruple;
Crystals of tartar, one scruple;
Syrup of orange peel, a sufficient
quantity to make them into a
bolus.

THE virtues of these compositions are sufficiently obvious; the first is a mild purgative; the two last too strong to be in general ventured on; and the other two of intermediate degrees of strength.

Bolus CATHARTICUS CUM MERCURIO.

Purgative bolus with mercury.

Take of

Jalap, one scruple;

Mercurius dulcis, five grains; Solutive fyrup of roses, as much as is sufficient to make them into a bolus.

2.

Take of
Gamboge, feven grains;
Mercurius dulcis,
Aromatic species, each half a
feruple;
Syrup of buckthorn, a sufficient
quantity to make a bolus.

THE first of these compositions is a safe and mild mercurial cathartic: the second is too strong for general use.

Bolus Diaphoretic bolus.

Take of

Compound powder of contrayerva,

Crude fal ammoniac, each one fcruple;

Simple fyrup, a fufficient quantity to form them into a bolus.

This bolus is given in fevers, and other cases where a diaphoresis is to be promoted. Sal ammoniac is for this purpose one of the
most efficacious of the neutral salts.
It requires, however, when thus
given in a solid form, to be affisted
by warm diluents, frequently repeated; which not only promote its
action, but likewise prevent its sitting uneasy on the stomach.

Bolus Diureticus.

Diuretic bolus.

Take of
Fresh squills, fix grains;
Compound powder of arum, ten
grains;
Ginger, five grains;
Syrup of orange peel, a sufficient
quantity.
Make

Make them into a bolus.

This composition is recommended by Dr. Mead, to be taken every morning in hydropic cases, for promoting urine. He observes, that in these disorders, diuretic medicines vary greatly in their effects, those which answer sufficiently in one person, failing in another; and that the squill and its preparations are of all others those which most generally succeed.

Bolus and Dysenteriam.

Bolus against the dysentery.

Take of

The cordial confection,
French bole, each one fcruple;
Thebaic extract, one grain.
Make them into a bolus.

This composition is excellently well calculated for the purpose expressed in its title. Dr. Mead assures us, that he has never found any medicine more effectual, either for restraining the slux, or healing the exulcerated membranes. Previously to the use of this or other like medicines, the first passages must be cleansed by mild emetics and cathartics, as ipecacuanha and rhubarb.

Bolus Emmenagogue bolus.

Take of
Socotorine aloes, eight grains;
Saffron, four grains;
Guinea pepper, two grains;
Oil of favin, two drops;
Conferve of rue, as much as is fufficient to reduce them into a due confiftence.

Take of 2.
Salt of steel, one grain;
Myrrh, half a scruple;
Cordial confection, sifteen grains.
Make them into a bolus.

Take of

Black hellebore root, eight grains;

Fresh squills, four grains;

Essential oil of pepper-mint, two drops;

Conserve of conserver in the state of the st

Conserve of orange-peel, as much as is sufficient to make them into a bolus.

ALL these are medicines of great power for promoting or exciting the menstrual flux. The two first are calculated for lax phlegmatic habits; the third, for persons of a sanguine temperament, where chalybeate medicines cannot be borne.

Bolus febrifugus.
Febrifuge bolus.

Take of
Peruvian bark, one scruple;
Cascarilla, half a scruple;
Mucilage of quince seeds, a sufficient quantity to make them into a bolus.

This elegant composition is excellently well adapted to the cure of intermittent fevers; and may be given in cases where the Peruvian bark by itself would be less proper. Where aromatics, chalybeates, bitters, &c. are also requisite, they are either to be premised, or occasionally interposed.

Bolus Hystericus.

Hysteric bolus.

Take of
Musk,
Asafetida, each six grains;
Castor, half a scruple;
Syrup of saffron, as much as is
sufficient to make them into a
bolus.

This medicine is very well contrived for the purpose expressed in its title. It is of great service both in hysterical and hypochondriacal disorders; and often gives relief Pp 2 in in the depressions, faintings, flatulent colics, head-achs, and other symptoms, attending them. It may be taken twice a day, along with any suitable liquor.

Bolus Iliacus.

Iliac bolus.

Take of

Cathartic extract, one scruple; Thebaic extract, one grain. Make them into a bolus.

Mead, for easing the pain, and procuring stools, in the iliac passion, and dry belly-ach; where the irritating cathartics, exhibited by themselves, are thrown up by vomit. The use of this medicine is to be preceded by plentiful bleeding, and accompanied with purgative glysters of the more acrid kind; and its operation promoted by insusion of sena, mixed with a little of the elixir salutis, or tincture of sena.

Bolus MERCURIALIS.

Mercurial bolus.

Take of

Calomel, from five to fifteen grains;

Conserve of roses, half a dram. Mix and make them into a bolus.

This bolus is given every night, or oftener, for raising a falivation, in venereal, and other disorders, which require that herculean operation. It is likewise taken at night as an alterative, to be carried off next morning by a cathartic. Mercurials exhibited in this manner, have generally better effects than when joined with purgatives directly.

Bolus MERCURIALIS EME-TICUS.

Emetic mercurial bolus. Take of
Yellow emetic mercury, fix
grains;
Conferve of roses, a sufficient
quantity.
Make them into a bolus.

This strong emetic is given in venereal and leprous diseases; particularly in the case of foul ulcers of long standing, the cleansing and cure of which are frequently promoted by it. The violence of its operation limits its use to robust constitutions.

Bolus PECTORALIS.

Pettoral bolus.

Take of

Spermaceti, fifteen grains; Gum ammoniacum, ten grains; Salt of hartshorn, five grains; Simple syrup, as much as is sufficient.

Mix and make them into a bolus.

In colds of long standing, old coughs, asthmas, and beginning consumptions, this bolus generally gives relief; especially if bleeding be premised, and repeated, if necessary, at proper intervals.

Bolus RHEI CUM MERCURIO.

Bolus of rhubarb with mercury.

Take of

Choice rhubarb, twenty - five grains;

Calomel, five grains;

Simple fyrup, as much as will form them into a bolus.

This is a very mild mercurial purgative. It is given to destroy worms, and in cachectic, chlorotic, and similar disorders.

Bolus RHEUMATICUS.

Rheumatic bolus.

Take of

Extract

Extract of guaiacum, half a dram;

Salt of hartshorn, seven grains; Simple syrup, a sufficient quantity.

Make them into a bolus.

In chronical rheumatisms, whether the remains of a rheumatic fever, or a continuation of pains that proceeded at first from neglected colds, this bolus has been given with good effects, once a week or oftener: the patient keeping warm, and drinking warm liquors, to promote its operation as a cathartic and diaphoretic. Its use ought to be accompanied by venæsection, which is to be repeated every eight or ten days as long as the blood is This medicine is likewise exhibited in sciatic, arthritic, and other pains not accompanied with a fiziness of blood. In these it much more frequently fails than in the true rheumatism.

Bolus scilliticus.
Scillitic bolus.

Take of
- Fresh squills, twelve grains;
Aromatic species, half a scruple;
Oil of pepper-mint, one drop.
Beat them well together into an uniform mass, of a due consistence for a bolus.

This is a warm, stimulating, and attenuating medicine, and may be given to great advantage in cases where the natural secretions are obstructed or suppressed from a viscidity or sluggishness of the juices. The efficacy of the squills is promoted by the additional ingredients, which at the same time warm and strengthen the stomach and intestines, and prevent the composition from being thrown up by vomit, which this quantity of squills,

given by itself, would in many confitutions be.

Bolus THERIACALIS.

Treacle bolus.

Take of

Theriaca, two fcruples; Salt of hartshorn, seven grains Camphor, three grains.

Mix and form them into a bolus.

CAMPHOR and falt of hartshorn, when thus joined with opiates, have in many cases better effects than if exhibited by themselves, their diaphoretic virtue being greatly promoted by the relaxation which the opium occasions. The quantity of theriaca in this bolus contains somewhat more than a quarter of a grain of opium.

Bolus suporificus.

Sudorific bolus.

Take of

Camphor, five grains;
Thebaic extract, one grain;
Syrup of orange peel, a fufficient quantity to reduce them into a bolus.

This medicine is one of the most effectual sudorifics, generally exciting a copious sweat. In many cases, where this intention is to be answered, whether acute or chronical, it may be given to great advantage.

Bolus TEREBINTHINATUS.

Turpentine bolus.

Take of

Chio turpentine, one scruple; Powdered liquorice, a sufficient quantity.

Make them into a bolus.

This is a convenient form for the exhibition of turpentine, the liquorice powder answering the same intention here as the elecampane root in the pilulæ piceæ.

PP3 CHAP.

### CHAPTER V.

### Electaries.

LECTARIES are composed chiefly of powders mixed up with syrups, &c. into such a consistence, that the powders may not separate in keeping, that a dose may be easily taken up on the point of a knife, and not prove too stiff to swallow.

Electaries receive chiefly the milder alterative medicines, and fuch as are not ungrateful to the palate. The more powerful drugs, as cathartics, emetics, opiates, and the like (except in officinal electaries to be dispensed by weight) are feldom trufted in this form, on account of the uncertainty of the dose; difgustful ones, acrids, bitters, fetids, cannot be conveniently taken in it; nor is the form of an electary well fitted for the more ponderous substances, as mercurials, because they are apt to subside in keeping, unless the composition be made too stiff.

The lighter powders require thrice their weight of honey, or fyrup boiled to the thickness of honey, to make them into the confistence of an electary; of syrups of the common confistence, twice the weight of the powders is sufficient.

Where the common fyrups are employed, it is necessary to add likewise a little conserve, to prevent the compound from drying too soon. Electaries of Peruvian bark, for instance, made up with fyrup alone, will often in a day or two grow too dry for taking.

Some powders, especially those of the less grateful kind, are more

conveniently made up with mucilages than with fyrups, honey, or conserve. The three last stick about the mouth and fauces, and thus occasion the taste of the medicine to remain for a considerable time; whilst mucilages pass freely, without leaving any taste in the mouth. A little soft extract of liquorice, joined to the mucilage, renders the composition sufficiently grateful, without the inconveniencies of the more adhesive sweets.

The quantity of an electary directed at a time, in extemporaneous prescription, is rarely less than an ounce, or more than three ounces.

### General rules for making electaries.

The rules already laid down for decoctions and powders in general, are likewise to be observed in making decoctions and powders for electaries [E.]

#### TT

Gums, inspissated juices, and such other substances as are not pulverable, should be dissolved in the liquor prescribed: then add the powders by little and little, and keep the whole briskly stirring, so as to make an equable and uniform mixture [E.]

#### III.

Astringent electaries, and such as have pulps of fruits in their composition, should be prepared on-

ly in small quantities at a time

For astringent medicines lose greatly of their virtue, on being kept in this form; and the pulps of fruits are apt to become four.

#### IV.

The fuperfluous moisture of the pulps should be exhaled over a gentle fire, before the other ingredients are added to them [E.]

#### V.

Electaries, if they grow dry in keeping, are to be reduced to the due confistence, with the addition of a little Canary wine; [L. E.] and not with syrup or honey. By these means, the dose will be the least uncertain; a circumstance deserving particular regard, in those especially which are made up with syrup, and contain a large quantity of opium, as the confectio Paulina, and philonium [L.]

### ELECTARIUM ad DYSEN-TERICOS.

Antidysenteric electary. Edinb.

Take of

Japonic confection, two ounces; Locatelli's balfam (beaten up with a fufficient quantity of yolk of eggs) one ounce;

Powdered rhubarb, half an

ounce ;

Syrup of marshmallows, a sufficient quantity.

Mix and make them into an electary.

This composition is extremely well contrived for the purpose expressed in its title. Astringents or opiates by themselves rarely have place in dysenteries, even after the first passages have been evacuated

by an emetic or a full dose of rhubarb. They ease the pain and moderate the flux for a time, but the short relief is apt to be followed by dangerous or even fatal confequences from the retention of the acrid and corrupted humours. The rhubarb, which the college of Edinburgh has now added from the practice of the infirmary, in good measure prevents this accumulation, without much counteracting the falutary effects of the other materials. In many cases, however, it may be still necessary to interpole that laxative drug by itself. The dose of the electary is the bulk of a large nutmeg, once or twice a day, according to the urgency of the symptoms. One dram contains about one-fixth part of a grain of opium.

### ELECTARIUM e BACCIS LAURI.

Electary of bay-berries.

Lond.

Take of

Rue leaves dried,
Caraway feeds,
Parsley feeds,
Bay-berries, each one ounce;
Sagapenum, half an ounce;
Black pepper,
Russian castor, each two drams;
Clarified honey, thrice the weight of the powdered species.

Mix the species with the honey, and make them into an electary.

This composition is sometimes taken, in statulent colics and hysterical disorders, from a scruple to two drams. But its principal use is in carminative glysters, nor is it often employed in these. The college of Edinburgh have entirely dropt it.

PP4

ELECTA-

#### ELECTARIUM e CASIA.

Electary of casia.

Lond.

Take of

Solutive fyrup of roses, Pulp of casia, fresh extracted,

each half a pound; Manna, two ounces;

Pulp of tamarinds, one ounce. Grind the manna in a mortar, and,

with a gentle heat, diffolve it in the fyrup; then add the pulps, and continue the heat until the whole is reduced to a due confiftence.

#### DIACASSIA.

Edinb.

Take of

Pulp of casia, fix ounces;

Tamarinds,

Manna, of each one ounce and

a half;

Syrup of damask roses, fix ounces. Rub the manna with the syrup, in a warmed mortar, and add the pulps, so as to make the whole into an electary.

THESE compositions are very convenient officinals, to ferve as a basis for purgative electaries, and fimilar purposes; as the pulping of a fmall quantity of the fruits, for extemporaneous preicription, is sufficiently troublesome: the tamarinds give them a pretty tafte, and do not subject them, as might be expected, to turn four : after flanding for four menths, the composition was found no source than when first made up. They are likewife usefully taken by themfelves, in the quantity of two or three drams occasionally, for gently loofening the belly in coffive habits.

## ELECTARIUM LENITIVUM. Lenitive electary. Lond.

Take of

Figs, one pound; Sena, eight ounces; Pulp of tamarinds,

Pulp of cafia,

Pulp of French prunes, each half a pound;

Coriander feeds, four ounces; Liquorice, three ounces;

Double refined fugar, two pounds

and a half.

Pulverize the sena along with the coriander seeds, and sift out ten ounces of the powder. The remainder is to be boiled with the sigs and liquorice, in sour pints of water, to one half; then strain and press out the liquor, and evaporate it to the weight of a pound and a half, or somewhat less. In this dissolve the sugar, so as to make it into a syrup, and add this syrup, by little and little, to the pulps; lastly, mix in the powder before separated by the sieve.

### Edinb.

Take of

Pulp of French prunes, one pound;

Cafia,

Tamarinds, of each two ounces and a half;

Melasses, one pound and a

Sena, finely powdered, four ounces;

Coriander feeds, finely powdered, balf an ounce.

Boil the pulps with the melasses to the thickness of honey, and add the powders, and mix them well together into an electary.

THESE electaries may be occa-

fionally taken to the quantity of a nutmeg or more, for loofening the belly in costive habits. They are likewise frequently employed in clysters for the same purpose.

### ELECTARIUM PECTO-RALE.

Pectoral electary.

Take of

Rob of elder-berries, two ounces; Spermaceti dissolved in a sufficicient quantity of yolk of eggs, half an ounce;

Flowers of benzoine, one dram; Balfamic fyrup, as much as is fufficient to make the other ingredients into an electary.

This is a very useful medicine, in tickling coughs and common colds, calculated both to obtund acrimony and promote expectoration. It may be used two or three times a day, in doses of about the quantity of a small nutmeg. Taken to the bulk of a large nutmeg, at bedtime, it generally, not only relieves the breaft, but tends to procure a falutary diaphoresis or sweat in the night. It is here improved from former editions, by substituting rob of elder-berries for conserve of roses, and spermaceti for compound powder of gum tragancanth.

#### ELECTARIUM e SCAM-MONIO.

Electary of scammony,

Take of

Scammony, an ounce and a half; Cloves,

Ginger, each fix drams; Effential oil of caraway feeds, half a dram;

Honey, half a pound.

Let the spices be ground together,

and mixed with the honey; then add the powdered frammony, and afterwards the oil.

This electary is a warm, brike purgative. It is a reform of the electarium caryocoftinum of our preceding dispensatories, a composition which was greatly complained of, as being inconvenient to take, on account of the largeness of its dose. A dram and a half of this, which contains fifteen grains of scammony, is equivalent to half an ounce of the other.

#### ELECTARIUM e SCORDIO.

Electary of scordium, commonly called Diascordium.

Lond.

Take of

The species of scordium with opium, any quantity;

Syrup of meconium, boiled to the confistence of honey, thrice as much by weight.

Mix the species with the syrup, so

as to make an electary.

In our former dispensatories, the species were ordered to be made up with honey. This is now exchanged for a fyrup, more agreeable to the intention of the medicine, which is that of an opiate aftringent, whilst honey is manifestly aperient and detergent. It is not perhaps necesfary, for the purpoles of the shops, to make the species into an electary at all. By keeping in this form, the ingredients lofe much of their aromatic flavour and aftringency, becoming foft and smooth upon the palate; and the red colour, imparted by the bole, decays. The London college have therefore very justly ordered them to be kept in powder as well as in an electary; and directed the powder both with

and without opium, for different occasions. See Species e scordio, and Pulvis e bolo, cum and sine opio. Either of these powders may be made up extemporaneously into an electary, with any syrup that shall

be judged proper.

Diascordium was intended by its author Fracastorius for an antipestilential; but we have been so happy as to have little occasion for medicines in that intention; nor could this be anywise depended on. It is a moderately warm astringent and opiate; and in this light only is considered by the present practice. One grain of opium is contained in nine scruples of the elec-

The Species e Scordio, which make the basis of this electary, contain, as we have already feen, feveral fuperfluous ingredients; for though the London college has given a judicious reformation of the powder, under the title of Pulvis e bolo, the electary is made with the powder unreformed; partly, that no material alteration might be made in a medicine, which is fo much depended on, and whose effects have been fo long experienced; and partly because the physician, if he prefer the pulvis e bolo, may direct an electary to be made with it in extemporaneous prescription. In the Edinburgh pharmacopæia, this medicine is not ordered to be kept in powder, but the electary is reformed to a great degree of elegance and fimplicity. And as the ingredient from which it received its name, being a very unimportant one, is now omitted, the composition is distinguished by another title, viz.

Japonic confection.

Edino.

Take of
Japan earth, four ounces;
Gum kino, three ounces;
Cinnamon,
Nutmeg, of each one ounce;
Opium, dissolved in a sufficient
quantity of white wine, one
dram and a half;
Syrup of dry roses, boiled to the
consistence of honey, two
pounds and a quarter.
Mix, and make an electary.

#### BALSAMUM LOCATELLI.

Locatelli's balfam.

Lond.

Take of
Oil olive, one pint;
Strasburgh turpentine,
Yellow wax, each half a pound;
Red saunders, fix drams.

Melt the wax over a gentle fire, with some part of the oil: then add the rest of the oil, and the turpentine; afterwards mix in the saunders, and keep them stiring together, until the mixture grow cold.

#### Edinb.

Take of
Yellow wax, one pound;
Oil olive, a pint and a half;
Chio or Strasburgh turpentine, a
pound and a half;
Balsam of Peru, two ounces;
Dragons blood, in powder, one
ounce.
Melt the way in the oil over a con-

Melt the wax in the oil over a gentle fire, then add the turpentine; and, having taken them from the fire, mix in the balfam of Peru and dragons blood, keeping them continually stirring till grown cold.

DRAGONS blood gives a more elegant colour to this composition

than red faunders, though on another account it is fomewhat lefs proper, having been found, when dissolved in oil, to communicate fome degree of heat and pungency, qualities quite foreign to the intention of the medicine. balfam is used in internal bruises and hæmorrhages, erofions of the intestines, dysenteries, and in some kinds of coughs and afthmas. The dofe is from two scruples to two drams. It may be commodiously taken with about double its weight of conserve of roles, as directed hereafter. Some have likewife applied it externally, for deterging and incarnating recent wounds and ulcers.

#### BALSAMUM CEPHALICUM.

Cephalic balfam.
Edinb.

Take of

Expressed oil of nutmegs, one ounce;

Distilled oil of cloves,

of lavender.

of rolemary, each half a dram;

of amber, half a scruple; Balsam of Peru, one dram.

Liquefy the oil of nutmegs in a filver vessel: and, when taken from the fire, mix into it the distilled oils and the balsam, according to art.

This medicine is recommended to be rubbed on the temples, and on paralytic limbs, for warming the part and comforting the nerves; and to be smelt to, for refreshing and enlivening the spirits. Some have also given it inwardly as a warm cordial, in languid cases, and in debilities of the nervous system. There are abundance of preparations of this kind

in foreign pharmacopæias, composed each of only one essential oil, incorporated with the expressed oil of nutmegs; which last is to be previously freed from its slavour (by distillation with water) that the smell of the former may not be injured thereby. In the room of this prepared sebaceous matter, a mixture of white wax and oil olive might be used. In the practical chemistry, a general process is given for the making of these kinds of preparations, under the title of

BALSAMUM ODORIFERUM.

An odoriferous balfam.

Take of Oil olive,

White bees wax, each two ounces. Put the oil into a China bason, placed in a pan of boiling water, and flice the wax into it. Stir them together with a clean knife, or small spatula, till the wax is melted: then remove the vessel out of the hot water, and when the matter begins to thicken, drop in four drams of any odoriferous effential oil, as that of cinnamon, nutmegs, mace, lemon-peel, rhodium, lavender, rofemary, &c. or of a mixture of two or three of the oils; to which may be added one dram of essence of ambergris, which will heighten the smell of the oils without communicating any of its own. Keep the whole constantly stirring, that they may be perfectly mixed; and as foon as this is done, plunge the veifel into cold water, to prevent the diffipation of the effential oils.

These kinds of balfams may be made of any colour, so as to resemble in this respect also, as well well as in smell, the vegetable, from which the essential oil, you make use of, was drawn. A little of the pigment, called by the painters sap-green, being previously ground with the oil olive, will give a fine green; a little cinnabar, a scarlet; turmeric, a lemon colour; Prussian blue, a violet; and cochineal, a fine purplish hue.

## The confection called Paulina. Lond.

Take of
Costus, or in its stead zedoary,
Cinnamon,
Long pepper,
Black pepper,
Storax,
Galbanum,
Opium,
Russian castor, each two ounces;

Rushan castor, each two ounces; Simple syrup, boiled to the consistence of honey, thrice the weight of the other ingredients.

Warm the fyrup, and carefully mix with it the opium, first diffolved in wine: gradually add this mixture, whilst it continues warm, to the storax and galbanum previously melted together; and afterwards sprinkle in the other species reduced into powder.

This is the confectio AR-Chigenis of a former dispensatory, brought back to its first form and author. It is a warm opiate medicine, and is sometimes made use of in practice. Thirty-two grains contain one grain of opium.

### MITHRIDATIUM, five CON-FECTIO DAMOCRATIS.

Mithridate, or the confection of Damocrates.

Lond.

Take of Cinnamon, fourteen drams; Myrrh, eleven drams; Agaric. Indian nard, Ginger, Saffron, Seeds of mithridate mustard, Frankincense, Chio turpentine, each ten drams; Camels' hay, Costus, or, in its stead, zedoary, Indian leaf, or, in its stead, mace, Stechas, Long pepper, Hartwort feeds, Hypocistis, Storax, strained, Opopanax, Galbanum, strained, Opobalfam, or, in its flead, expressed oil of nutmegs, Russian castor, each one ounce; Poley mountain, Scordium, Carpobalfam, or, in its stead, cubebs. White pepper, Candy carrot feed, Bdellium, strained, each seven drams; Celtic nard, Gentian root, Dittany of Crete, Red roles, Macedonian parsley seed, Lesser cardamom teeds, husked, Sweet fennel feed, Gum Arabic, Opium, strained, each five drams; Calamus aromaticus, Wild Valerian root, Anifeed, Sagapenum, strained, each three drams; Meum athamanticum, St. John's wort, Acacia, or, in its stead, terra Japonica, Bellies Bellies of skinks, each two drams and a half;

Clarified honey, thrice the weight of all the other ingredients.

Warm the honey, and mix with it the opium dissolved in wine; melt the storax, galbanum, turpentine, and opobalfam (or expressed oil of nutmegs) together in another vessel, continually stirring them about, to prevent their burning. With these so melted mix the hot honey, at first by spoonfuls, and afterwards in larger quantities at a time. When the whole is grown almost cold, add by degrees the other species reduced into powder.

#### THERIACA ANDROMACHI.

Venice treacle.

Lond.

Take of

Troches of squills, half a pound;

Long pepper,

Opium, strained,

Vipers dried, each three ounces;

Cinnamon,

Opobalfam, or, in its stead, ex-

pressed oil of nutmegs, each two ounces;

Agaric,

Florence orris root,

Scordium,

Red rofes,

Navew feeds,

Extract of liquorice, each an

ounce and a half;

Indian nard,

Saffron,

Amomum,

Myrrh,

Costus, or, in its stead, zedoary,

Camels hay, each one ounce;

Cinquefoil root,

Rhubarb,

Ginger,

Indian leaf, or, in its stead, mace,

Dittany of Crete, Horehound leaves, Calamint leaves, Stechas,

Black pepper, Macedonian parsley feed,

Olibanum,

Chio turpentine,

Wild valerian root, each fix

drams;

Gentian root,

Celtic nard,

Spignel,

Poley mountain 7 St. John's wort } leaves,

Groundpine

Germander tops, with the feed,

Carpobalsam, or, in its stead, cubebs.

Aniseed,

Sweet fennel feed,

Lesser cardamom seeds, husked,

Bishops weed

Hartwort feeds.

Treacle mustard

Hypocistis, Acacia, or, in its flead, Japan

earth,

Gum Arabic.

Storax, strained,

Sagapenum, strained. Terra Lemnia, or, in its stead,

bole armenic or French bole, Green vitriol calcined, each half

an ounce:

Small (or, in its stead, the long)

birthwort root,

Lesser centaury tops,

Candy carrot feed,

Opopanax,

Galbanum, strained,

Russian castor,

Jews pitch, or, in its stead, white

amber prepared,

Calamus aromaticus, each two

drams;

Clarified honey, thrice the weight of all the other ingredients.

Let these ingredients be mixed together, after the same manner as

directed

date.

THESE celebrated electaries are almost the only remains, which the late reformation has left in the shops, of the wild exuberance of composition, which the superstition of former ages brought into vogue. The theriaca is a reformation of mithridate, made by Andromachus, physician to Nero. The mithridate itself is said to have been found in the cabinet of Mithridates king of Pontus. The first publishers of this pompous arcanum were very extravagant in their commendations of its virtues; the principal of which was made to confift in its being a most powerful preservative against all kinds of venom. Whoever took a proper quantity in a morning, was enfured from being poisoned during that whole day. This was confirmed by the example of its supposed inventor, who, as Celfus informs us, was by its constant use so fortified against the commonly reputed poisons, that none of them would have any effect upon him when he wanted their affistance. But the notions of poisons, which prevailed in those ruder ages, were manifestly erroneous. Before experience had furnished mankind with a competent knowledge of the powers of fimples, they were under perpetual alarms from an apprehension of poisons, and bufied themselves in contriving compositions which should counteract their effects; accumulating together all those substances which they imagined to be possessed of any degree of alexipharmac power. Hence proceed the voluminous antidotes which we meet with in the writings of the ancient phylicians. Yet it does not appear, that they

directed in making the mithri- were acquainted with any real poifon, except the cicuta, aconitum, and bites of venomous beafts; and to these they knew of no antidote whatever. Even admitting the reality of the poisons, and the efficacy of the several antidotes separately, the compositions could no more answer the purposes expected from them, than the accumulating of all the medicinal fimples into one form could make a remedy against all difeates.

Yet notwithstanding the absurdity in the original intention of these medicines, and their enormity in point of composition; as they contain feveral powerful materials, whose virtues, though greatly prejudiced, yet are not defroyed, by their multiplicity and contrariety; the compounds have been found, from repeated experience, to produce very confiderable effects. as warm opiate diaphoretics.

These compositions might without doubt be lopt of numerous fuperfluities, without any diminution of their virtues. Yet, as the effects of them, in their present form, are well known, so much regard has been paid to ancient authority, as not to attempt a reformation of that kind. The London college has however thought proper to retrench, from forms originally complex, all subsequent additions that have crept into them. Neither the description in verse of the elder Andromachus, nor the profe explanation of the younger, make any mention of the white pepper afterwards added to the theriaca; and the orris root, in the mithridate of a former pharmacopœia, is also a supernumerary ingredient, not warranted by the original: theie therefore are rejected. Nor is the afarum in mithridate grounded on any good authority:

thority: the verse it is taken from, is mutilated and corrupt; and the word which some, upon conjecture only, suppose to have been afarum, others, also upon conjecture, chuse to read differently. Till fome emendation shall be better founded than merely upon critical gueffes, this fingle species may be safely passed over, without any prejudice to the medicine. None of the ancient descriptions afford any other light in this particular; for they either omit this ingredient, and others also, or abound with additions.

One innovation in both thefe medicines, the college has allowed themselves. In each of these compositions are found both cinnamon and casia lignea; and it is very evident, from feveral parts of Galen's works, that the latter was used by the ancients only upon account of the great difficulty of procuring the other; fo that to retain the casia, now that cinnamon is to common, is a blind following of these writers, without any attention to their meaning. The cana therefore is now rejected, and half the quantity of cinnamon put in its room, which is the proportion that Galen directs to be observed in substituting the one for the other. It is probable, that the case is the same with regard to the Celtic and Indian nard; that the former had a place in these compofitions, on account of the difficulty of procuring the Indian; for Galen expressly prefers the latter.

There is a material error in regard to the theriaca, which has passed through most of the editions of our pharmacopæia. This is, the substituting of Roman vitriol to the ancient chalcitis, now not certainly known, and in the catalogue of simples, describing the Roman to

be a blue vitriol; whereas the Italian writers are unanimous it is a green vitriol; and were it not, it would not answer to the effects of the chalcitis, which was certainly a chalybeate, and gives the medicine its black colour. What has chiefly occasioned chalcitis to be supposed a cupreous vitriol, feems to be its name, derived from xanxo, copper. But it is to be observed, that all vitriols were formerly imagined to proceed from copper, and were named accordingly. The green or martial vitriols are still called by the Germans kupfferwasser, and by us copperas. It is probable, that the ancient chalcitis was no other than a native martial vitriol, calcined by the heat of those warm climates, to a degree of yellowish red or coppery colour: and therefore the common green vitriol, thus calcined by art, very properly fupplies its place.

The London college has likewife fomewhat facilitated the preparation of these medicines, by omitting the trochisci cypheos used in the mithridate, and the bedychroi and wiperini for the theriaca; and inferting their ingredients, after Zwelffer's manner, in the compofitions they are intended for. This is done in the theriaca very commodiously, the ingredients in thele troches uniting with those in the theriaca itself, into unbroken numbers. But to render the numbers equally simple in the mithridate. it was necessary to retrench a few odd grains from fome of the articles, and make a small addition to fome others. They adjusted the proportions of the ingredients in the trochisci cypheos from the original description in Galen; the numbers in our former pharmacopæia being very erroneous.

The college of Edinburgh, pay-

ing very little deference to antiquity or common prejudice, has ventured at length to discard these venerable reliques; and has substituted in their room an elegant and simple form, equivalent to them both in efficacy, under the title of

#### THERIACA EDINENSIS.

Edinburgh theriaca.

Edinb.

Take of

Virginian snakeroot, ten ounces; Contrayerva root, six ounces; Resin of guaicum, sour ounces; Lesser cardamom seeds, two oun-

ces; Myrrh,

English saffron,

Opium, each one ounce; Rob of elder-berries, thrice the

weight of the powders;
Canary wine, as much as is sufficient to dissolve the opium.
Make them according to art into an

electary.

THIS composition consists of very powerful ingredients, and is doubtless capable of answering every thing that can be reasonably expected from the more voluminous theriaca of Andromachus. London college also had formerly their theriaca composed of the less exceptionable ingredients of Andromachus's. But as thefe medicines have for a long time been chiefly employed for external purpose, in the way of cataplasm, the theriaca Londinensis is now omitted, and its place supplied by a cataplasm composed of a few well-chosen articles, under the name of cataplasma e cymino, of which hereafter. For internal use, none of the theriacas are at prefent fo much regarded as they have been heretofore; practitioners having introduced in

their room, extemporaneous bolufes of Virginian snakeroot, camphor, contrayerva, and the like, which answer all their intentions; with this advantage, that they may be given either with or without opium, an ingredient which renders the others prejudicial in cases where they might otherwise be proper.

With regard to the quantity of opium in the foregoing compositions, one grain thereof is contained in four drams of the mithridate; in three scruples, fifteen grains of the Venice treacle; and in five fcruples of the theriaca Edinensis. The proportion of opium will vary a little, according to the time that they have been kept; their moisture by degrees exhaling, fo as to leave the remainder stronger of the opium, than an equal weight was at first. A change of this kind is taken notice of by many writers, but falsely attributed to an imaginary fermentative quality of the ingredients; by which they were supposed, from their multiplicity and contrariety, to be continually exalting and improving the virtues of one another.

A good deal of care is requisite in making these compositions, to prevent the waste which is apt to happen in the pounding, and which would render the proportion of opium to the other ingredients precarious. The intention of dissolving the opium in wine, for these and other electaries, is, that it may be more uniformly mingled with

the rest.

### PHILONIUM LONDINENSE.

London philonium.

Lond.

Take of White pepper, Ginger, Caraway feeds, each two ounces; Strained opium, fix drams;

Syrup of meconium, boiled to the confistence of honey, thrice the weight of the other ingredients.

Heat the fyrup, and carefully mix with it the opium, previously dissolved in wine; then add the other ingredients, reduced into powder.

This is a reformation of the philonium described by Galen, which was received in our preceding pharmacopæias with the addition of fome superfluous ingredients, and diftinguished, but not very properly, by the epithet Romanum. The additional articles, and fome unnecessary ones that were in the original, are here omitted, and the quantities of the other varied, io as to preferve the fame proportion of opium to the whole, as in our last pharmacopæia. Thirtyfix grains of the composition contain one grain of opium.

THE mithridate, theriaca, diafcordium, confectio Paulina, and philonium, are the only compositions now remaining, of what have been called the officinal capitals. They are all medicines of great power; and as, on the one hand, they are applicable, by the judicious physician, to excellent purpofes, fo on the other, their imprudent use has often been productive of mischievous consequences. It has been customary among nurses, and others, to give diascordium to children, to ease their complaints, and to procure fleep: intentions which it effectually anfwers, but at the fame time never fails to bring on a costive habit, the foundation of many diseases. This medicine has likewise been too unwarily given for restraining fluxes; whose suppression was afterwards followed by more dangerous fymptoms. The celebrated alexipharmics, mithridate, and theriaca, have oftentimes aggravated the diforders they were intended to remedy, have converted a common cold into a high fever, have raised slight febrile complaints into a malignant fever. However strongly therefore these kinds of medicines be recommended for eafing pain, warming, promoting fweat, expelling malignity, &c. the utmost caution is requisite in the use of them. The cases which demand their assistance, are much less frequent than is generally suppofed.

## ELECTARIUM ACIDUM. Acid electary.

Take of

Conferve of woodforrel, one ounce;

Pulp of tamarinds, half an ounce; Weak spirit of vitriol, as much as is sufficient to give a grateful acidity;

Syrup of lemon juice, as much as will reduce the whole into the confidence of a foft electary.

This grateful acid composition is an useful refrigerant and antifeptic in different kinds of inflammatory and putrid disorders.

## ELECTARIUM ALEXETERIUM. Alexeterial electary.

Take of

Confection of kermes, one dram; Candied ginger, fix drams; Centrayerva root,

Virginian makeroot, each one

dram ;

Syrup of orange peel, as much as is sufficient to make the other ingredients into the consistence of an electary.

This is a moderately warm elec-

tary, contrived by Boerhaave for raising and recruiting the strength in low severs, where the pulse is sunk, and the patient languid and dejected. It may be taken to the quantity of a small nutmeg every four or sive hours, with any proper julep.

ELECTARIUM ALTERANS.

Alterative electary.

Take of

Crude antimony, finely levigated, three drams;

Refin of guaiacum, two drams; Oil of fassafras, six drops;

Conferve of red roses, one ounce and a half;

Balfamic fyrup, as much as is fufficient.

Grind the refin and the levigated antimony well together; and, having mixed these with the oil (dropt on a little sugar) and the conserve, let the whole be softened with the syrup into a due confishence,

This medicine is used against cutaneous foulnesses, obstructions of the glands, and impurities of the blood and juices. Dispensatory writers in general lay the principal stress, in compositions of this kind, upon the calx, ceruffe, or cinnabar of antimony, preparations which are far inferior to the crude mineral, and very ill deserve the great character which has been ufually given of them. The bulk of a small nutmeg of this electary may be taken every morning and evening with a little of the simple or compound lime water.

ELECTARIUM ANTIEPILEPTI-CUM.

Antiepileptic clestary.

Peruvian bark, one ounce; Wild valerian root, two drams; Syrup of orange peel, a sufficient quantity to reduce the others into an electary.

This medicine has been frequently prescribed by Dr. Mead, in epileptic cases, with success. He directs one dram to be taken every morning and evening, for three months together; after which, to confirm the cure and prevent a relape, the same dose is to be repeated, for three or four days, before every new and full moon for a confiderable time.

ELECTARIUM ANTIDYSENTE-

Antidysenteric electary.

Take of

Yellow wax, three drams; Spermaceti, two drams;

Conferve of red roses, an ounce and a half;

Oil of almonds, half an ounce; Balsamic syrup, a sufficient quan-

Let the wax and spermaceti be melted in the oil, over a gentle fire, and then mixed with the conserve and syrup.

Where sharp irritating humours have eroded the intestines, and laid open the mouths of the bloodvessels, this soft healing electary is often of great use. It is said that sluxes of long standing, contracted in the Indies, which had yielded nothing to medicines of the restringent kind, have been removed by this, which supplies the natural mucus of the bowels that the slux has carried off, heals the excoriations, and obtunds the acrimonious humours.

ELECTARIUM AROMATICUM.

Aromatic electary.

Take of

The aromatic species, one dram and a half;

Conferve

Conserve of lavender, two ounces; Syrup of orange peel, a sufficient quantity.

Make them into an electary.

This warm cordial medicine is of use in nervous complaints and decays of constitution. The bulk of a small nutmeg may be taken two or three times a day with a glass of wine, or any other proper liquor, after it.

ELECTARIUM BALSAMICUM.

Balfamic electary.

Take of

Conserve of roses, two ounces; Locatelli's balfam, one ounce.

Dissolve the balsam in the yolk of an egg, and then mix therewith the conserve.

This electary is used in some coughs and disorders of the breast; as also in the vomica, or suppuration in the stomach, which sometimes happens after dysenteries; and where there is an erosion or rupture of the blood-vessels, as in hamoptoes. In these cases, the bulk of a nutmeg may be taken for a dose, twice or thrice a day.

ELECTARIUM CHALYBEATUM.

Chalybeate electary.

Take of
Salt of steel, one dram;
Candied nutmegs,
Candied ginger, each half an
ounce;

Oil of cinnamon, five drops; Conferve of orange peel, one ounce:

Balfamic fyrup, as much as is fufficient to make them into an electary.

Take of 2.

Ruft of steel, or steel prepared with sulphur, fix drams;

Candied ginger, one ounce;

Conferve of orange peel, three ounces;

Syrup of orange peel, as much as will reduce them into a proper confiftence.

THESE elegant chalybeate medicines are given not only in cachectic and chlorotic cases, and menstrual obstructions; but likewise in low hysteric, and melancholic disorders; and for warming and invigorating the habit in great debilities and decays of constitution. In either of these intentions, the bulk of a small nutmeg is to be taken twice a day, and its effects promoted by moderate exercise.

ELECTARIUM DEOBSTRUENS.

Deobstruent electary.

Take of

Gum ammoniacum,
Hard foap, each a dram;
Powdered fquills, one fcruple;
Conferve of orange peel, half an
ounce;

Syrup of ginger, as much as is fufficient to reduce the other ingredients into the confistence of an electary.

WHERE the breast is oppressed by thick phlegm, or the viscera obstructed, this electary may be taken twice or thrice a day to the bulk of a small nutmeg at a time. The quantity here prescribed is sufficient for six or eight doses.

ELECTARIUM ADGONORRHOEAM,

Electary for a gonorrbæa.

Take of
Lenitive electary, three ounces;
Jalap, three drams;
Nitre, one dram and a half;
Simple fyrup, a fufficient quantity to make them into an electary.

Q q 2

Take

Take of
Lenitive electary, three ounces;
Balfam of copaiva, one ounce and
a half;
Rhubarb,
Gum guaiacum,
Nitre, each one ounce;
Syrup of orange peel, as much as
will reduce them into a proper

confistence for an electary.

THESE compositions are said to be used in some of the military hospitals; the first as a cooling laxative, for the inflammation and tension of the urinary passages, which always accompany a virulent gonorrhea. In this intention, a dram and a half is directed to be taken every morning and evening. The second is designed for strengthening the parts after the virulence is expelled, and the heat and inflammation have ceased: the bulk of a nutmeg may be taken twice or thrice a day.

ELECTARIUM E GUMMI GUAIACO.

Electary of gum guaiacum.

Take of

Gum guaiacum,
Compound powder of arum,
Canella alba, each fix drams;
Conferve of fcurvy-grafs, two
ounces;
Syrup of orange peel, as much
as will bring them into a proper confiftence.

In chronical rheumatisms, pains, and aches in general, that are not accompanied with inflammation, and some kinds of paralytic numbnesses, this warm stimulating electary may be taken to the quantity of a nutmeg twice a day. ELECTARIUM EX HELLEBORO NIGRO.

Electary of black bellebore.

Take of
Black hellebore root,
Extract of favin,
Compound powder of myrrh,
each half an ounce;
Canella alba, two drams;
Syrup of orange peel, as much
as is sufficient.
Mix and make them into an electory.

This electary is employed in one of our hospitals for promoting the natural evacuations from the uterus: for which purpose, it is undoubtedly a medicine of great power. It may be taken to the quantity of half a dram twice a day.

ELECTARIUM INCRASSANS.

Incrassating electary.

Take of

Gum tragacanth,

Pulp of fresh comfry root, each one ounce;

Conserve of mallows, half an ounce;

Syrup of marshmallows, as much as is sufficient to reduce the whole into the consistence of an electary.

This electary is taken to the quantity of a chesnut, three or four times a day, along with a milk diet, for incrassating and obtunding thin serous humours, in heetic disorders, in coughs proceeding from thin tickling rheums, and in sluxes and heat of urine, where the natural mucus of the parts is abraded.

ELECTA-

ELECTARIUM AD NEPHRITICOS.

Nephritic elittary.

Take of

Lenitive electary, an ounce and a half;

Venice turpentine, one ounce; Eggshells prepared [or prepared oystershells] half an ounce; Choice rhubarb, one dram; Syrup of marshmallows, as much as is sufficient.

Dissolve the turpentine in the yolk of an egg, and then mix the whole together, according to art, so as to make thereof an electary.

THIS composition, taken from the Edinburgh infirmary, is contrived for cleanling the urinary paifages in nephritic diforders. Turpentine, properly divided by earthy powders, is a fafe, and, at the fame time, one of the most powerful diuretics that can in these cases be ventured on. The rhubarb and laxative electary are very useful additions; for the belly ought here to be always kept open, though the stronger purgatives are very improper. A drain of the electary may be taken once or twice a day, along with an infusion of marshmallow roots, fweetened with a spoonful of honey.

ELECTARIUM PARALYTICUM.

Paralytic electary.

Take of

Mustard seed,

Conserve of rosemary tops, each one ounce;

Compound spirit of lavender, two drams.

Beat the mustard seed with a little water, that the pulp may be pressed through a hair sieve; then mix with it the conserve and the spirit.

This is a very efficacious medicine for paralytic disorders, tremors and numbness of the limbs, the de-

cays accompanying old age, and in all cases where the solids require to be stimulated, or sluggish stagnant juices to be put in motion. It ought to be taken every morning and evening, or oftener, to the bulk of a large nutmeg; with a glass of rich wine, or any proper julep, after it.

ELECTARIUM E CORTICE PERU-VIANO.

Electary of Peruvian bark.

Take of
Peruvian bark, three ounces;
Cafcarilla, half an ounce;
Syrup of orange peel, a sufficient quantity.

2.

Take of
Peruvian bark, three ounces;
Virginian fnakeroot, one ounce;
Syrup of orange peel, a fufficient
quantity.

3.

Take of
Peruvian bark, three ounces;
Crude fal ammoniac, three drams;
Syrup of lemon juice, a fufficient
quantity.

4.

Take of
Peruvian bark, three ounces;
Colcothar of vitriol, fix drams;
Simple fyrup, a fufficient quantity.

5.

Take of
Peruvian bark, three ounces;
Alum, one ounce;
Syrup of lemon juice, as much as is fufficient.

6.

Take of

Extract of Peruvian bark, one

ounce;

Extract of logwood,
Extract of liquorice, each half an
ounce;

Mucilage of quince feeds, as much as is sufficient to reduce the other ingredients into the confistence of an electary.

ALL

Q.9.3

tions for which they are defigned. The first is calculated for common intermittent fevers, in the cure of which the virtues of the bark are greatly affifted by the cafcarilla. The fecond and third are given in those intermittents, which happen in cachectic habits, and persons subject to obstructions of the vifcera, where the bark by itself, on account of its great aftringency, would be prejudicial. The fourth is a good strengthener in laxities of the folids and decays of constitution; and the fifth a powerful flyptic in fluxes and hæmorrhages, particularly in the diabetes and fluor albus. The bulk of a nutmeg of each may be taken at a time, and repeated according to the exigency of the case. The fixth is a very agreeable form for the exhibition of Peruvian bark to those who are more than ordinarily offended with its tafte; the substances here joined effectually covering its talte, at the same time that they coincide with it in virtue. The composition is a very elegant and pleafant one, and well deferves a place in the shops. It may either be given in the form of a bolus or electary, in the dose of a dram or more; or dissolved in any suitable liquor into a draught.

ELECTARIUM PURGANS

An acid purgative electary. Take of

Pulp of tamarinds, two ounces; Crystals of tartar, two drams. Make them into an electary.

This is an useful cooling laxative in hot bilious dispositions, or instammatory diseases. The bulk of a nutmeg may be taken every hour, or oftener, till it begins to

ALL these compositions are very operate, or the same quantity may elegant and essications in the intenbe taken once a day occasionally in tions for which they are designed. dry costive habits.

ELECTARIUM SAPONACEUM.
Saponaceous electary.

Take of

Hard Spanish soap, two ounces; Pareira brava, one ounce; Rhubarb.

Gum of aloes, each three drams; Syrup of orange peel, a sufficient quantity.

Mix and make them into an elec-

tary.

THIS electary is calculated for jaundices arising from an obstruction of the biliary ducts, or a vifcidity of the bile itself. Such are those which most commonly occur. in which the stools are of a whitish or ash-colour, and voided with difficulty. The dofe is from half a dram to a dram, twice a day. How far the pareira brava in this composition contributes to its virtues, I shall not take upon me to determine. Some have recommended this root, as a most powerful attenuant, in a great variety of diforders, whilst others look upon it as not superior, if equal, to the common aperient roots. The fenfible qualities of the pareira discover little foundation for the great character given of it; and a competency of fair trials of its virtue, is as yet wanting. The London college has not received it into their pharmacopœia.

Binding electary.

Take of

The japonic confection, two

Extract of logwood, one ounce; Syrup of dry roses, as much as will reduce them into a proper consistence for an electary.

THIS

This electary is calculated for the relief of dysenteries, and other intestinal fluxes, after the acrid humours have been duly evacuated by mild cathartics, &c. The quantity of a nutmeg may be taken every four or five hours.

ELECTARIUM E SULPHURE.

Electary of fulphur.

Take of
Flowers of fulphur, half an
ounce;
Lenitive electary, two ounces;

Syrop of marshmallows, a sufficient quantity to make them into an electary.

This electary is designed against the piles, and generally distinguished in the hospitals by the title of electarium bemorrhoidale. Where the disorder is accompanied with febrile or inflammatory symptoms, some nitre is occasionally added, in the proportion of two drams, to the quantity here directed. It may be given from a dram to half an ounce at a time.



### CHAPTER VI.

Lobochs.

A Loboch, eclegma, linetus, or lambative, is a foft compound defigned to be licked or flowly fwallowed down, of a middle confiftence between a fyrup and electary, at least never so thin as the former, nor so thick as the latter.

These preparations are generally composed of expressed oils, mixed with syrups, and similar substances. In making them, the syrup is sirst to be mixed with a little sugar, and then briskly beaten up in a mortar, with the oil; which will thus readily incorporate, especially if the syrup be of the acid kind. Two ounces of syrup, a dram of sugar, and an ounce of expressed oil, form a line-tus of a due consistence; which may be made thicker at pleasure by adding more oil, of thinner by an increase of the syrup.

Any oily substance, as Locatelli's balsam, spermaceti, &c. may like-wise be reduced into this form: and instead of sugar, powders more agreeable to the intention of emollients or pectorals, may be used; as the compound powder of gum tragacanth, or the white or black bechie troches of the shops. But the form at best is very unsightly and disagreeable, and substances of this kind render it more so.

# LOHOCH COMMUNE. Common lohoch. Edinb.

Take of
Fresh-drawn oil of almonds,
Syrup of marshmallows, or balfamic syrup, each one ounce;
White sugar, two drams.
Mix and make them into a lohoch.

LOHOCH EX AMYLO.

Starch lohoch.

Edinb.

Take of
Starch, two drams;
Japan earth, one dram;
Balfamic fyrup,
Whites of eggs, beaten up into
a thin fluid, each one ounce.
Mix and make them into a lohoch.

## Lohoch of linfeed.

Edinb.

Take of
Fresh-drawn linseed oil,
Balsamic syrup, each one ounce;
Flowers of sulphur washed,
White sugar, each two drams.
Mix and make them into a lohoch.

# Lohoch of manna. Edinb.

Take of
Calabrian manna,
Fresh-drawn oil of almonds,
Syrup of violets, each equal
parts.
Mix and make them into a lohoch.

# LOHOCH SAPONACEUM. Saponaceous lohoch. Edinb.

Take of
Castile soap, one dram;
Oil of almonds, one ounce;
Syrup of lemon juice, one ounce
and a half.
Mix and make them into a lohoch.

LOHOCH DE SPERMATE CETI. Lohoch of spermaceti. Edinb.

Take of

Spermaceti, two drams;
Fresh-drawn oil of almonds, half
an ounce;

Balfamic fyrup, one ounce.

Mix the spermaceti with a sufficient quantity of yolk of eggs. Then add the oil and syrup, and make them into a lohoch.

LOHOCH BALSAMICUM.

Balfamic loboch.

Take of

Spermaceti, two drams;
Balfam of Peru, one dram;
Syrup of marshmallows, two
ounces.

Let the spermaceti and balsam be well worked up with a sufficient quantity of yolks of eggs; and then mix with them the syrup.

LINCTUS SOLUTIVUS.
Solutive loboch.

Take of

Conferve of hips, one ounce; Solutive fyrup of roses, Oil of olive, each four ounces. Mix and make them into a lohoch.

The principal use of lohochs is in disorders of the internal parts of the mouth, fauces, and cophagus; as in aphthæ, and tickling coughs from defluxions in the first passages. For, however they

may have been celebrated, under the vague appellation of pectorals, in affections of the breast and lungs, it is not to be expected. that their emollient lubricating quality can reach those parts, or that they can give any relief in the true pulmonary cough. The flow manner in which they are swallowed down renders them well adapted to correct acrimony and irritation in the throat and about the mouth of the stomach; though the free use of such unctuous compositions is soon liable to pall the appetite. Indeed the form is an inelegant one, and in the present practice is little regarded.

LINCTUS ACIDULUS.
Acidulous linctus.

Take of

Conferve of red rofes, two ounces;

Weak spirit of vitriol, four scruples, or as much as is sufficient to give a grateful acidity.

Mix them together.

This linctus is of a different nature from the foregoing preparations, and is used as a light restringent and detergent. It rather strengthens than relaxes the stomach, is sufficiently agreeable in taste, and of a fine red colour.



### CHAPTER VII.

Emulsions.

In the foregoing chapter, oils were united with watery liquors, by the mediation of fugar and fyrups, into thick unctuous compounds. The present chapter contains mixtures of oily, resinous, and similar bodies, with water, in a liquid form, of a white colour resembling milk, and hence called emulsions.

Emulsions have been generally prepared by grinding the oily feeds of plants, or kernels of fruits, along with common water, or any agreeable simple distilled water. In this process, the oil of the subject is, by the mediation of the other matter, united with the aqueous fluid; and hence they possess some share of the emollient virtue of the pure oil; with this advantage, that they are agreeable to the palate, and not apt to turn rancid or acrimonious by the heat of the body, which the pure oils in some inflammatory cases may do.

Emulsions, besides their use as medicines themselves, are excellent vehicles for certain substances which cannot otherwise be so conveniently taken in a liquid form. Thus camphor, triturated with almonds, readily unites with water, into an emulsion, and in this form is conveyed into the remotest parts of the body, with sufficient essicacy to answer intentions of moment, at the same time that its heat and pungency are softened by the unctuosity of the almonds.

Pure oils, balfams, refins, and other similar substances, are like-wife rendered miscible with water, into emulsions or milky liquors, by the intervention of mucilages. The white or yolk of an egg unites these bodies also with water, but less elegantly.

Several of the gummy refins, as ammoniacum, galbanum, myrrh, and others, are reducible into emulfions by trituration with water alone; their refinous part being rendered disfoluble by the mediation of the gummy.

# EMULSIO COMMUNIS. Common emulfion. Lond.

Take of

Sweet almonds blanched, one ounce;

Gum Arabic, half an ounce; Double-refined fugar, fix drams; Barley water, two pints.

Dissolve the gum in the barley water warmed. As soon as the water is grown thoroughly cold, pour it by little at a time upon the almonds and sugar, first beaten together, continuing to grind the whole, that the siquor may grow milky; after which, it is to be passed through a strainer.

#### Edinb.

Take of

Sweet almonds, one ounce; Bitter almonds, one dram;

Water, two pounds and an half. Blanch the almonds, and beat them in a stone mortar, and gradually pour upon them the water; and strain off the liquor.

If, whilft the almonds are beating, two ounces of mucilage of gum Arabic be added, the preparation is called EMULSIO ARABICA, the Arabic emulsion.

GREAT care should be taken, that the almonds are not become rancid by keeping; which will not only render the emulsion extremely unpleasant, a circumstance of great consequence

consequence in a medicine that requires to be taken in large quantities, but likewise give it injurious qualities little expected from preparations of this class. These liquors are principally made use of for diluting and obtunding acrimonious humours; particularly in heat of urine and stranguries arising either from a natural sharpness of the juices, or the operation of cantharides, or other irritating medicines. In these cases, they are to be drunk frequently, in the quantity of half a pint or more at a time.

Some have ordered emulsions to be boiled, with a view to deprive them of some imaginary crudity; but by this process they quickly cease to be emulsions, the oil separating from the water, and floating distinct upon the furface. Acids, and vinous spirits, produce a like decomposition. On standing also for fome days, without addition, the oily matter separates, and rises to the top, not in its pure form, but in that of a thick cream. These experiments prove the composition of the emulfions made from the oily feeds of kernels, and at the fame time point out some cautions to be attended to in their preparation and use.

# EMULSIO CAMPHORATA. Camphorated emulsion. Edinb.

Take of

Camphor, half a dram;
Sweet almonds, fix in number;
White fugar, half an ounce;
Simple pennyroyal water, half a pint.

Grind the camphor and almonds well together in a stone mortar, and add by degrees the pennyroyal water. Then strain the liquor, and dissolve in it the sugar.

This is a very commodious form for the exhibition of camphor; the unctuous quality of the almonds in great measure covering its pungency. In fevers that require the assistance of this powerful diaphoretic drug, a spoonful of the emulsion may be taken every three or four hours.

# LAC AMMONIACI. Milk of ammoniacum. Lond.

Take of

Gum ammoniacum, two drams; Simple pennyroyal water, half a pint.

Grind the ammoniacum with the water, in a mortar, until the gum be dissolved.

This liquor is employed for attenuating tough phlegm, and promoting expectoration, in the humoural ashmas, coughs, and obstructions of the viscera. It may be given to the quantity of two spoonfuls twice a day.

## EMULSIO PURGANS. A purging emulsion.

Take of

Sweet almonds, blanched, two drams;
Fine fugar, one dram;

Gum Arabic, half a dram; Scammony, ten grains; Simple cinnamon water,

Dissolve the gum in the cinnamon water, and, having ground the scammony with almonds and sugar, pour on the liquor by little at a time, continuing to grind them together, so as to make them into an emulsion.

This emulsion is an agreeable and effectual purgative. It may be prepared with different proportions of the scammony, at pleasure: other purgative refins, as that of jalap, jalap, may be substituted to the scammony; a proper quantity of any syrup to the sugar; and to the cinnamon water, any other simple water that may be more acceptable: but spirituous waters, for reasons already mentioned, have no place. Some have employed an infusion of liquorice, which appears to be a very proper addition in these kinds of preparations, as it coincides with the almonds in correcting the irritating power of the purgative material.

EMULSIO OLEOSA.

Oily emulfion.

Take of

Oil olive, a quarter of a pint; Spirit of hartshorn, two drams; Simple pennyroyal water, twelve ounces;

Pectoral fyrup, an ounce and a half.

Mix them together.

This composition is often used against recent colds, for alleviating the cough, and promoting expectoration. Where the complaints are of long standing, these kinds of medicines have no place; nor is their use in any case to be long continued, as they relax the stomach, pall the appetite, and increase the disorder.

A much more elegant oily emulfion, for all the intentions in which the fimple lubricating quality of expressed oils is wanted, may be prepared in the following manner.

Take an ounce of powdered gum
Arabic, and the same quantity of
common water. Dissolve the gum
in the water, that it may form
a thick mucilage; to which add
by degrees four ounces of freshdrawn oil of almonds, rubbing
them well together in a mortar
till they incorporate into a smooth
white mass. Then pour in by

little and little, continuing the agitation, four ounces of common water; to which may be added nutmeg water, rose water, and simple syrup, of each two ounces.

This appears to be the pleafantest form that oils can be given in. The union is also more perfect, and the oil less disposed to separate on standing, than in the emulsions obtained by other means. Even strong acids added to the emulsion, produce no decomposition in it. But alkalies can have no place in this form. For these, as we have observed upon another occasion, precipitate pure gums themselves from water.

Emulsio SPERMATIS CETI.

Emulsion of Spermaceti.

Take equal parts of spermaceti and of mucilage of gum Arabic. Rub them together in a mortar till they are incorporated into a thick mass, which may be diluted at pleasure with water, as in the foregoing process.

EMULSIONS of spermaceti, or spermaceti draughts, are commonly prepared by means of yolks of eggs; and the emulsions, so prepared, are sufficiently uniform. Those made with mucilage, as here directed, have this advantage, that they are less disagreeable in taste, and not liable to grow rancid. The mixture of the spermaceti and mucilage may be kept, for many days, in a state sit for being diluted by gradual additions of water, into a smooth emulsion.

Emulsio CUM ARO.

Emulsion with arum root.

Take of

Fresh arum root, Gum Arabic, each two drams; Spermaceti, two scruples;

Common

Common water, five ounces; Nutmeg water, Syrup of orange peel, each half

an ounce.

Diffolve the gum Arabic, with a part of the water, into a mucilage, which is to be beaten with the spermaceti into a smooth paste.

To this add the arum root, previously beaten by itself into a pulp; and rub them well together that they may be thoroughly mixed. Then gradually pour in the waters and the syrup. FRESH arum root may be taken in this form without the least inconvenience from the pungency, with which the root itself so violently affects the mouth. I have given a spoonful of the emulsion every six hours, or oftener, in cases of the rheumatic kind, and generally with great benefit. The more immediate effect experienced from it was that of warming the stomach, and promoting sweat, which in some instances it did profusely.



### CHAPTER VIII.

Juleps, Mixtures, and Draughts.

B Y julep is commonly under-flood, an agreeable liquor, defigned as a vehicle for medicines of greater efficacy, or to be drunk after them, or taken occasionally as an auxiliary. In this light their bafis is generally common water, or a fimple distilled water, with onefourth or one-third its quantity of a diffilled spirituous water : this mixture is sweetened with sugar, or any proper fyrup, or acidulated with vegetable or mineral acids, or impregnated with other medicines fuitable to the intention; care being taken that these additions be fuch, as will not render the compound unfightly or unpalatable. The quantity usually directed at a time, in common prescription, is fix or eight ounces, to be taken by spoonfuls.

A mixture, more strictly fo called, receives more efficacious materials, whether foluble in water, as extracts or falts, or indiffoluble, as powders; more regard being here had to the medicinal intention, than to the fightliness or palatablenels of the compound. There is indeed no precise distinction between the two; the same compofition being often called by one a julep, and by another a mixture; though, in general, few would give the name of julep to a very difagreeable liquor, or that of mixture to a very pleasant one.

A draught differs from a julep or mixture only in being prescribed in less quantity, the whole being

intended for one dole.

JULEPUM e CAMPHORA, Julep of camphor.

Lond.

Take of

Camphor, one dram; Double-refined fugar, half an ounce;

Boiling water, one pint.

Grind the camphor first with a little rectified spirit of wine, until it grows soft; and afterwards with the sugar, till they are perfectly mixed. Then add the water by little and little, let the mixture cool in a close vessel, and lastly pass it through a strainer.

This is a more easy and effectual way of mingling camphor with aqueous liquors, than grinding it with water alone, or fetting it on fire, and then quenching it in water, as directed in a former dispenfatory, and in other books of pharmacy. Though even this method is liable to some inconveniencies; part of the camphor exhaling, unless an extraordinary deal of care be taken, upon the affusion of the boiling water; and part remaining upon the strainer. The julep tastes strong of the camphor, and may be given, in cases where this drug is proper, in the dose of a spoonful or two. In extemporaneous prefcription, vinegar is fometimes employed instead of water; this acid not only rendering the julep more grateful to the palate and flomach, but likewise promoting and extending the efficacy of the camphor, rendering it serviceable in fome fevers where that hot pungent medicine by itself would be less proper. In this view the following form is a very elegant one. ULEPUM

JULEPUM E CAMPHORA ACE-TOSUM.

Campbor julep with vinegar.

Take of

Camphor, one dram; Gum Arabic, two drams; Double-refined fugar, half an ounce;

Vinegar, one pint.

Grind the camphor with a few drops of rectified spirit of wine, till it grows soft; then add the gum, previously reduced to a mucilage, with equal its quantity of water, and rub them together till they are perfectly mixed. To this mixture add by degrees the vinegar with the sugar dissolved in it.

By this management, the whole fubstance of the camphor is united with, and kept suspended in, the liquor; and consequently every spoonful of the mixture is equivalent to one grain and seven eighths of a grain of camphor in substance. The same treatment succeeds equally when water is used for the menstruum; and if the assistance of nitre be required, this also may be added in either form.

# JULEPUM e CRETE. Chalk julep. Lond.

Take of

The whitest chalk, prepared, one ounce;

Double-refined sugar, six drams; Gum Arabic, two drams;

Water, two pints. Mix them together.

This julep is defigned for heartburns and fimilar disorders arising from acid juices in the first passages. The chief use of the gum is to give a greater degree of consistence to the water, and enable it to keep the powdered chalk suspended. JULEPUM e MOSCHO.

Musk julep.

Lond.

Take of

Damask-rose water, fix ounces by measure;

Musk, twelve grains;

Double-refined fugar, one dram. Grind the fugar and the musk together, and gradually add to them the rose-water.

This is an improvement upon the Hysteric julep with musk of Bates. Orange flower water is directed by that author; and indeed this more perfectly coincides with the musk than rose-water: but as the former is scarce procurable in perfection, the latter is here preferred. The julep appears turbid at first; on standing a little time. it deposits a brown powder, and becomes clear, but at the fame time loses great part of its virtue. This inconvenience may be prevented, by thoroughly grinding the musk with two or three drams of mucilage of gum Arabic, before the addition of the water, as directed in the preceding chapter for making emulfions. By means of the gum, the whole substance of the musk is made to remain suspended in the water. Volatile spirits are in many cases an useful addition to musk. and likewise enable water to keep fomewhat more of the musk diffolved, than it would otherwise retain. The following composition of this kind is used in some of our hoipitals.

JULEPUM MOSCHATUM, Musk julep.

Take of

Rose-water, fix ounces;
Volatile oily spirit, one dram and a half;
Musk, fifteen grains;
White sugar, half an ounce.

Grind

Grind the musk with the sugar, and then mix therewith the other ingredients.

JULEPUM ALEXIPHARMACUM.

Alexipharmic julep.

Take of 1.

Simple alexeterial water, fix ounces;

Spirituous alexeterial water, two ounces;

Syrup of clove-july-flowers, two drams.

Mix them together.

2,

Take of

Simple alexeterial water, fix ounces;

Spirituous alexeterial water, with vinegar, two ounces;

Syrup of lemon juice, two drams. Mix them together.

Julepum CARDIACUM.

Cordial julep.

Take of 1.

Simple cinnamon water,
Simple orange peel water, each
three ounces;

Nutmeg water, two ounces; Syrup of orange-peel, half an ounce;

Mix them together.

an ounce.

2.

Take of

Dill-feed water, fix ounces; Cardamom - feed water, two ounces:

Compound spirit of lavender, Syrup of saffron, each two drams. Mix them together.

Julepum Carminativum, Carminative julep.

Take of

Fennel-seed water, fix ounces;

Compound juniper water, two ounces;

Syrup of clove july-flowers, half

Take of Jamaica - pepper water, fix

ounces;

Compound anifeed water, two ounces:

Syrup of orange-peel, half an ounce.

3.

Take of

Dill-feed water, fix ounces; Compound caraway water, two ounces;

Syrup of ginger, half an ounce.

JULEPUM HYSTERICUM.

Hysteric julep.

Take of
Simple pennyroyal water,
Castor water, each three ounces;
Spirituous pennyroyal water, two

ounces;

Simple fyrup, two drams.

2.

Take of

Simple alexeterial water, fix ounces;

Cardamom - feed water, two ounces;

Compound spirit of lavender, Volatile aromatic spirit, each one

Syrup of clove-july-flowers, half an ounce.

3.

Take of

Dill-feed water, four ounces;
Simple pepper-mint water, two
ounces;
Tincture of cardamoms,
Syrup of ginger, each two drams.

JULEPUM REFRIGERANS.

A cooling julep.

Take of
Rhenish wine, five ounces;
Damask-rose water, two ounces;
Seville orange juice,
Syrup of violets, each six drams.

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JULEPUM STOMACHICUM.
Stomachic julep.

Take of
Simple mint water, fix ounces;
Spirituous mint water, two ounces;
Syrup of faffron, two drams.

Take of 2.
Tincture of mint, fix ounces;
Cardamom water, two ounces;
Simple fyrup, half an ounce.

Take of 3.

Cinnamon water, fix ounces;

Nutmeg water,

Stomachic tincture, each one ounce;

Syrup of orange peel, half an ounce.

THE titles of these mixtures express the intentions for which they are calculated. Four or five spoonfuls of either may be taken occasionally, or used as vehicles and diluters of medicines of greater efficacy.

The following julapia are used in the Edinburgh infirmary.

JULAPIUM AMMONIACUM.

Ammoniacum julep.

Take of
Milk of ammoniacum, four ounces;

Syrup of fquills, three ounces. Mix them together.

Two spoonfuls of this mixture may be given twice a day, in coughs, asthmas, and oppressions at the breast. It is a medicine of confiderable essicacy, but not a little unpleasant, though called a julep in the hospitals where it is used.

JULAPIUM ANTIHYSTERICUM.

Antibysteric julep.

Take of

Pennyroyal water, four ounces; Compound valerian water, two ounces; Tincture of castor, two drams; Salt of hartshorn, ten grains; White sugar, six drams. Mix them together.

THE virtues of this composition are sufficiently obvious from its title. The dose is two spoonfuls, to be taken twice or thrice a day.

JULAPIUM CARDIACUM.

Cordial julep.

Take of

Alexeterial water, four ounces;
Aromatic water, two ounces;
Volatile oily spirit,
Tincture of saffron, each two
drams;

White fugar, half an ounce. Mix and make them into a julep.

This mixture is an useful cordial in all depressions of the spirits, in the sinkings of low severs, and the languors to which hysterical and hypochondriacal persons are subject. An ounce, or two spoonfuls, may be taken for a dose, two or three times a day.

JULAPIUM DIAPHORETICUM.

Diaphoretic julep.

Take of

Alexeterial water, four ounces; Spirit of Mindererus, two ounces; Salt of hartshorn, ten grains; White sugar, fix drams. Mix them for a julep.

This excellent composition is a very powerful sudorific, and answers its intention more effectually, and with greater certainty, than many others calculated for the same purpose. Where a copious sweat is to be excited, as in rheumatic diseases, two spoonfuls are to be taken warm in bed every hour, or two hours, till the sweat break out. If warm diluting liquors be not afterwards sufficient to keep it up, the same medicine is to be occasionally repeated.

R r JULAPIUM

JULAPIUM DIAPHORETICUM ACIDUM.

Acid diaphoretic julep.

Take of

Alexeterial water, four ounces; Treacle vinegar, two ounces; Tincture of fassron, half an ounce;

Spirit of amber, one dram; White fugar, one ounce. Mix them together.

THE acid quality of this diaphoretic julep adapts it more particularly to those disorders in which any of the internal parts are inflamed, as in pleurisies and peripneumonies. It is given in the same dose as the preceding.

JULAPIUM DIURETICUM.

Diuretic julep.

Take of

Spirit of Mindererus, four ounces; Compound horseradish water, two ounces;

Syrup of marshmallows, three ounces.

Mix them together.

THE spirit of Mindererus is an excellent aperient faline liquor, capable of promoting evacuation either by the cutaneous pores, or the urinary passages, according to the manner of exhibiting it. We have feen before, that when taken warm in bed, it proves a powerful sudorific; especially if assisted by volatile falts, fmall doses of opiates, or other substances which tend to determine its action to the fkin. If the patient walk about, in a cool air, it operates gently, but for the most part effectually, by urine: the additions here joined to it, correspond with this intention, and promote its operation. As this medicine excites the urinary discharge, without heating or irritating the parts, it takes place not only in dropfies, but likewife in inflammatory diforders, wherever this falutary fecretion is to be promoted. It is given to the quantity of two spoonfuls, thrice a day.

A dram of spirit of amber is sometimes mixed with this julep, which nevertheless does not seem to receive from that ingredient any additional virtue: whatever virtues the salt of amber may possess (which probably are not so great as is generally supposed) the spirit is impregnated therewith in an extremely low degree.

JULAPIUM FOETIDUM.

Fetid julep.

Take of

Asasetida, one dram and a half; Rue water, six ounces; Compound valerian water, two

Oil of hartshorn, twenty drops;

White fugar, ten drams.

Rub the asafetida in the rue water till it dissolves; and having dropt the oil upon the sugar, mix the whole together.

This composition is not a little fetid and unsightly; it is nevertheless a medicine of great efficacy, in hypochondriacal and hysteric disorders, asthmas, and other nervous complaints: the dose is one spoonful, to be taken thrice a day. It is sometimes prepared without the oil of hartshorn.

JULAPIUM HYDRAGOGUM.

Hydragogue julep.

Take of

Chamomile - flower water, fix ounces;

Emetic tartar, ten grains; Syrup of buckthorn, two ounces. Mix them together.

Two spoonfuls of this julep are given, in hydropic cases, evrry

two hours, till it take sufficient lignant ones. To guard against effect as a purgative; which it generally does before the quantity here prescribed has been made use of. Emetic tartar, thus exhibited in small doses, and frequently repeated, proves as certain and powerful a cathartic, as it does an emetic when given in a larger quantity at once. It operates nevertheless, for the most part, with sufficient cafe.

JULAPIUM SISTENS. Binding julep.

Take of

Alexeterial water, four ounces; Aromatic water, two ounces; Japonic confection, two drams; Japan earth, in powder, one dram :

Liquid laudanum, forty drops; White fugar, half an ounce. Mix them well together.

This julep is calculated against dyfenteries and diarrhœas; in which, after proper evacuations, it generally eafes the gripes, and restrains the flux. It is to be given three or four times a day, in the quantity of a spoonful at a time.

> MISTURA ALEXETERIA. Alexeterial mixture.

Take of

Common water, four ounces; Spirituous alexeterial water with vinegar,

Julep of camphor, each one ounce and a half;

Compound powder of contrayerva, four scruples;

Nitre, two scruples;

Syrup of orange peel, fix drams. Mix them together.

In hospitals and places ill aired, common inflammatory fevers fometimes change into putrid and maany accident of this kind, as foon as the inflammation begins to abate, or the pulse to soften, three or four spoonfuls of this alexipharmic mixture may be given every fix hours. Camphor feems to answer best when thus given in a liquid form; and to be most efficacious in fuch small doses, for abating inflammation and nervous fymptoms, and likewise for promoting a gentle diaphoresis.

MISTURA ANTIDYSENTERICA. Antidysenteric mixture.

Take of

Simple cinnamon water, feven ounces;

Spirituous cinnamon water, one

Electary of scordium with opium, half an ounce.

Mix them together.

Take of

Extract of logwood, three drams; Tincture of Japan earth, two drams;

Spirituous cinnamon water, one

Common water, feven ounces.

Dissolve the extract in the cinnamon water, and then add the common water and the tincture.

In recent dysenteries, after the necessary evacuations, a spoonful or two of either of these mixtures may be given after every motion, or once in four or five hours. If the first, which is a mild opiate, fail of procuring rest, it is a fign that fome of the corrupted humours still remain in the bowels, and that it is more proper to go on with the evacuation, than to suppress the flux. These medicines will sometimes likewise take place in the last stage of the disease, when through Rrz neglect neglect or mismanagement it has continued till the strength is much impaired, the intestines greatly relaxed, and their villous coat abraded; provided there be neither ichorqus or involuntary stools, aphthæ, petechiæ, hiccup, or great anxiety at the breaft. Rhubarb, and these astringents, are to be so interpoled, that at the same time the putrid humours are dislodged, the ilrength may be supported, and the intestines braced. See Dr. Pringle's excellent Observations on the diseases of the army, page 254, & seq. where the reader will find a full and fatisfactory history of the symptoms and cure of this diftemper, so frequent and fatal in the camp.

> MISTURA ANTIEMETICA SALINA.

Saline antiemetic mixture.

Take of

Salt of wormwood, half a dram; Lemon juice, fix drams; Simple cinnamon water, one ounce;

Fine fugar, one scruple. Mix them together.

This mixture is frequently prefcribed, not only for the purpose expressed in its title, but likewise as a saline aperient in icterical, inslammatory, and other disorders, where medicines of that class are proper.

MISTURA CARDIACA.

Cordial mixture.

Take of

Simple cinnamon water, four ounces;

Spirituous cinnamon water, two ounces;

Extract of faffron, one fcruple; Confection of kermes, fix drams. Mix them together.

In great languors and depref-

fions, a spoonful of this rich cordial mixture may be taken every half hour.

MISTURA AD PHTHISIN.

Mixture against the phthisis.

Take of 1.

Balfam of Copaiba, one dram; Common water, four ounces; Spirituous cinnamon water, one ounce;

Syrup of orange peel, half an ounce.

Let the balfam he dissolved in a proper quantity of yolk of egg, and then mixed with the other ingredients.

Take of z.
Thebaic extract, one grain;
Conferve of roses, half a dram.
Mix them together for a bolus.

Take of
Oxymel of squills, a dram and
a half;
Thebaic tincture, fifteen drops;
Spirituous cinnamon water, two
drams;

Common water, two ounces. Mix them together.

In the advanced state of a confumption, we may distinguish two forts of coughs, one occasioned by the ulcers, and the other by a thin rheum falling upon the fauces and trachea; which parts being then deprived of their mucus, become extremely fensible to irritation. It is this latter kind, perhaps, which is most painful and teazing to the patient. The first fort requires balfamics, if the ulcer be open, and the matter can be expectorated. For this purpose, the first of the above mixtures, is a very elegant and effectual formula : two spoonfuls are to be taken at a time, twice a day. If the balfam purge, two drams of the paregoric elixir, added added to the quantity of the mixture here prescribed, will prevent that effect. The other kind of cough can only be palliated by incrassants; and for that purpose, the fecond of the above compositions is one of the most successful medicines: the conferve is altogether fafe, and otherwise well adapted to the nature of the disease, but of weak virtues: the opiate extract is the most efficacious ingredient, but is to be given with great caution, as opiates in general are apt to heat, to bind the body, and to obstruct expectoration. Since these bad qualities are in good measure corrected by fquills; as foon as the patient begins to complain of restless nights from coughing, the third mixture may be given at bed-time. See Pringle's Observations on the diseases of the army.

MISTURA E VALERIANA.

Valerian mixture.

Take of

Simple pepper-mint water, twelve ounces;

Wild valerian root, in powder, one ounce;

Compound spirit of lavender, half an ounce;

Syrup of orange peel, one ounce. Mix them together.

Wild valerian root, one of the principal medicines in epilepsies and vertigos, seems to answer better, when thus exhibited in substance, than if given in form of tincture or insuson. The liquors here joined to it excellently coincide, and by their warmth and pungency greatly improve its virtues. Two spoonfuls of the mixture may be taken twice or thrice a day.

HAUSTUS CATHARTICUS.

Cathartic draught.

Scammony, ten grains;
Spirit of rosemary, two drams;
Syrup of buckthorn, six drams.
Grind the scammony with the spirit in a glass mortar, and when perfectly incorporated, mix in the syrup.

Take of
Jalap, in powder, one fcruple;
Ipecacuanha, three grains;
Compound juniper water, one
ounce;
Infusion of linseed, an ounce and
a half;
Simple fyrup, one dram.
Mix them together.

Both these compositions are strong cathartics, yet for the most part easy and safe in operation. They are calculated chiefly for hydropic cases, in which they procure copious evacuations, without weakening or satiguing the patient so much as many other medicines of this kind.

Haustus catharticus salinus.

Saline cathartic draught.

Take of

Glauber's cathartic falt,
Manna, each fix drams;
Boiling water, three ounces;
Tincture of cardamoms, one
dram.

Dissolve the falt and manna in the water, and having strained off the liquor, add to it the tincture of cardamoms.

This is a very elegant and agreeable faline purgative. Tincture of cardamoms is one of the best additions to liquors of this kind, or to the purging mineral waters, for rendering them acceptable to the stomach.

Rr3

HAUSTUS

HAUSTUS DIAPHORETICUS.

Diaphoretic draught.

Take of
Spirit of Mindererus,
Syrup of meconium, each half
an ounce;
Salt of hartshorn, five grains.

Mix them together.

This draught is a very powerful faline diaphoretic. It is given with fafety, and often with great benefit, in the beginning of inflammatory fevers, after bleeding; where theriaca, and other warm substances usually employed, if they fail in bringing out a sweat, increase the fever.

HAUSTUS DIURETICUS.

Dieuretic draught.

Take of 1.
Oxymel of fquills, one dram and a half;

Simple cinnamon water, one ounce;

Compound spirit of lavender, Syrup of orange peel, each one dram.

Mix them together.

Take of 2.

Vinegar of squills, one dram (or one dram and a half);
Salt of wormwood, half a drain;
Lemon juice, fix drams;
Simple cinnamon water, an ounce and a half;
Spirituous pepper-mint water, half an ounce;

Syrup of orange peel, one dram.

Let the falt of wormwood and lemon juice be first mixed together,
and then add to them the other
ingredients.

Take of 3.
Diuretic falt, two scruples;
Oxymel of squills, one dram by
measure;

Water, an ounce and a half. Mix them together. Take of
Tincture of cantharides, fifteen
drops;
Salt of wormwood, half a dram;
Lemon juice, fix drams;
Simple penny-royal water, an
ounce and a half;
Simple fyrup, two drams.
Mix them together.

THE two first of these elegant and efficacious compositions are commended by Dr. Mead, for promoting urine in hydropic cafes. He directs them to be taken every night, or oftener, according to the urgency of the symptoms. The fquill, one of the most powerful diuretics is, by the additions here joined to it, rendered not only more grateful to the palate and ftomach, but likewise enabled more effectually to answer the purposes intended by it. The other two are taken from our hospitals; in which the former, composed on the fame plan with the two preceding, is justly distinguished by the title of mitior or milder; and the latter, containing, besides the faline matter, a moderate dose of cantharides, by that of fortior or stronger.

HAUSTUS ANODYNO-DIURE-TICUS.

An anodyne-diuretic draught.

Take of

Ley of tartar, half a dram;
Thebaic tincture, forty drops;
Pepper-mint water, one ounce;
Simple cinnamon water, half an ounce;

Spirituous cinnamon water, two drams;

Syrup of marshmallows, one dram.

Mix them together.

THOUGH practitioners have rarely

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rarely ventured to exhibit opium in dropfies; yet, in those which are accompanied with great pain, this anodyne drug, by easing the pain, and removing the stricture of the passages, which painful sensations always occasion, proves a medicine of great service, and notably promotes the urinary discharge. Dr. Mead has given a remarkable instance of the good effects of the mixture above prescribed, in a person labouring under an ascites and tympany at the same time, where the pain was intolerable, the thirst

intense, and the urine in very small quantity. The stronger purgatives increased the distemper; soap, alkaline salts, nitre, and other diuretics, were tried in vain: this draught (when the patient seemed to be beyond any assistance from medicine) procured unexpected relief, not only a gentle sleep, and truce from the pain, but likewise a copious discharge of urine. By repeating the medicine, for a little time, every eight hours, and afterwards using corroborants, the cure was persectly completed.



### CHAPTER

Lotions, Gargarisms, Injections, &c.

AQUA ALUMINOSA BATEANA.

Bates's alum water.

Lond.

AKE of Alum,

White vitriol, each half an

Water, two pints.

Boil the falts in the water till they are diffolved, let the folution fettle, and afterwards filter it through paper.

BATES directs the falts to be first powdered and melted over the fire; but this is needless trouble, since . Take of the melting only evaporates the aqueous parts, which are restored again on the addition of the water. This liquor is used for cleansing and healing ulcers and wounds; and for removing cutaneous eruptions, the part being bathed with it hot, three or four times a day. It is fometimes likewise employed as a collyrium; and as an injection, in the gonorrhea and fluor albus, when not accompanied with virulence.

> AQUA ALUMINOSA. Alum water. Edinb.

Take of

Corrofive mercury fublimate, Alum, each two drams; Water, two pints.

Let the sublimate and alum be ground into powder, and boiled with the water, in a glass vessel, to the consumption of half the

water; then fuffer the liquor to fettle, and pour it off clear from the fediment.

THIS is taken from Fallopius, with the exchange of rose and plantane waters for common water, which is equally fit for the purpose. The composition is designed chiefly for cutaneous puftules and ulcerations.

AQUA SAPPHIRINA.

Sapphire-coloured water.

Lond.

Lime-water, newly made, one pint ;

Sal ammoniac, one dram.

Let them stand together, in a copper veffel, or along with fome plates of copper, until the liquor have acquired a fapphire colour.

Take of

Lime-water, newly made, one

Sal ammoniac, two drams.

Diffolve the falt in the lime-water, and let the folution stand in a brass vessel, until it have acquired a blue colour.

This water is much in use, as a detergent of foul and obstinate ulcers, and for taking away specks or films in the eyes. The copper contributes more to its colour, than to its medicinal efficacy: for the quantity of the metal dissolved is extremely minute.

AQUA

#### AQUA VITRIOLICA CÆRULEA. Blue vitriolic water.

Lond.

Take of

Blue vitriol, three ounces;

Strong spirit (or oil) of vitriol, each two ounces;

Water, a pint and a half.

Boil the falts in the water, until they are dissolved, then add the acid fpirit, and filter the mixture through paper.

#### AQUA STYPTICA. Styptic water. Edinb.

Take of Blue vitriol, Alum, each three ounces; Water, two pounds; Vitriolic acid, one ounce and a

Boil the falts in the water till they are diffolved, then filter the liquor, and add the acid.

THESE compositions are formed upon the ftyptic, recommended by Sydenham, for stopping bleeding at the nose, and other external hæmorrhages: for this purpose, cloths or dossils are to be dipt in the liquor, and applied to the part.

### AQUA VITRIOLICA CAM-PHORATA.

Camphorated vitriolic water. Lond.

Take of White vitriol, half an ounce; Camphor, two drams; Boiling water, two pints.

Mix them, that the vitriol may be dissolved; and after the feces have subsided, filter the liquor through paper.

This is an unfrugal method of managing camphor, the greatest part of which feparates with the feces of the vitriol, very little of it remaining suspended in the water. The Edinburgh college, in a preceding edition of their pharmacopœia, had a preparation under the title of AQUA OPHTHALMICA, differing little otherwise from this than in the quantity of water being greater, and in an addition of tutty and bole, ingredients which could be of no use, as not being soluble in water, and fubfiding from it in standing. They have therefore reduced this preparation to the following more simple form.

### AQUA VITRIOLICA.

Vitriolic water. Edinb.

Take of White vitriol, fixteen grains; Water, eight ounces;

Weak spirit of vitriol, fixteen drops.

Dissolve the vitriol in the water: afterwards add the acid, and filter.

WHERE the eyes are watery or inflamed, these solutions of white vitriol are very useful applications: the flighter inflammations will frequently yield to this medicine without any other assistance: in the more violent ones, venæsection and cathartics are to be premifed to its

### AQUA PHAGEDÆNICA.

Phagedenic water. Edinb.

Take of

Lime water, one pint; Corrolive mercury sublimate, half a dram.

Let a folution be made.

THIS

This is defigned for washing and cleanfing old foul ulcers, and preventing the growth of fungous flesh. It is for most purposes rather too acrid to be used without dilution.

GARGARISMA ASTRINGENS.

Astringent gargarism.

Take of
Oak bark, one ounce;
Alum, one dram;
Honey of roses, one ounce;
Water, a pint and a half.

Boil the water with the oak bark, till the liquor, when strained, will amount only to one pint; to which add the alum and the honey.

GARGARISMA COMMUNE.

Common gargarifm.

Take of
Tincture of roses, one pint;
Honey of roses, two ounces.
Mix them together.

Or,

Take of
Water, fix ounces;
Nitre, one dram;
Honey of roses, one ounce.

Mix them together. Where acids are requifite, forty drops of the weak spirit of vitriol are added to this composition.

GARGARISMA DETERGENS.

Detergent gargarism.

Take of
Emollient decoction, one pint;
Tincture of myrrh, one ounce;
Honey, an ounce and a half.
Mix them together.

GARGARISMA EMOLLIENS.

Emollient gargarism.

Take of
Marshmallow root, two ounces;
Figs, four in number;
Water, three pints.

Boil them, till one pint be wasted, and then strain the liquor.

THESE liquors are used for washing the mouth and fauces; the first, where the parts are extremely relaxed; the second and third, where ulcerations require to be deterged, or the excretion of thick viscid saliva promoted; and the fourth, where the mouth is dry, parched, and rigid, to moisten and soften it. In some cases, volatile spirits may be advantageously joined to these kinds of preparations. Dr. Pringle informs us, that, in the inflammatory quinfey, or ftrangulation of the fauces, he has observed little benefit arising from the common gargles; that such as were of an acid nature feemed to do more harm than good, by contracting the emunctories of the faliva and mucus, and thickening these humours; that the decoction of figs in milk and water feemed to have a contrary effect, especially if some spirit of sal ammoniac was added, by which the faliva was made thinner, and the glands brought to fecrete more freely; a circumstance always conducive to the cure.

> ENEMA DE AMYLO. Starch glyffer.

Take of

Gelly of flarch, four ounces; Linfeed oil, half an ounce.

Liquefy the gelly over a gentle fire, and then mix in the oil. Forty drops of liquid laudanum are fometimes added.

ENEMA ANODYNUM, five OPIATUM.

Anodyne, or opiate glyster.

Take of

Infusion of linfeed, fix ounces; Liquid laudanum, forty drops.

Or, Mutton broth, five ounces; Thebaic Chap. 9. Lotions, Gargarisms, Injections, &c. 619

Thebaic extract, three grains.

ENEMA ANTICOLICUM.

Glyster against the colic.

Common decoction, half a pint;
Tinctura facra, one ounce;
Common falt, one dram;
Linfeed oil, two ounces.
Mix them together.

ENEMA ASTRINGENS.

Aftringent glyster.

Take of

Lime-water, ten ounces;
Japonic confection, half an ounce.

Mix them together for a glyster, of which one half is to be injected at a time.

ENEMA ASTRINGENS

BALSAMICUM.

Astringent balsamic glyster.

This is made by adding to the foregoing half an ounce of Locatelli's balfam, diffolved in the yolk of an egg.

ENEMA COMMUNE.

Common glyster.

Take of Common decoction, twelve ounces:

Lenitive electary, one ounce; Common falt, half an ounce; Oil olive, two ounces. Mix them together.

ENEMA DOMESTICUM.

Domestic glyster.

Take of
Cows' milk, half a pint;
Brown fugar,
Oil olive, each one ounce.
Mix them together.

ENEMA EMOLLIENS. Emollient glyfter.

Take of Palm oil, an ounce and a half; Cows' milk, half a pound. Let the oil be beaten up with the yolk of one egg, and then add the milk.

ENEMA FOETIDUM.
Fetid glyster.

Take of
Afafetida, two drams;
Rue,
Savin, each half an ounce;
Oil olive, one ounce;
Oil of amber, half a dram;
Water, one pint and a half.

Boil the water with the rue and favin, till half a pint be wasted. Then strain off the remaining decoction, and mix with it the afasetida and the oils. Half the quantity of the composition here directed, is to be injected at a time.

ENEMA PURGANS.

Purging glyster.

Take of
Common decoction, half a pint;
White foap, one ounce;
Syrup of buckthorn, an ounce
and a half.
Mix them together.

ENEMA TEREBINTHINATUM.

Turpentine glyster.

Take of

Common decoction, ten ounces; Venice turpentine (dissolved in the yolk of an egg) half an ounce;

Linfeed oil, one ounce. Mix them together.

THE uses of these compositions are sufficiently obvious from their titles. The starch, anodyne, emollient, and astringent glysters, are used in dysenteries, and other alvine sluxes, to strengthen the tone of the intestines, defend them from being corroded by the acrimonious humours, to heal their exulcerations.

tions, and ease the pains which accompany these disorders. The turpentine glyster is injected in nephritic cases; the fetid in hysteric ones. The others are calculated for unloading the intestines of their contents, where the exhibition of purgatives in other forms is improper, or unfafe. Glysters have been looked upon by fome as mere topical applications, whose operation was confined to the intestine, into which they are received. But experience has shewn, that in many cases their action is extended much further. Thus the turpentine glyster promotes the discharge by the kidneys, and communicates to the urine a violet smell; and the anodyne glyster proves narcotic, as if a moderate dose of opium had been swallowed. Persons have been inebriated by spirituous glysters; and some affirm, that life has been supported for several days, by those of a nutritious kind.

INJECTIO BALSAMICA.

Balfamic injection.

Take of
Balsam of Copaiba, half an
ounce:

Lime-water, fix ounces; Honey of roses, two ounces.

Let the balsam be well beaten up with the yolk of one egg; and then gradually add the limewater and honey.

INJECTIO MERCURIALIS.

Mercurial injection.

Take of

Quickfilver,

Balfam of Copaiba, each half an ounce;

Rose-water, half a pint.
Rub the quicksilver with the bal-

fam, till they be perfectly incorporated; then mix with them the yolk of an egg, and afterwards add the rose-water.

This and the foregoing preparation are defigned to be injected into the urethra in virulent gonor-rheas, for cleaning and deterging the pares.



### CHAPTER X.

### Plasters.

ly of oily and unctuous substances, united with powders, into such a consistence, that the compound may remain firm in the cold, without sticking to the singers; that it may be soft and pliable in a small heat; and that by the armth of the human body it be so tenacious, as readily to adhere both to the part on which it is applied, and to the substance on which it is spread.

There is however a difference in the confistence of plasters, according to the purposes to which they are to be applied: thus, fuch as are intended for the breast and stomach, should be very soft and yielding; whilst those designed for the limbs are made firmer and more adhefive. An ounce of expressed oil, an ounce of yellow wax, and half an ounce of any proper powder, will make a plaster of the first consistence; for a hard one, an ounce more of wax, and half an ounce more of powder, may be added. Plasters may likewife be made of refins, gummy refins, &c. without wax, especially in extemporaneous prescription: for officinals, these compositions are less proper, as they soon grow too foft in keeping, and fall flat in a warm air.

It has been supposed, that plasters might be impregnated with the specific virtues of different vegetables, by boiling the recent vegetable with the oil employed for the composition of the plaster. The coction was continued till the herb was almost crisp, with care to prevent the matter from contracting a black colour: after which

the liquid was strained off, and set on the fire again till all the aqueous moisture had exhaled. We have already observed, that this treatment does not communicate to the oils any very valuable qualities, even relative to their use in a sluid state: much less can plasters, made with such oils, receive any considerable efficacy from the herbs.

Calces of lead, boiled with oils, unite with them into a plaster of an excellent consistence, and which makes a proper basis for several

other plasters.

In the boiling of these compositions, a quantity of water must be added, to prevent the plaster from burning and growing black. Such water, as it may be necessary to add during the boiling, must be previously made hot: for cold liquor would not only prolong the process, but likewise occasion the matter to explode, and be thrown about with violence, to the great danger of the operator. This accident will equally happen upon the addition of hot water, if the plaster be extremely hot.

#### EMPLASTRUM ANODY-NUM.

Anodyne plaster. Edinb.

Take of

White refin, eight ounces; Tacamahaca, in powder, Galbanum, each four ounces; Cummin feeds, three ounces; Black foap, four ounces.

Melt the refin and the gums together; then add the powdered feeds feeds and the foap, and make the whole into a plaster.

This plaster sometimes gives ease in slight rheumatic pains, which it is supposed to effect by preventing the assure of humours to the part, and putting in motion and repelling such as already stagnate there.

#### EMPLASTRUM ANTIHYS-TERICUM.

Antibysteric plaster. Edinb.

Take of

Common plaster,

Afafetida, strained, of each two parts;

Yellow wax,

Galbanum, strained, of each one part.

This plaster is applied to the umbilical region, or over the whole abdomen, in hysteric cases; and fometimes with good effect.

#### EMPLASTRUM ATTRA-HENS.

Drawing plaster.
Lond.

Take of

Yellow refin,

Yellow wax, each three pounds; Tried mutton fuet, one pound.

Melt them together, and, whilst the mass remains sluid, pass it through a strainer.

This is a very well contrived plaster for the purpose expressed in its title. It is calculated to supply the place of melilot plaster: whose great irritation, when employed for the dressing of blisters, has been continually complained of. This was owing to the large quantity of resin contained in it, which is here for that reason retrenched. It should seem that, when designed only for dressing blisters, the resin ought to be entirely omitted, unless where a

continuance of the pain and irritation, excited by the vesicatory, is required. Indeed plasters of any kind are not very proper for this purpose: their consistence makes them sit uneasy, and their adhesiveness renders taking them off painful. Cerates, which are softer and less adhesive, appear much more eligible. The ceratum album will serve for general use: and, for some particular purposes, the ceratum citrinum may be applied.

# EMPEASTRUM CEREUM. Wax plaster. Edinb.

Take of

Yellow wax, three parts;

Mutton fuet,

White refin, of each two parts.

This plaster is similar to the foregoing, but the further reduction of the resin renders it for some purposes more eligible.

### EMPLASTRUM CEPHA-LICUM.

Cephalic plaster.

Take of

Burgundy pitch, two pounds; Soft labdanum, one pound;

Yellow refin,

Yellow wax, each four ounces; The expressed oil, called oil of

mace, one ounce.

Melt the pitch, refin, and wax together; then add, first the labdanum, and afterwards the oil of mace.

Edinb.

Take of

Tacamahaca in powder,

Yellow wax,

Venice turpentine, each four

Oil of lavender, two drams; Oil of amber, one dram.

Melt the tacamahaca with the wax, and then add the turpentine, that a plaster may be formed. When this compound is taken from the fire, and grown almost cold, mix in the oils.

THESE plasters are applied, in weakness or pains of the head, to the temples, forehead, &c. and fometimes likewife to the feet. Schulze relates, that an inveterate rheumatism in the temples, which at times extended to the teeth, and occasioned intolerable pain, was completely cured in two days by a plaster of this kind (with the addition of a little opium) applied to the part, after many other remedies had been tried in vain. He adds, that a large quantity of liquid matter exuded under the plaster, in drops, which were fo acrid as to corrode the cuticle.

EMPLASTRUM de CICUTA, cum AMMONIACO. Plaster of hemlock, with ammoniacum. Edinb.

Take of Juice of hemlock leaves, four ounces:

Gumammoniacum, eight ounces; Vinegar of squills, as much as is sufficient to dissolve the gum.

Add the juice to this folution, and having strained the mixture, boil it to the confishence of a plaster.

This plaster was formerly supposed to be a powerful cooler and discutient, and to be particularly serviceable against swellings of the spleen and distentions of the hypochondres. For some time past, it has been among us entirely neglected; and hence the London college, at a late revisal of their pharmacopæia, omitted it. But the high resolvent power which Dr. Stork has discovered in hemlock, and which he found it to exert in

this as well as in other forms, entitle it to further trials. The plafter appears very well contrived, and the additional ingredients well chosen for assisting the essicacy of the hemlock.

EMPLASTRUM COMMUNE.

Common plaster, usually called

Diachylon.

Lond.

Take of

Oil olive, one gallon;

Litharge, ground into a most fubtile powder, sive pounds.

Boil them over a gentle fire with about two pints of water, keeping them continually stirring, till the oil and litharge unite, and acquire the consistence of a plaster. If all the water should be consumed before this happens, add some more water previously made hot.

Edinb.

Take of
Oil olive, fix pints;
Litharge, three pounds.
Boil them into a plaster.

THE heat in these processes should be gentle, and the matter kept continually stirring, otherwise it swells up, and is apt to run over the vessel. If the composition prove discoloured, the addition of a little white lead and oil will improve the colour.

These plasters are the common application in excoriations of the skin, slight slesh wounds, and the like. They keep the part soft, and somewhat warm, and defend it from the air, which is all that can be expected in these cases from any plaster. Some of our industrious medicine-makers have thought these purposes might be answered by a cheaper composition, and accordingly have added a large quantity of common whiting and hogs lard.

This,

This, however, is by no means allowable, not only as it does not flick fo well, but likewise as the lard is apt to grow rancid and acrimonious. The counterfeit is diftinguishable by the eye.

# EMPLASTRUM COMMUNE ADHÆSIVUM. Common flicking plaster. Lond.

Take of

Common plaster, three pounds; Yellow refin, half a pound.

Melt the common plaster over a very gentle fire; then add the refin, first reduced into powder, that it may melt the sooner; and mix them all together.

This platter may otherwise be made, by taking, instead of the common platter, its ingredients oil and litharge; and adding the resin a little before they have come to the due consistence; then continue the boiling, till the plaster is finished.

when made by this last method.

#### EMPLASTRUM ADHÆSI-VUM.

Sticking plaster.

Take of Common plaster, five parts;

White refin, one part.

THESE plasters are used chiefly as adhesives, for keeping on other dressings, &c.

## EMPLASTRUM COMMUNE cum GUMMI.

Common plaster with gums. Edinb.

Take of

Common plaster, three pounds; Galbanum strained, eight ounces; Common turpentine, Frankincense, each three ounces. Melt the galbanum with the turpentine, over a gentle fire, and iprinkle in the frankincense, reduced to powder: then gradually mix with these the common plaster, previously liquested by a very gentle heat.

Or, instead of the common plaster already made, you may take the oil and litharge boiled together.

As soon as these unite, before they have acquired the consistence of a plaster, the other ingredients are to be added.

# EMPLASTRUM GUMMOSUM. Gum plaster. Edinb.

Take of
Common plaster, eight parts;
Gum ammoniac, strained,
Galbanum, strained,
Yellow wax, of each one part.

BOTH these plasters are used as digestives and suppuratives; particularly in abscesses, after a part of the matter has been maturated and discharged, for suppurating or discussing the remaining hard part.

EMPLASTRUM CROCEUM,
vulgo OXYCROCEUM.
Saffron plaster, commonly called
Oxycroceum.
Edinb.

Take of
Burgundy pitch,
Yellow wax, each one pound;
Galbanum,
Tar, each half a pound;
Saffron, rubbed into powder,
two ounces;

Let the Burgundy pitch, wax, and galbanum, be melted together over a gentle fire; then add the tar and faffron, and make the whole into a plaster.

THIS infrugal and injudicious composition

composition is said to strengthen the parts to which it is applied, especially the tendinous ones; to warm in a great degree; and to resolve and discuss cold tumours. Tar is now introduced as an ingedient, in the room of Venice turpentine, myrrh, and olibanum.

## EMPLASTRUM e CYMINO. Cummin plaster. Lond.

Take of

Burgundy pitch, three pounds; Yellow wax, Cummin feeds,

Caraway feeds,

Bay berries, each three ounces.

Melt the pitch with the wax; then fprinkle in the other ingredients, first reduced into a powder, and mix the whole well together.

This plaster stands recommended as a moderately warm discutient; and is directed by some to be applied to the hypogastric region, for strengthening the viscera, and expelling statulencies.

### EMPLASTRUM DEFENSI-VUM.

Defensive plaster. Edinb.

Take of

Common plaster, twenty - four parts;

White refin, fix parts;

Yellow wax,

Olive oil, of each three parts;

Rub the colcothar with the oil, and afterward add it to the rest when melted.

This plaster is laid round the lips of wounds and ulcers, over the other dressings, for defending them from inflammation, and a fluxion of humours; which however, as Mr-Sharp very justly observes, plasters, on account of their consistence, tend rather to bring on than to prevent.

### EMPLASTRUM e MELILOTO. Melilot plaster.

Take of

Melilot leaves, fresh, fix pounds; Beef suet, three pounds; White resin, eight pounds; Yellow wax, four pounds.

Boil the herb in the melted fuet till it is almost crisp; then strongly press out the suet, and, adding the resin and wax, boil the whole a little, so as to make a plaster.

THIS plaster has been frequently made use of for dreffing blifters: fee EMPLASTRUM ATTRAHENS. The London college have diminished the quantity of refin, to render the composition less irritating; and likewise omitted the herb, as being of no fignificancy towards the use of the plaster, and of a very disagreeable scent; a circumstance of primary confequence to be avoided in disorders, where freedom from disturbance, and every means that can contribute to quiet rest, ought by all possible endeavours to be procured: not to mention the mischievous adulterations sometimes practifed in this plaster with irritating materials, for procuring the green colour, which is made its marketable characteristic, more compendioully than by the decoction of the herb. The most certain method of discovering abuses of this kind, is to put a little of the plaster into fome spirit of sal ammoniac; if it tinge the spirit blue, we may be certain it is adulterated. The London college has substituted to this plaster the emplastrum attrabens, and the Edinburgh the emplastrum cereum.

EMPLASTRUM ex AMMONI-ACO cum MERCURIO. Plaster of ammoniacum with

Lond.

Take of

Gum ammoniacum, strained, one pound;

Quicksilver, three ounces; Simple balsam of sulphur, one dram.

Grind the quickfilver with the balfam of fulphur, till it cease to appear; then, having melted the ammoniacum, add it gradually, a little before it cools, to this mixture; and let the whole be perfectly mingled together.

This is a very well contrived mercurial plaster. If in some cases it should not prove adhesive enough, the addition of a small quantity of turpentine will readily make it so.

## EMPLASTRUM COMMUNE cum MERCURIO.

Common plaster with mercury.

Lond.

Take of

Common plaster, one pound; Quicksilver, three ounces; Simple balsam of sulphur, one dram.

Make them into a plaster, after the fame manner as the foregoing.

EMPLASTRUM e HYDRAR-GYRO, five CŒRULEUM. Mercurial plaster. Edinb.

Take of Olive oil,

White refin, of each one part; Quickfilver, three parts; Common plaster, fix parts.

Melt the oil and refin together, and when cold, rub the quickfilver with them till perfectly incorporated; then add the common plaster melted, by degrees, and accurately mix the whole together.

THESE mercurial plasters are looked on as powerful resolvents and discutients, acting with much greater certainty in these intentions, than any composition of vegetable substances alone; the mercury exerting itself in a considerable degree, and being sometimes introduced into the habit in such quantity as to affect the mouth. Pains in the joints and limbs from a venereal cause, nodes, tophs, and beginning indurations of the glands, are said sometimes to yield to them.

# EMPLASTRUM e MINIO. Red lead plaster. Lond.

Take of

Oil olive, four pints;
Red lead, reduced to a most subtile powder, two pounds and a
half

Make them into a plaster, after the manner directed for preparing the common plaster. But more water is here required, and greater care is necessary to prevent the composition from burning and growing black.

This is used for the same purposes as the common or diachylon plaster, from which it differs little otherwise than in colour. It has an inconvenience of not sticking so well; and therefore the Edinburgh college have now omitted this composition.

### EMPLASTRUM DE MINIO CUM SAPONE.

Red lead plaster with soap.

This is made by adding to the foregoing plaster, taken from the fire as soon as the moisture is evaporated,

porated, and whilst hot, half a pound of Spanish soap cut into thin slices: stir the whole strongly together, until the soap be liquefied, and a plaster formed according to art.

This is much esteemed by some, for discussing gouty tumours, and the juices stagnating after sprains. Whatever virtues it may have, distinct from the general ones of the applications of this class, they depend entirely upon the soap; and soap in the form of plasters does not appear to exert much of the efficacy which it does in forms of a softer consistence.

#### EMPLASTRUM e MUCILAGI-NIBUS.

Plaster of mucilages. Lond.

Take of

Yellow wax, forty ounces; Oil of mucilages, half a pint; Gum ammoniacum, strained, half a pound;

Common turpentine, two ounces.

Melt the ammoniacum with the turpentine; and having, in another vessel, liquesied the wax with the oil, add this latter mixture to the other.

Some have been accustomed to use, instead of the oil of mucilages, common oil olive, slavoured with senugreek seeds. And possibly this substitution may be admitted as a venial one; for the oil of mucilages, genuinely made, contains scarce any thing of any of the ingredients, except that part of the senugreek seeds wherein their slavour resides, the mucilaginous materials serving only to provide it with a name.

EMPLASTRUM ROBORANS.

Strengthening plaster.

Lond.

Take of

Common plaster, two pounds; Frankincense, half a pound; Dragons blood, three ounces.

Melt the common plaster, and add to it the other ingredients reduced into a powder.

The dragons blood should be reduced to a very fine powder, otherwise the mixture will not be of an uniform colour.

This is a reformation of the laborious and injudicious composition described in our preceding pharmacopæias, under the title of EM-PLASTRUM AD HERNIAM; and though far the most elegant and fimple, is as effectual for that purpose as any of the medicines of this kind. If constantly worn, with a proper bandage, it will, in children, frequently do fervice; though perhaps not fo much from any strengthening quality of the ingredients, as from its being a soft, close, and adhesive covering. It has been supposed, that plasters composed of styptic medicines constringe and strengthen the part to which they are applied; but on no very just foundation; for plasters in general relax rather than aftringe; the unctuous ingredients, necessary in their composition, counteracting and destroying the effect of the

# EMPLASTRUM e SAPONE. Soap plaster. Lond.

Take of

Common plaster, three pounds; Hard soap, half a pound.

Having melted the common plaster, mix with it the soap, and boil them to the consistence of a plaster. Take care not to let it grow too cold, before you form it into rolls, for then it will prove too brittle.

S 8 2

THIS

THIS plaster differs only in colour from the red lead plaster, with soap, before mentioned.

#### EMPLASTRUM SAPONA-CEUM.

Saponaceous plaster.

Edinb.

Take of

Common plaster, four parts;
Gum plaster, two parts;
Spanish soap, shaved thin, one part.

Melt the plassers together, and add the soap; afterwards boil it a little, that it may make an emplaster.

#### EMPLASTRUM STOMACHI-CUM.

Stomach plaster.

Take of

Soft labdanum, three ounces; Frankincense, one ounce; Cinnamon,

The expressed oil, called oil of mace, each half an ounce;

Effential oil of mint, one dram. Having melted the frankincense, add to it first the labdanum softened by heat, and then the oil of mace. Afterwards mix these with the cinnamon and oil of mint; and beat them together in a warm mortar, into a mass, which is to be kept in a close vessel.

This is a very elegant stomach plaster. It is contrived so as to be easily made occasionally (for these kinds of compositions, on account of their volatile ingredients, are not sit for keeping), and to be but moderately adhesive, so as not to offend the skin; and that it may without difficulty be frequently taken off and renewed, which these sorts of

applications, in order to their producing any considerable effect, require to be.

Edinb.

Take of

Yellow wax, eight ounces; Tacamahaca in powder, four oun-

Cloves, powdered, two ounces; Palm oil, fix ounces;

Expressed oil of mace, an ounce and a half;

Essential oil of mint, two drams.

Melt the wax and tacamahaca with
the palm oil; then removing the
mixture from the fire, add the
other ingredients, and make them
into a plaster according to art.

These plasters are applied to the pit of the stomach, in weakness of that viscus, in vomitings, the disorder improperly called the heart-burn, &c. and sometimes with good success. The pit of the stomach however, as Hossman has observed, is not always the most proper place for applications of this kind. If applied to the five lower ribs of the left side, towards the back, the stomach will in general receive more benefit from them; for it appears from anatomical inspection, that greatest part of it is situated there.

#### EMPLASTRUM VESICATO-RIUM.

Blistering plaster, or epispastic plaster.

Lond.

Take of

Drawing plaster, two pounds; Cantharides, one pound; Vinegar, half a pint.

Melt the drawing plaster, and a little before it grows stiff, mix in the cantharides, reduced into a most subtile powder; then add the vinegar, and work them well together.

Edinb.

Edinb.

Take of Hogs fat, Yellow wax, White refin,

> Cantharides, in fine powder, of each an equal quantity.

After the rest are melted, remove them from the fire, and add the cantharides.

Compound epispastic plaster.

Take of Burgundy pitch, twelve ounces; Yellow wax, four ounces; Venice turpentine, eighteen ounces; Mustard feed, Black pepper, each one ounce; Verdegris, two ounces;

Cantharides, twelve ounces.

Melt the wax and pitch together; then add the turpentine; and when this is liquefied, sprinkle in the other ingredients, first powdered and mixed together; keeping them continually ftirring, fo as to make a plaster thereof according to art.

The bliftering plafters are to be kept in oiled bladders.

THIS last composition has long been used in some particular shops, as the most infallible blister: though either of the other two answers the purpole very successfully. Whether the vinegar in the first be of any advantage, is greatly to be doubted. In fome cases, indeed, it has been observed, that the plaster without this addition seemed at first to fail of its effect; and that on taking it off, and rubbing the part with vinegar, the same plaster, applied again, has bliftered freely : but this does not appear to be fo much owing to any peculiar quality of the vinegar, as to its foftening the ikin when applied in this manner, and fitting it

for the action of the cantharides. When mixed with the other ingredients of the plaster, it has not this effect: it likewise exhales in keeping; infomuch that the composition, though fufficiently foft at first, becomes in no long time too dry. Some have been accustomed to spare the trouble of making any plaster on purpose for bliftering, by occasionally spreading some of the cantharides in powder upon a common plaster.

> EMPLASTRUM ANODYNO-DISCUTIENS.

An anodyne and discutient plaster.

Take of

Cummin plaster, two ounces; Camphor, three drams;

Thebaic extract, one dram and a half.

Grind the camphor, with some drops of oil olive, into a very lubtile powder, and then mix it with the other ingredients, according to art, into a plaster.

EMPLASTRUM CALIDUM. Warm plaster.

Take of

Gum plaster, one ounce; Bliftering plafter, two drams. Melt them together over a gentle

EMPLASTRUM SUPPURANS. Suppurating plaster.

Take of

Gum plaster, an ounce and a half;

Burgundy pitch, half an ounce. Melt them together.

THE uses of the three foregoing compositions, which are taken from our hospitals, are sufficiently obvious from their titles. The warm plaster is a very stimulating application, of great use in fixt pains; as in the rheumatism, sciatica, beginning chilblains, &c. CHAP-

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### CHAPTER XI.

### Ointments, Liniments, and Cerates.

OINTMENTS and liniments differ from plasters little otherwise than in consistence. An officinal plaster, diluted with so much oil as will reduce it to the thickness of stiff honey, forms an ointment: by further increasing the oil, it becomes a liniment.

#### UNGUENTUM ÆGYPTIA-CUM.

Edinb.

Take of
Verdegris, finely powdered, five
ounces;
Honey, fourteen onnces;

Vinegar, seven ounces.

Boil them over a gentle fire, to the confistence of an ointment.

#### MEL ÆGYPTIACUM.

Lond.

Take of

Verdegris, reduced into a very fubtile powder, five ounces; Honey, fourteen ounces by weight;

Vinegar, feven ounces by meafure.

Boil these ingredients together, over a gentle sire, till they have acquired a due consistence, and a reddish colour. On keeping this mixture for some time, the thicker part falls to the bottom; the thinner, which sloats on the top, is called mel Ægyptiacum.

THESE preparations are defigned only for external use, for cleansing and deterging ulcers, and keeping down fungous sless; they are serviceable also in venereal ulcerations of the mouth and tonfils. If, for particular purposes, they should be wanted more acrid, they may be occasionally rendered so by shaking the vessel, so as to mix up the thick matter at the bottom (which contains greatest part of the verdegris) with the upper thin one.

#### UNGUENTUM ALBUM.

White ointment.

Lond.

Take of
Oil olive, one pint;
White wax, four ounces;
Spermaceti, three ounces.

Liquefy them by a gentle fire, and keep them constantly and briskly stirring, till grown thoroughly cold.

Edinb.

Take of

White, or simple ointment, five parts.

Ceruffe, one part. M. S. A.

THESE are useful, cooling, emollient ointments, of good service in excoriations, and fimilar frettings of the fkin. The ceruffe is omitted in the first prescription, on a sufpicion that it might produce fome ill effect, when applied, as thefe unguents frequently are, to the tender bodies of children. Though there does not feem to be much danger in this external use of ceruste, the addition of it is the less necessary here, as there is another ointment containing a more active preparation of the same metal, the unquentum saturninum; which may be occasionally mixed with this,

Chap. 11. Ointments, Liniments, and Cerates.

or employed by itself, in cases where saturnine applications are wanted.

#### UNGUENTUM ALBUM CAM-PHORATUM.

Camphorated white ointment.

Lond.

This is made by adding to the white ointment a dram and a half of camphor, previously ground with some drops of oil of almonds.

#### Edinb.

Take of

The white ointment, one pound; Camphor, rubbed with a little oil, one dram and a half. Mix them together.

THESE ointments are supposed to be more discutient than the fore-going, and serviceable against cutaneous heats, itching, and serpiginous eruptions. They should be kept in close vessels, otherwise the camphor will soon exhale. Their smelling strong of this ingredient is the best mark of their goodness.

# UNGUENTUM ex ALTHÆA. Ointment of marshmallows.

Take of

Oil of mucilages, three pints; Yellow wax, one pound; Yellow refin, half a pound;

Common turpentine, two ounces.

Melt the resin and wax with the oil; then, having taken them from the fire, add the turpentine, and, while the mixture remains hot, strain it.

This ointment receives no virtue from the ingredient from which it takes its name, and therefore the Edinburgh college has omitted it. Unguentum antipsoricum.

Ointment against the itch.

Take of

Elecampane root, fresh, Sharp-pointed dock root, fresh, each three ounces;

Water-cresses, fresh and bruised, ten ounces;

Hogs lard, four pounds; Yellow wax,

Oil of bays, each four ounces;

Vinegar, one pint; Water, three pints.

Bruise the roots, and boil them in the water and vinegar, till half the liquor is consumed. Strain and strongly press out the remainder; add to it the watercresses and the lard, and boil them till the moisture is exhaled; then press out the ointment, and liquefy in it the wax and the oil of bays.

Sulphur is added to this oint-

ment occasionally.

UNGUENTUM ANTIPSORICUM cum MERCURIO.

Ointment against the itch with mer-

This is made by adding to the foregoing ointment four ounces of quickfilver, killed with a sufficient quantity of Venice turpentine, and mixing them together, according to art, into an unguent.

THESE ointments are very inelegant ones, and rarely made use of. The first is likewise precarious in its effects; and though those with sulphur and mercury are of undoubted efficacy, yet they are by no means superior to the more simple ointments of those drugs described hereafter. The Edinburgh college has therefore, at a late reformation, very properly omitted both the antipsoric ointments.

S s 4 UNGUEN-

UNGUENTUM BASILICUM FLAVUM.

Yellow basilicum ointment.

Lond.

Take of Oil olive, one pint; Yellow wax,

Yellow refin,

Burgundy pitch, each one pound; Common turpentine, three oun-

Melt the wax, refin, and pitch, along with the oil, over a gentle fire; then take them from the fire, add the turpentine, and whilst the mixture remains hot, strain it.

Edinb.

Take of

Hogs fat, eight parts;
White refin, five parts;
Yellow wax, two parts.
Dissolve them over a gentle fire.

THESE are commonly employed in dressings, for digesting, cleansing, and incarnating wounds and ulcers.

#### UNGUENTUM BASILICUM NIGRUM vel TETRAPHARMACUM.

Black basilicum ointment, or ointment of four ingredients.

Lond.

Take of
Oil olive, one pint;
Yellow wax,
Yellow refin,
Tar, each nine ounces.

Mix them all together, and, whilft the mixture is hot, strain it off.

This continent was formerly of confiderable effect for healing and incarnating wounds, &c. but is faid to have an inconvenience of being apt to render them foul, and produce fungous flesh. At present in is rarely made use of; the yellow

basilicum, and the liniment of Arcæus, being in general preferred.

## UNGUENTUM BASILICUM VIRIDE.

Green basilicum ointment.

Lond.

Take of

Yellow basilicum, eight ounces; Oil olive, three ounces by meafure;

Verdegris prepared, one ounce. Mix and make them into an ointment.

This ointment is an efficacious detergent. Our hospitals have been accustomed to prepare an ointment greatly resembling this, under the title of Unguentum viride detergens.

# UNGUENTUM CITRINUM. Yellow ointment. Edinb.

Take of
Quickfilver, one ounce;
Spirit of nitre, two ounces;
Hogs lard, tried, one pound.

Diffolve the quickfilver in the spirit of nitre, by digestion in a fand-heat; and, whilst the solution is very hot, mix with it the lard, previously melted by itself, and just beginning to grow stiff. Stir them briskly together, in a marble mortar, so as to form the whole into an ointment.

#### UNGUENTUM CÆRULEUM FORTIUS.

The stronger blue contment.

Lond.

Take of
Hogs lard, tried, two pounds;
Quickfilver, one pound;
Simple balfam of fulphur, half
an ounce.

Grind the quickfilver with the balfam of fulphur till they be perfectly incorporated; then gradually dually add the lard heated, and mix them carefully together.

## UNGUENTUM CÆRULEUM MITIUS.

The milder blue ointment.

Lond.

Take of

Hogs lard, tried, four pounds; Quickfilver, one pound;

Common turpentine, one ounce. Grind the quickfilver with the turpentine, in a mortar, till it cease to appear; then gradually add the lard warmed, and carefully mix them together.

This last unguent turns out of a much better blue colour than the foregoing, which is of a very dingy hue. Mercurial unguents have in many cases the same effects with the preparations of this mineral taken internally; and are at prefent frequently employed, not only against cutaneous disorders, as alterants; but likewise in venereal and other obstinate cases, for raising a falivation. The ptyalism excited by unction is faid to be attended with the fewest inconveniencies, and to perform the most complete cure. In fome conflitutions, mercurials taken inwardly, ron off by the intestines, without affecting the mouth; and in others, they effect the falival glands fo quickly, as to occasion a copious ptyalism, without extending their action to the remoter parts, and consequently without removing the cause of the difease.

UNGUENTUM DESICCATIVUM RUBRUM.

Red desiccative ointment.

Take of
Oil olive, a pint and a half;
White wax, half a pound;
Calamine prepared, fix ounces;
Litharge prepared,
Bole armenic, each four ounces;

Camphor, three drams.

Melt the wax in the oil, and, having taken them from the fire,
gradually fprinkle in the other
ingredients, stirring them briskly
together into an ointment. The
camphor must be previously
ground with a little oil of almonds.

This is faid to be an excellent drier and healer; but is at present in no great esteem, and rarely kept in the shops. It was retained in a late Edinburgh pharmacopæia, but is now dropt.

Unguentum diapompholygos.

Ointment of pompholyx.

Take of

Oil olive, twenty ounces;
Juice of the berries of common,
or deadly nightshade, eight
ounces;

White wax, five ounces; Ceruffe, four ounces; Burnt lead,

Pure frankincense, one ounce.

Boil the oil and the juice over a gentle fire, till the juice be exhaled; and, towards the end of the coction, melt the wax in the oil; then take the mixture from the fire, and add to it, whilft hot, the other ingredients reduced to powder. Mix and make them into an ointment.

#### UNGUENTUM e GUMMI ELEMI.

Ointment of gum elemi.
Lond.

Take of

Mutton fuet, fresh and tried, two pounds;

Gum elemi, one pound;

Common turpentine, ten ounces.

Melt the gum with the fuet, and
having taken them from the fire,
immediately mix in the turpentine;

tine; then, whilst the mass remains sluid, strain it off.

UNGUENTUM, vulgo LINI-MENTUM, ARCÆI.

The ointment, commonly called liniment, of Arceus. Edinb.

Take of

Hogs lard, one pound;

Goats fuet, or mutton fuet, two pounds;

Venice turpentine,

Gum elemi, each a pound and a half.

Melt and strain them, so as to make an ointment according to art.

This unguent has long been in use for digesting, cleaning, and incarnating; and for these purposes is preferred by some to all the other compositions of this kind.

#### UNGUENTUM EMOLLIENS.

Emollient ointment.

Edinb.

Take of

Palm oil, four pints;
Fresh-drawn linseed oil, three pints;

Yellow wax, one pound;

Venice turpentine, half a pound.

Melt the wax in the oils, over a gentle fire; then mix in the turpentine, and strain the ointment, which supplies the place of the ointment of marshmallows.

IT is at least equal to that ointment for the purpose expressed in its title, nothing of the mucilage or emollient matter of the marshmallows being there retained. And indeed if mucilages were blended with ointments, they would possibly diminish, rather than increase, their emollient virtue; as they render oils sensibly less unctuous, forming with them a new compound, different from the ingredients, and mifcible with water into a milky liquor, as we have feen in Chap. vii.

#### UNGUENTUM MERCU-RIALE.

Mercurial ointment.

Take of

Hogs lard, two ounces; Quickfilver, one ounce.

Beat them together till the quickfilver disappears. It may likewise be made with two, three, or more times the quantity of quickfilver.

This is the most simple of the mercurial ointments, though poffibly as efficacious as any. It requires indeed a great deal more labour to extinguish the mercury in the lard alone, than when turpentine, or fimilar fubstances, are joined: but, in recompence, the composition with lard is free from an inconvenience with which the others are accompanied, viz. being apt, by frequent rubbing, to fret tender skins. Some chuse to stiffen this ointment with a fourth part of fuet (proportionably diminishing the lard) which gives it a better confistence for use.

The above prescription, and remark, are from a former edition of this dispensatory. The college has now received the addition of suet, in such proportion as to make one fourth the quantity of the whole ointment; the proportion of quicksilver being continued the same. The composition is now as follows.

Edinb.

Take of

Hogs lard, three ounces; Mutton suet, one ounce; Quickfilver, one ounce. Chap. II. Ointments, Liniments, and Cerates.

Beat them together in a mortar, till the mercurial globules disappear. This ointment is made also with twice, and with thrice, the quantity of mercury.

## UNGUENTUM e MERCURIO PRÆCIPITATO.

Ointment of mercury precipitate.

Lond.

Take of

Simple ointment, an ounce and a half;

Precipitated fulphur, two drams; White mercury precipitate, two fcruples.

Mix them well together, and moiften them with ley of tartar, that they may be made into an ointment.

This is a very elegant mercurial ointment, and frequently made use of against cutaneous disorders. The preparations of mercury and sulphur here directed, are chosen, on account of their colour.

### UNGUENTUM NERVINUM.

Nerve ointment.

Take of

Mutton fuet, two pounds;

Oil of chamomile (by decoction) one pound;

Oil of bays, a pound and an half:

Essential oil of origanum, or of rosemary, two ounces.

Melt the fuet, over a gentle fire, in the oil of chamomile, so as to make an ointment; which being removed from the fire, stir into it the oil of bays and essential oil.

This ointment is designed, as its title expresses, for warming and strengthening the nerves.

UNGUENTUM NUTRITUM.

The ointment called nutritum,

Edinb.

Take of Litharge,

Vinegar, each two ounces;

Oil olive, fix ounces.

Rub them in a mortar, adding the oil and vinegar, alternately, by little and little at a time, till the vinegar cease to appear, and the ointment become uniform and white.

This ointment is troublesome to make, and does not keep well, the vinegar exhaling, so as to leave the compound too stiff: for which reason, it is now directed to be made in less quantity than in former editions. It is supposed to be a good cooler and desiccative; and is occasionally used in excoriations, slight serpiginous eruptions, and for anointing the lips of wounds or ulcers that itch much, or tend to inslammation.

UNGUENTUM OPHTHALMICUM.

Eye ointment.

Take of

Ointment of tutty, an ounce and a half:

Saturnine ointment, half an

Camphor, half a dram.

Mix and make them into an ointment according to art.

This ointment may likewise be made with two, three, or more times the quantity of camphor.

This unguent is very well contrived for the purpose expressed in its title. Scarce any of those commonly met with being of equal essicacy in inflammations, and hot acrid defluxions on the eyes. But as a good deal of caution is requisite in the use of saturnine applications, for so tender an organ as the eye; and as compositions of this kind may be easily formed extemporaneously, with such proportions of the ingredients as the prescriber shall think sit; the Edin-

burgh

ceding edition of which the above form is taken) has now omitted it.

### UNGUENTUM e PICE. Ointment of tar.

Take of Mutton fuet, tried, Tar, each equal weights. Melt them together, and strain the mixture whilst hot.

THIS composition, with the addition of half its weight of refin, has long been used in the shops as a cheap substitute for the black bafilicum.

#### UNGUENTUM SAMBUCI-NUM.

Ointment of elder.

Take of

Elder flowers, full blown, four pounds;

Mutton fuet, tried, three pounds;

Oil olive, one pint.

Melt the fuet with the oil, and in this mixture boil the flowers till they be almost crisp. Then strain and press out the ointment.

Edinb.

Take of

The inner bark of the elder tree, The leaves of elder, fresh, each four ounces;

Linfeed oil, two pints; White wax, fix ounces.

Let the bark and leaves be well bruised, and boiled in the oil till the humidity be confumed; then press out the oil through a ftrainer, and melt in it the wax, fo as to make an ointment.

THESE ointments do not feem superior to some others, which are much neater, and parable at less expence. They can scarce be supposed to receive any considerable

burgh pharmacopæia (from a pre- virtue from the ingredients from which they take their name.

#### UNGUENT. SATURNINUM. Saturnine ointment.

Lond.

Take of

Oil olive, half a pint;

White wax, an ounce and a half:

Sugar of lead, two drams.

Let the fugar of lead, reduced into a very subtile powder, be ground with some part of the oil, and the wax melted with the rest of the oil. Mix both together, and keep them flirring till the ointment be cold.

Edinb.

Take of

Sugar of lead, one ounce; White wax, three ounces;

Oil olive, one pint.

Liquefy the oil and wax together, and gradually add the fugar of lead; continually ftirring them, till, growing cold, they unite into an ointment.

BOTH these ointments are useful coolers and deficcatives; much Superior both in elegancy and efficacy to the nutritum or tripharma-

#### UNGUENTUM SIMPLEX. The simple ointment.

Take of

Hogs lard, tried, two pounds; Role water, three ounces by mea-

Beat the lard with the rose water, till they be well mixed. Then melt them over a very gentle fire, and fet them by for some time, that the water may fubfide: pour the lard off from the water, and keep incessantly stirring and beating it about till it grows cold, fo as to reduce it

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into a light incoherent mass. Lastly, add so much essence of lemons as will be sufficient to give a grateful odour.

UNGUENTUM ROSACEUM, vulgo POMATUM.

The rose ointment, commonly called pomatum.

Edinb.

On any quantity of hogs lard, cut into small pieces, and placed in a glazed earthen vessel, pour as much water as will rise above it some inches; and digest them together for ten days, renewing the water every day. Then liquely the lard with a very gentle heat, and pour it into a proper quantity of rose water. Work them well together; and afterwards, pouring off the water, add to the lard some drops of oil of rhodium.

THESE ointments are in common use for softening and smoothing the skin, and healing chops.

# UNGUENTUM e SULPHURE. Ointment of fulphur. Lond.

Take of

The fimple ointment, half a pound;

Flowers of fulphur, unwashed, two ounces;

Essence of lemons, one scruple. Mix them together.

This is designed for cutaneous disorders. It is much neater than the unguentum antipsoricum cum sulphure, though, at least, equally efficacious.

Ointment against the itch.

Take of

Sulphur, one ounce; White hellebore root, in powder, or crude fal ammoniac,

two drams;

Hogs lard, two ounces. Mix, and make them into an oint-

ment.

SULPHUR is a certain remedy for the itch, more fafe and efficacious than mercury. For, as Dr. Pringle observes, unless a mercurial unction were to touch every part of the fkin, there can be no certainty of fuccess; whereas, by a fulphureous one, a cure may be obtained by only partial unction; the animalcula, which occasion this diforder, being, like other infects, killed by the fulphureous steams which exhale by the heat of the body. As to the internal use of mercury, which some have accounted a specific, there are several instances of men's undergoing a complete falivation for the cure of the lues venerea, without being freed from the itch.

The quantity of ointment, here directed, serves for four unctions: the patient is to be rubbed every night; but to prevent any diforder that might arise from stopping too many pores at once, a fourth part of the body is to be rubbed at one time. Though the itch may thus be cured by one pot of ointment, it will be proper to renew the application, and to touch the parts most affected, for a few nights longer, till a second quantity also be exhausted; and in the worst cases to subjoin the internal use of fulphur, not with a view to purify the blood, but to diffuse the steams more certainly through the fkin; there being reason to believe, that the animalcula may fometimes lie too deep to be thoroughly deftroy. ed by external applications.

UNGUENTUM TRIPHAR-MACUM.

Cintment of three ingredients.

Take of

Common plaster, four ounces; Oil olive, two ounces by mea-

Vinegar, one ounce by measure. Boil them together over a gentle fire, keeping them continually flirring till they are reduced to the confistence of an ointment.

THIS is a new method of preparing the unguentum nutritum, much less troublesome than the one already described under that title. The composition proves likewife more smooth and uniform, and not so liable to grow dry in keeping. This ointment is nevertheless inferior, both in respect of elegancy and efficacy, to the unguentum saturninum.

#### UNGUENTUM TUTIÆ.

Ointment of tutty. Lond.

Let any quantity of prepared tutty be mixed with as much purified vipers fat, as is sufficient to reduce it into the confishence of a foft ointment.

This ointment is defigned for an ophthalmic. What particular virtues it receives from the vipers fat, we shall not presume to determine.

In a present edition of the Edinburgh pharmacopæia, this ointment is directed as follows.

Edinb.

Take of White, or fimple liniment, five Tutty prepared, one part.

UNGUENTUM e CALCE ZINCI.

Ointment of the calx of zinc. Edinb.

Take of White, or fimple liniment, fix Calx of zinc, one part.

UNGUENTUM VERMIFUGUM.

Ointment against worms.

Take of Lavender cotton, Wormwood, Rue, Savin, Tanfy leaves, fresh gathered, each two ounces; Oil olive, a pint and a half; Hogs lard, one pound; Yellow wax, three ounces; Ox gall, Socotorine aloes, each an ounce and a half; Coloquintida,

Wormfeed, each one ounce. Bruise the herbs, and boil them with the oil and lard, till the aqueous moisture be evaporated; then press the liquor through a ftrainer, melt in it the wax, and afterwards add the other ingredients, boiling and ftirring them together, fo as to make an ointment. The aloes, coloquintida, and wormfeed, must be previously reduced into a very fubtile pow-

This ointment is rubbed on the bellies of children for destroying worms, and fometimes, as is faid, with good fuccess. It is taken from a preceding edition of the Edinburgh pharmacopæia; fince which it is omitted.

UNGUEN-

#### UNGUENTUM ad VESICA-TORIA.

Ointment for blisters. Lond.

Take of

Hogs lard, tried, Bliftering plaster, each equal

weight.

Melt them together over a very gentle fire, and keep them constantly stirring till grown cold.

#### UNGUENTUM EPISPASTI-CUM e PULVERE CAN-THARIDUM.

Ointment for blisters with the powder of cantharides. Edinb.

Take of

Basilicum ointment, seven parts; Cantharides, powdered, one part.

THESE ointments are added in the dressings for blisters, intended to be made perpetual, as they are called, or to be kept running for a considerable time, which in many chronic, and some acute cases, they are required to be. Particular care should be taken, that the cantharides employed in these compositions be reduced into very subtile powder, and that the mixtures be made as equal and uniform as possible.

#### UNGUENTUM EPISPASTI-CUM ex INFUSIONE CANTHARIDUM.

Ointment for blisters with the infusion of cantharides. Edinb.

Take of

Cantharides,
White refin,
Yellow wax, each one ounce;
Hogs lard,
Venice turpentine, each two ounces:

Boiling water, four ounces. Infuse the cantharides in the water, in a close vessel, for a night; then strongly press out and strain the liquor, and boil it with the lard till the watery moisture be confumed; then add the resin, wax, and turpentine, and make the whole into an ointment.

This ointment, containing the foluble parts of the cantharides uniformly blended with the other ingredients, is more commodious, and occasions less pain, though not less effectual in its intention, than the two foregoing compositions with the fly in substance.

#### UNGUENTUM VIRIDE.

Green ointment.

Lond.

Take of

The green oil, three pints; Yellow wax, ten ounces.

Melt them together over a gentle fire, and keep the mixture continually stirring until it grow cold.

This ointment does not feem to receive any particular virtue from the ingredients to which its colour is owing.

#### LINIMENTUM ALBUM.

White liniment.

Lond.

Take of

Oil olive, three ounces by meafure;

Spermaceti, fix drams; White wax, two drams.

Melt them together over a gentle fire, and keep them constantly and briskly stirring, till grown cold.

THIS differs only in confishence from the unquentum album.

UNGUEN-

UNGUENTUM ex ÆRUGINE.

Verdegris ointment. Edinb.

Take of

Basilicum ointment, sive parts; Verdegris, one part.

A balfam, fimilar to this, is faid to have been greatly valued by our furgeons as a detergent.

#### LINIMENTUM TRIPHARMA-CUM.

Liniment of three ingredients.

Take of

Common plaster, four ounces;
Oil olive, a quarter of a pint;

Vinegar, one ounce by measure. Boil them over a gentle fire, continually stirring them until they acquire the confistence of a liniment.

This is the fame with the unguentum tripharmacum, except that the quantity of oil is here increased, to give the compound the softer consistence of a liniment.

## LINIMENTUM VOLATILE. Volatile liniment.

Take of

Oil of hartshorn,

Spirit of hartshorn, each equal

Mix them together.

DR. Pringle observes, that in the inflammatory quinsey, or strangulation of the fauces, a piece of flannel, moistened with this mixture, and applied to the throat, to be renewed every four or five hours, is one of the most efficacious remedies. By means of this warm stimulating application, the neck, and sometimes the whole body, is put into a sweat, which, after bleeding, either carries off

or lessens the inflammation. Where the skin cannot bear the acrimony of this mixture, the volatile liniment of the shops may be tried.

## CERATUM ALBUM. White cerate.

Lond.

Take of

Oil olive, a quarter of a pint; White wax, four ounces; Spermaceti, half an ounce.

Liquefy them all together, and keep them stirring till the cerate be quite cold.

This differs from the white ointment and liniment, only in being of a thicker confishence.

#### CERATUM CITRINUM.

Yellow cerate.

Lond.

Take of

Yellow basilicum ointment, half a pound;

Yellow wax, one ounce. Melt them together.

This is no otherwise different from the yellow basilicum, than being of a stiffer consistence, which renders it for some purposes more commodious.

#### CERATUM EPULOTICUM.

Epulotic cerate.

Lond.

Take of

Oil olive, one pint;

Yellow wax,

Calamine prepared, each half a

pound.

Liquefy the wax with the oil, and, as foon as the mixture begins to grow stiff, sprinkle in the calamine; keeping them constantly stirring together, till the cerate be quite cold.

CERATUM

CERATUM e LAPIDE CALA-MINARI.

Cerate of calamine.
' Edinb.

Take of

White, or fimple cerate, five parts;

Calamine prepared, one part.

THESE compositions are formed upon the cerate which TURNER strongly recommends in cutaneous ulcerations and excoriations, and which has been usually distinguished by his name. They appear from experience to be excellent epulotics, and are frequently made use of in practice.

### CERATUM MERCURIALE.

Mercurial cerate.

Lond.

Take of

Yellow wax,

Hogs lard, tried, each half a

Quickfilver, three ounces; Simple balfam of sulphur, one

Melt the wax with the lard, then gradually add this mixture to the quickfilver and balfam of fulphur previously ground together.

\* CERATUM SAPONACEUM. Soap cerate.

Take of

Litharge, in powder, one pound; The sharpest wine vinegar, one gallon;

Castile foap, shaved thin, half a pound;

Oil olive, one pound; Yellow wax, ten ounces.

Diffolve two ounces of the foap in a quart of the vinegar, and mix it with the litharge; fimmer it over a gentle fire, keeping it confantly firring, till the vinegar is nearly evaporated, when add a quart more vinegar and two ounces more of foap dissolved in it, and evaporate as before; repeat it to the fourth time; and when the vinegar is all evaporated, add the oil and wax, melted together beforehand in another vessel, and boil it gently to the consistence of a cerate.

This cerate has been used many years, with great success, in most of our hospitals, for defending the parts from dessurions, in fractures, dislocations, and contusions; and is universally approved of, as a most excellent discutient.

UNGUENTUM PARALYTICUM.

Palfy ointment. -

Take of

Hogs lard,

Oil of bays, each four ounces; Strong spirit of vitriol, one ounce.

Mix, and make them into an un-

This irritating composition is applied to numbed or paralytic limbs. It soon reddens and in-slames the skin, and, when this effect is produced, must be taken off; after which, the part is to be anointed with any emollient unguent, as that of elder.

UNGUENTUM DIGESTIVUM.

Digestive ointment.

Take of

Yellow bafilicum,

Black bafilicum, each eight oun-

Ballam of turpentine, four oun-

Mix and make them into an ointment.

TE

LINIMEN-

LINIMENTUM ANODYNUM.

Anodyne liniment.

Take of

Nerve ointment, three ounces; Balfam of turpentine, one ounce. Mix them together.

LINIMENTUM HÆMORRHOI-DALE. Liniment for the piles.

Take of

Emollient ointment, two oun-

Liquid laudanum, half an ounce. Mix these ingredients, with the yolk of an egg; and work them well together.

### CHAPTER XII.

Epithems.

#### EPITHEMA VESICATORIUM.

Blistering epithem.

TAKE of
Cantharides, reduced into a
most subtile powder,
Wheat flour, each equal weights.
Make them into a paste with vine-

gar.

This composition is of a softer consistence than the blistering plasters, and, for this reason, is in some cases preferred. Practitioners differ with regard to the degree of consistence and adhesiveness most proper for applications of this kind, and sometimes vary them occasionally.

# CATAPLASMA e CYMINO. Cataplasm of cummin.

Take of

Cummin feeds, half a pound;
Bay berries,
Scordium leaves, dried,
Virginian fnakeroot, each three
ounces;
Cloves, one ounce;

Honey, thrice the weight of the powdered species.

Make them into a cataplasm.

THIS is a reformation of the THERIACA LONDINENSIS, which for some time was scarce otherwise made use of than as a warm cataplasm; only such of its ingredients ere retained as contribute most to this intention.

#### CATAPLASMA AROMATI-CUM.

Aromatic cataplasm.
Edinb.

Take of

Long birthwort root,
Bay berries, each four ounces;
Sweet fennel feeds,
Mint leaves, each three ounces;
Jamaica pepper,
Myrrh, each two ounces;
Honey, thrice the weight of the powders.

Mix and make them into a cataplasm; which supplies the place of theriaca for external purposes.

#### CATAPLASMA DISCUTIENS.

Discutient cataplasm.

Edinb.

Take of

Bryony root, three ounces;
Elder flowers, one ounce;
Gum ammoniac, half an ounce;
Sal ammoniac, crude, two drams;
Camphorated spirit of wine, one ounce.

Boil the roots and flowers in a sufficient quantity of water, till they become tender; and, having then bruised them, add to them the gum ammoniacum, dissolved in a sufficient quantity of vinegar, and likewise the sal ammoniac and spirit. Mix the whole together, so as to make them into a cataplasm.

This composition is as good a discutient as any thing that can well be contrived in the form of a cataplasm. In some of our hospitals the following more simple form is made use of.

#### CATAPLASMA DISCUTIENS.

Discutient cataplasm.

Take of
Barley meal, fix ounces;
Tt2

Fresh

Fresh hemlock, well bruised, two ounces;

Crude sal ammoniac, half an ounce;

Vinegar, a sufficient quantity.
Boil the meal and the hemlock leaves for a little time in the vinegar, and then mix with them the sal ammoniac.

#### CATAPLASMA MATURANS.

Ripening cataplasm.

Take of

Figs, four ounces;

Yellow basilicum ointment, one

Galbanum, strained, half an ounce.

Beat the figs thoroughly in a mortar, occasionally dropping in some spirit of wine or strong ale; then carefully mix with them the ointment, first liquested along with the galbanum.

## CATAPLASMA SUPPURANS. Suppurating cataplasm.

Take of Edinb.

White lily (or marshmallow)
roots, four ounces;

Fat figs, one ounce; Raw onions, bruised, six drams; Galbanum, half an ounce; Yellow basilicum ointment,

Oil of chamomile by decoction, each one ounce;

Linfeed meal, as much as is fufficient.

Let the lily (or marshmallow) roots be boiled along with the figs, in a sufficient quantity of water, till they become tender. Then bruise, and add to them the other ingredients, and make the whole into a cataplasm, according to art. The galbanum must be previously dissolved in the yolk of an egg.

BOTH these compositions are good suppurants, or ripeners; though their effects probably depend more on their keeping the part soft, moist, and warm, than on any particular qualities of the ingredients.

# SINAPISMUS. A finapifm. Edinh

Take of

Mustard seed, in powder, Crumb of bread, each equal parts;

Strong vinegar, as much as is fufficient.

Mix and make them into a cataplasm; to which is sometimes added a little bruised garlic.

In a preceding edition, two finapifms were described; a fimple, which is that before directed, without the garlick; and a compound, which is as follows.

Take of

Mustard seed, in powder, Orumb of bread, each two ounces:

Garlic, bruised, half an ounce; Black soap, one ounce; Strong vinegar, a sufficient quantity.

Mix and make them into a cataplasm, according to art.

BOTH these compositions are employed only as stimulants. They often instame the part, and raise blisters, but not so perfectly as cantharides. They are frequently applied to the soles of the seet in the low state of acute diseases, for raising the pulse and relieving the head.

#### COAGULUM ALUMINOSUM.

Alum curd. Lond.

Take of

Any quantity of the white of eggs.

Agitate it with a fufficiently large lump of alum, in a tin dish, till it be coagulated.

This preparation is taken from Riverius. It is an useful astringent epithem for fore, moist eyes, and excellently cools and represes thin defluxions. Slighter inflammations of the eyes, occasioned by duit, exposure to the fun, or fimilar causes, are generally removed by fomenting them with warm milk and water, and washing them with the collyrium described before. Where the complaint is more violent, this preparation, after the inflammation has yielded a little to bleeding, is one of the best external remedies. It is to be spread on lint, and applied at bed-time.

CATAPLASMA EMOLLIENS. Emollient catapiasm.

Take of

Crumb of bread, eight ounces; White foap, one ounce; Cows' milk, fresh, a sufficient quantity. Boil them a little together.

CATAPLASMA STOMACHICUM. Stomachic cataplasm.

Take of

The aromatic cataplaim, one ounce;

Expressed oil of mace, two drams;

Anodyne balfam, as much as is fufficient to reduce them into a proper confiftence.

CATAPLASMA CAMPHORATUM. Campborated cataplasm.

Take of

Aromatic cataplasm, one ounce; Camphor, one dram. Mix them together.

CATAPLASMA ISCHIADICUM. Ischiadic cataplasm.

Take of

Mustard seed, half a pound; White pepper,

Ginger, each one dram; Simple oxymel, as much as will reduce them into a cataplaim

THE use of these compositions, which are taken from our holpitals, may be easily understood from their titles. The last is a very ftimulating application, and frequently velicates the fkin.





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