THE

EDINBURGH
NEW DISPENSATORY:

CONTAINING,

I.
The ELEMENTS of PHARMACEUTICAL CHEMISTRY.

II.
The MATERIA MEDICA; or, An Account of the different Substances employed in Medicine.

III.
The PHARMACEUTICAL PREPARATIONS and MEDICINAL COMPOSITIONS of the latest Edition of the LONDON and EDINBURGH Pharmacopœias.

With the Additions of the most approved FORMULÆ,
FROM THE BEST FOREIGN PHARMACOPŒIAS.

THE WHOLE INTERSPERSED WITH
PRACTICAL CAUTIONS AND OBSERVATIONS;

AND ENRICHED WITH THE
Latest DISCOVERIES in *Natural History*, *Chemistry*, and *Medicine*;

With New TABLES of ELECTIVE ATTRACTIONS
Of ANTIMONIAL and MERCURIAL PREPARATIONS, &c.

AND
Several COPPERPLATES of the most convenient FURNACES, and Principal PHARMACEUTICAL INSTRUMENTS.

Being an IMPROVEMENT of the
NEW DISPENSATORY BY DR. LEWIS.

THE THIRD AMERICAN
FROM THE FOURTH EDINBURGH EDITION;

With many ALTERATIONS, CORRECTIONS, and ADDITIONS:
And a full and clear ACCOUNT of the NEW CHEMICAL DOCTRINES published by Mr. LAVOISIER.

Printed at *WALPOLE*, NEWHAMPSHIRE, by D. CARLISLE, jun.
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1796.

John. F. Gibbs

TO

JOSEPH BLACK, M. D.,

PROFESSOR OF CHEMISTRY IN THE UNIVERSITY OF EDINBURGH;
FIRST PHYSICIAN TO HIS MAJESTY FOR SCOTLAND;

MEMBER OF SEVERAL OF THE PHILOSOPHICAL AND LITERARY SOCIETIES IN EUROPE, &c. &c.

SIR,

THAT the Edinburgh New Dispensatory meets with your approbation, is evinced by the public recommendation which you are pleased to give it in your lectures in this University. This circumstance alone might seem a sufficient reason for dedicating a New Edition of it to you, independently of the following consideration.

The principal improvements which Pharmacy has received within these last thirty years, made their first appearance in the several editions of the Edinburgh Pharmacopœia, which have been published within that period; and, in adopting many of these improvements, the College of Physicians of Edinburgh were mostly decided by your opinion, as being the person in whose Chemical knowledge and accuracy they chiefly confided.

But there are still other reasons for putting this Edition of the Dispensatory under your patronage. The processes of Pharmacy are explained in it on the principles and doctrines delivered in your lectures; and every endeavour has been made to render it as useful as possible to the gentlemen attending them.

I have the honor to be,
Sir,
Your most obedient,
Humble Servant,
JOHN ROTHERAM.

EDINBURGH,
June 1st, 1794.

PREFACE.

THE New Diſpenſatory, originally publiſhed by Dr. LEWIS, by its great ſuperiority over every work of a ſimilar nature, ſoon attracted the attention of the public, and obtained very high reputation both at home and abroad.

It was divided into four parts; the firſt of which contained the Elements of Pharmacy, or what is called Pharmaceutical Chemiſtry. The general neglect of this intereſting and uſeful ſtudy, which former Authors of Diſpenſatories had ſhewn, induced Dr. LEWIS to improve this part with ſingular care and preciſion. He gave a conciſe and ſyſtematic, yet comprehenſive view of the general properties and relations of the vegetable, animal, and mineral ſubſtances employed in medicine; he enumerated the medicinal principles they contain, and ſhewed the ſeveral means by which theſe native principles might be extracted and ſeparated, without making any alteration in their qualities; and at the ſame time, noticed the different forms and powers which they aſſume, from different natural or artificial operations, or from the mixture or coalition of one with another, avoiding every where all hypothetical reaſonings, and delivering only the direct reſult of experiment and obſervation. A practical account of the inſtruments and operations of the art of Pharmacy was judiciouſly added to the foregoing remarks, which gave the reader a full idea of them, without the tedioufneſs of minute details.

The

The second part contained the Materia Medica, or an account of the Medical Simples; which, for reasons assigned in the introduction, were arranged in alphabetical order. In treating of the several Simples, he gave, where it was necessary, a short description of the Simple, with the marks of its genuineness and goodness; and pointed out the distinguishing characters of such as, from resemblance in external appearance, are liable to be confounded with others of different qualities. With regard to their virtues, particular care was taken to reject fabulous ones, and to give only those, which had 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. Many of the capital articles were examined pharmaceutically, and considerable pains were taken to ascertain in what separable part of the mixt its virtues reside, by what means the active principle is best extracted and preserved, and in what form the substance itself or its preparations may be most commodiously and advantageously exhibited.

The third and fourth part contained the preparations of the London and Edinburgh Pharmacopœias, with some old ones which were still kept in the apothecaries' shops and were occasionally used; several of the more celebrated medicines that had come into esteem on the Continent; many used in the hospitals, and some elegant extemporaneous prescriptions that are frequently directed in practice.

Such was the work originally presented to the public by Dr. Lewis; and its reputation made so large a demand for it, that during the author's lifetime,

many

many editions were printed, each ſucceeding one being improved according as new diſcoveries rendered improvements and additions neceſſary. Since the death of the ingenious and induſtrious author, Chemiſtry in all its branches has received many and important improvements; and theſe improvements have been ſucceſſively applied to the ſeveral editions of Lewis's Diſpenſatory, that have been publiſhed by other editors.

The book which we now publiſh, is ſtrictly ſpeaking no other than a new edition of Dr. Lewis's original; although in conſequence of the improved ſtate of Pharmacy and the change in Medical practice, it has received ſo many alterations and additions, as to be in ſome meaſure a new work. The original plan is the ſame; only that in this, the third and fourth parts are compriſed in one, comprehending all the preparations and compoſitions contained in the laſt editions of the London and Edinburgh Pharmacopœias, together with many from ſome of the beſt modern foreign ones, and a few that have been recommended by authors of reputation, although they have no place in any public Pharmacopœia.

The alterations are not numerous, although they are material, eſpecially in thoſe parts of the work where the author explained the proceſſes, according to the theory of the exiſtence of a principle of inflammability or phlogiſton.

The reader will find many articles altogether rejected from this edition, eſpecially the hiſtory of ſuch articles of the Materia Medica, as are now become obſolete, and which are not ſanctioned by the authority of any of the modern Pharmacopœias; and of many of the old Galenical medicines, as they were called,

called, which modern practice now totally rejects; some few of these last, have, however, been retained with a view to shew the absurdity of Pharmaceutical composition in the two preceding centuries, and even in the beginning of the present.

The additions are very considerable, and are chiefly; an account of the New Chemical doctrines as delivered by Dr. LAVOISIER; enlarged tables of the Elective Attractions both single and double; descriptions of Portable Furnaces, and some other Pharmaceutical instruments; the history of several articles of the Materia Medica; and a number of new preparations.

EDINBURGH,
June, 1794.

CONTENTS.

PART II.

MATERIA MEDICA.

PART III.

PREPARATIONS and COMPOSITIONS.

IX.

Explanation

Explanation of the Contractions used for the Titles of different Pharmacopœias quoted in this Work.

Lond.—Pharmacopœia collegii regalis medicorum Londinensis, 4to. Londini, 1788.

Edin.—Pharmacopœia collegii regii medicorum Edinburgensis, 8vo. Edinburgi, 1792.

Gen.—Pharmacopœia Genevensis, ad usum nosocomiorum, 8vo. Genevæ, 1780.

Suec.—Pharmacopœia Suecica, editio altera emendata, 8vo. Holmiæ, 1779.

Ross.—Pharmacopœia Rossica, 4to. Petropoli, 1778.

Brun.—Dispensatorium pharmaceuticum Brunsvicence, 4to. Brunsvici, 1777.

Dan.—Pharmacopœia Danica, regia auctoritate, a collegio medico Haunienſi conscripta, 4to. Hauniæ, 1772.

Introduction.

PHARMACY is the art of preparing, preſerving, and compounding ſubſtances for the purpoſes of medicine. This art has been commonly divided into two branches, *Galenical* and *Chemical* pharmacy. But for this diviſion there is no foundation in nature: And accordingly, proceſſes in one pharmacopœia referred to the head of Chemical, are in another referred to the head of Galenical. There can be no doubt, that even the moſt ſimple pharmaceutical preparations are to a certain extent chemical. Hence this diviſion, founded on prejudice, and ſupported merely by a veneration for antiquity, is now baniſhed from almoſt every modern pharmacopœia.

PHARMACY has alſo been divided into *Theoretical* and *Practical;* the firſt, conſiſting not merely of ſpeculative opinions, but of a knowledge of facts and principles, tending to explain the *rationale* of proceſſes; the latter, comprehending the mere manual labour employed in proceſſes.

The former of theſe may therefore be juſtly ſtyled Scientific Pharmacy. And there can be no doubt that an acquaintance with it is eſſentially neceſſary to the due exerciſe of the healing art: For without it the practitioner muſt often err in the forms of preparations and compoſitions which he employs; and he muſt

muſt often be deceived in the effects reſulting from compoſitions, when he infers their properties from the known powers of the ingredients in their ſeparate ſtate. It would therefore be highly improper to detach the ſcientific and practical parts of pharmacy from each other. And accordingly, in the firſt part of this work, a general view is given of the elements of pharmacy, both ſcientific and practical, that the reader may be better prepared for the conſideration of the particular proceſſes which are treated of in the ſecond and third parts.

As the new chemical doctrines lately publiſhed in France by Mr. Lavoiſier will in all probability be generally received in Europe, it has been thought the ſubjoined account of them would be acceptable to the pharmaceutical reader.

ABSTRACT

ABSTRACT

OF THE

NEW CHEMICAL DOCTRINES.

AS the new chemical doctrines, under the name of the Antiphlogiſtic theory, have acquired great celebrity, and have altogether overturned the theory of phlogiſton, ſo long followed by chemical philoſophers, it is preſumed that a general view of the principles of the new doctrine will not be unacceptable to moſt readers; and that an explanation of theſe principles might with propriety form part of the introduction to a ſyſtem of an art which depends ſolely on the ſcience of Chemiſtry.

A general account of the new Chemical philoſophy cannot be more properly conveyed, than by giving an abſtract of the Elements of Chemiſtry, lately publiſhed by Mr. LAVOISIER, which is the only connected ſyſtem of the new doctrine. The ſyſtem is in a great meaſure his own: it owes its form and conſiſtency entirely to his inveſtigation and accurate obſervations; and is in a very conſiderable degree founded on his

own

own diſcoveries. Although their ſuperiority has occaſioned theſe new doctrines to be quickly ſpread over Europe, yet their rapid progreſs in Britain has been farther aſſiſted by that excellent tranſlation of them into our language by Mr. KERR; who, from his thorough knowledge of the ſubject has done every juſtice, that was in the power of a tranſlator to do, to Mr. Lavoiſier's book.

The principal difference between Mr. Lavoiſier's chemical philoſophy, and the STAHLIAN theory, conſiſts in his having totally rejected the hypothetical element phlogiſton, as unfounded, and even contradictory to fact and obſervation; while all the phenomena, uſually denominated phlogiſtic, are clearly ſhewn to depend on the abſorption, or extrication, of vital air, or its ſolid baſe, called, in the new nomenclature, *Oxygen*. It is extremely ſingular, but at the ſame time highly convenient, that nearly all the explanations of chemical phenomena, given by the followers of the old theory, may be changed into the new doctrines, merely by abandoning the term phlogiſton, and adopting the element of oxygen, with a ſlight inverſion of the language. Whenever a body is by the Stahlians ſaid to become phlogiſticated, or, in other words, combined with the imaginary element of phlogiſton, Mr. Lavoiſier and his followers have clearly proved that oxygen, or baſis of vital air, is extricated; and, on the contrary, that when a body was ſuppoſed to part with phlogiſton, or be dephlogiſticated, it had in reality abſorbed, and become combined with, vital air.

Mr.

Mr. LAVOISIER begins with explaining his ideas concerning the conſtitution of elaſtic aeriform fluids or gaſſes, ſhewing, or at leaſt giving ſtrong arguments to prove, that they conſiſt of a ſolid baſis, combined with the matter of heat, called in the new nomenclature, *Caloric*. He founds this hypotheſis on the obſerved general effects of increaſed temperature in bodies; but more eſpecially that conſtant effect of their being augmented in their dimenſions in every direction in conſequence of an increaſed temperature. And he concludes from analogy, that all bodies are either *ſolid*, *fluid*, or *aeriform*, according to the proportions which exiſt between the attractive forces inherent in their particles, and the repulſive power which caloric exerts to ſeparate them. It follows from this theory, that all bodies are naturally ſolid, if heat, or caloric the cauſe of heat, were abſtracted; and conſequently, that all liquids and aeriform fluids conſiſt of a peculiar naturally ſolid baſis, or a *principium proprium*, the particles of which are prevented from obeying the general law of attraction by their being combined with caloric, as a *principium commune*. By this hypotheſis, and by the obſerved fact of the abſorption of vital air, he explains the appearance of heat in combuſtion; ſhewing that vital air which he calls oxygen gas, being compoſed of a ſolid baſis, viz. oxygen, united with caloric, muſt neceſſarily depoſit its caloric, when it quits the form of air to combine with a ſolid combuſtible body, or to change from a more rare to a more denſe ſtate of aggregation; and conſequently, that theſe phenomena depend on the various elective attractions of caloric, as far as heat is

concerned. That caloric when chemically combined with any body, alters the aggregation of that body to a more rare ſtate, either from ſolid to liquid, or from liquid to aeriform, according to the exiſting proportions; and that when ſet free from combination, it produces increaſe of temperature, accompanied with light, or fire, in proportion to its degree of concentration.

There are ſeveral ſimple elaſtic aeriform fluids, which in all known temperatures, retain the ſtate of gas, but which enter into combinations with other bodies, ſo as to aſſume the ſolid or liquid forms of aggregation. For the ſake of preciſion he chooſes to make a diſtinction between the ſolid baſis which forms theſe combinations, and the gas, in which they are combined with caloric. The chief of theſe gaſſes has long been called vital air; but Mr. Lavoiſier thinks it preferable to confine the term air to the atmoſpheric fluid, which is a mixture of ſeveral gaſſes, and to diſtinguiſh the individuals by adding to the generic term of gas, a ſpecific name derived from ſome eminent property of the ſolid baſis which forms its peculiar element. Thus he gives to vital air the name of *oxygen gas*, from the remarkable property of its baſe, which he calls oxygen, being the univerſal cauſe of acidity.

He has clearly proved that every inſtance of combuſtion is a caſe of the combination of this oxygen with the combuſtible body, and that in moſt caſes this combination may take place in ſeveral degrees or limits of ſaturation. In general, when this ſaturation is complete,

complete, the compound body is an acid; and, in the new language, the combuſtible body is ſaid to be oxygenated. Thus moſt combuſtible bodies are acidifiable baſis, or ſubſtances capable of being converted into acids by combination with oxygen. When the degree of the ſaturation of the combuſtible body falls ſhort of what is neceſſary for the compoſition of an acid, the compound is named an oxyd. The proceſs in the former caſe is called oxygenation, and the baſe is ſaid to be oxygenated: in the latter caſe, the baſe is ſaid to be oxydated, and the act is ſtyled oxydation. Theſe terms are arbitrary; but, as they give clearneſs and preciſion to chemical language, without lengthened explanation, they are of great uſe.

There is only one known inſtance of a combuſtible body combining with oxygen, without forming an acid or an oxyd approaching to the acid ſtate. Inflammable air, as it was formerly called, is a ſimple gas capable of uniting with oxygen by combuſtion: the two gaſſes depoſit their caloric, which ſhews itſelf in fire, or heat and light; and the compound body reſulting from their union is water. From this circumſtance, the ſolid baſe of the combuſtible gas has received the name of *hydrogen* in the new nomenclature; and in its aeriform ſtate, combined with caloric, it is called hydrogen gas.

One of the aeriform fluids, which compoſes the mixture called atmoſpheric air, is fatal to animal life, and extinguiſhes flame. It had formerly ſeveral names, according to the fancy of different philoſophers;

phers; ſuch as atmoſpheric mephitis, foul air, phlogiſticated air, &c. In the new nomenclature it is called *azotic gas*, and its baſe, from its lethal quality, *azot*. This baſe unites in ſeveral different degrees of ſaturation with oxygen, forming either oxyds or acids according to the ſaturating proportions of oxygen in the compound. In the loweſt degree of ſaturation with oxygen, the compound ſtill retains the aeriform ſtate, and does not diſſolve in water: This, according to the general principles of the new nomenclature, ought to be called *azotic oxyd gas;* but its former name, *nitrous gas*, being very familiar, and involving no contradiction or ambiguity, is retained. By a farther ſaturation with oxygen, this nitrous gas is changed into the ſtate of an acid, which retains the aeriform aggregation when alone; but is ſoluble, in conſiderable quantity, by water. For this acid the old name of nitrous acid is retained for the ſame reaſons as were given for retaining nitrous gas; but the two long known ſtates of this acid are diſtinguiſhed by varying the termination of the ſpecific name: The high-coloured, red, ſmoaking acid, formerly called phlogiſticated, is now called nitr*ous* acid, and the pale, ſtronger acid, which does not emit red vapours, formerly called dephlogiſticated nitrous acid, is now named nitr*ic* acid. The difference between theſe two ſtates of the acid depends on different ſaturating quantities of oxygen, united with the ſame acidifiable baſe; the latter, or more perfect nitric acid, being fully ſaturated with oxygen, while in the former leſs perfect, and ſmoaking nitrous acid, there is an over proportion of azot. Theſe acids may be mutually

mutually converted into each other; the nitric into the nitrous, either by the addition of azot, or the abſtraction of oxygen; and *vice verſa*.

Azot and hydrogen, combined together, form cauſtic volatile alkali, or *ammonia*, as it is called in the new nomenclature. The reaſon of changing the name of this ſubſtance is to avoid unneceſſary periphraſis in chemical language, and, as much as poſſible, to give each particular ſubſtance a clear and appropriated ſingle term; the great advantages of which general principle of nomenclature will be ſeen by comparing the new names of the neutral ſalts with their old arbitrary denominations.

Several ſimple combuſtible ſubſtances, during combuſtion, combine with oxygen, and form oxyds or acids in the ſame manner as azot. Sulphur, when burnt ſlowly, unites with an under-ſaturating quantity of oxygen to form a volatile weak and highly odorous acid, formerly called phlogiſticated vitriolic, or ſulphureous acid, but now termed ſulphur*ous* acid. When burnt more rapidly, it abſorbs a greater quantity of oxygen, and the reſulting compound is a ponderous ſtrong and indorous acid, called ſulphur*ic* acid, formerly the vitriolic. Theſe are likewiſe changeable into each other, either by adding oxygen to the ſulphureous, or by taking it away from the ſulphuric acid.

Phoſphorus is a ſimple combuſtible ſubſtance, which, like ſulphur, combines with oxygen in two degrees of ſaturation; the leſs oxygenated combination

tion being called the phoſphor*ous*, and the more perfectly oxygenated ſtate, the phoſphor*ic* acid.

Charcoal, or rather its elementary and ſimple combuſtible part, called *carbon*, or *char*, to diſtinguiſh it from the impure mixture called *charcoal*, unites, during combuſtion with oxygen, to form carbonic or charic acid, formerly known by the names of fixed air, fixable air, aerial acid, &c.

There are ſeveral known acids, which have not yet been decompoſed, and their acidifiable baſis conſequently remain unknown. Theſe are the *muriatic acid*, *boracic acid*, and *fluoric acid*; but from the general analogy, it may be fairly preſumed that they conſiſt of peculiar combuſtible baſes, combined with oxygen as their general acidifying element. Though muriatic acid cannot, in our preſent ſtate of chemical knowledge, be decompounded ſo as to diſcover its baſe, it can be made to unite with a conſiderable additional quantity of oxygen, and it thereby acquires properties very different from thoſe it poſſeſſed in its ordinary ſtate: In this new ſtate it is called in the new nomenclature, *oxyginated muriatic acid*. Super-oxygenated muriatic acid would perhaps be a better name for it.

Beſides theſe ſimple acids, or acids with ſimple baſes, many acids have compound baſes, or two or more ſimple acidifiable baſes united together, and theſe compound radicals are converted into acids, or are oxygenated by combination with oxygen. The compound acid, long known under the name of

of *Aqua regia*, is of this kind, and it is evident, from the elective attractions and other phenomena, that the nitric and muriatic acids, which form it, are chemically combined together; that is, their acidifiable bases unite to form a compound radical, for the acidification of which the oxygen of both acids serves in common. The other acidifiable and oxydable compound bases are procured from vegetable and animal substances, and consist, in general, of various proportions of carbon and hydrogen united together, sometimes with the addition of azot, or phosphorus, or both. In the state of oxyds, these compound radicals have an addition of oxygen in a saturating degree not sufficient for the acid state: sugar, starch, gum, mucus, gluten, oil, resin, alkohol, ether, &c. are compound acidifiable bases, united only with the oxydating proportion of the oxygen. The acids of this order are,

New Names.	*Old Names.*
Tartarous acid	Acid of tartar.
Malic acid	Unknown till lately.
Citric acid	Acid of lemons.
Pyro-lignus acid	Empyreumatic acid of wood.
Pyro-mucous acid	Empyr. acid of sugar.
Pyro-tartarous acid	Empyr. acid of tartar.
Oxalic acid	Acid of sorrel.
Acetous acid	Vinegar, or acid of vinegar.
Acetic acid	Radical vinegar.
Succinic acid	Volatile salt of amber.
Benzotic acid	Flowers of benzoin.
Camphoric acid	Unknown till lately.
Gallic acid	The astringent principle of vegetables.
Lactic acid	Acid of sour whey.
Saccholactic acid	Unknown till lately.

Formic

Old Names.	*New Names.*
Formic acid	Acid of ants.
Bombic acid	Unknown till lately.
Sebacic acid	Ditto.
Lithic acid	Urinary calculus.
Pruſſic acid	Colouring matter of Pruſſian blue.

It is not pretended that theſe acids can be formed by combining the ſimple elements of their baſes, and adding oxygen to the compound radical, ſo as to produce a ſynthetic proof of their nature and conſtitution; but by means of deſtructive diſtillation in cloſe veſſels, and by other accurate modes of analyſis, their various elements can be ſeparated from each other, and their ſeveral proportions aſcertained with tolerable preciſion.

The metals form another ſet of oxydable or even acidifiable baſes, and it is worthy of remark, that in the ſtate of oxyds, they all agree with the general phenomena of alkaline bodies; while many of them, by a farther addition of oxygen, are converted into acids. They are all combuſtible bodies, and moſt of them require an exceeding high degree of temperature to combine them with oxygen in the dry way; but all of them may be combined with it in the moiſt way, by taking advantage of the elective attractions. What was formerly called the reguline form of metals, is their moſt ſimple ſtate, in which they are not combined with any known ſubſtance; while, on the contrary, the ſtate of calx, in which they were formerly ſuppoſed to be pure elementary bodies, is that in which, by addition of a ſaturating portion of oxygen,

gen, less than is necessary for the acid state, they are converted into metallic oxyds, formerly denominated calces. Of this state of oxydation, there are, in most of the metals, several different degrees, and, in the new nomenclature, these different degrees of oxydation are distinguished by their colours, or by the peculiar circumstances in which the oxydation is produced.

It is absolutely necessary for the solution of a metal in an acid, that the metal be in the state of an oxyd, previously to the act of solution, or that it become oxydated during the process, either by decomposing a part of the acid used to dissolve it, or the water with which the acid is diluted. Thus it always happens, that, when metals not previously oxydated, are dissolved in the nitric acid, or in concentrated sulphuric acid, a part of the acid is decomposed; azot, or nitrous gas, or both being discharged in consequence of part of the acidifying oxygen, being taken away from the base to oxydate the metal; or sulphurous acid, or even sulphur is evolved, from a similar decomposition of the perfect sulphuric acid, when that is employed for the solution. When diluted sulphuric acid is employed, the water of dilution is decomposed to oxydate the metal, in consequence of the elements of the acid being held together by a stronger elective attraction, than that which is exerted between the constituent ingredients of water; the consequence is, that, in this case, hydrogen gas becomes disengaged, and the metal, while it is dissolving in the acid, is oxydated by a part of the oxygen of the water.

The above is in a great meaſure the whole of the new chemical doctrines; what remains is little more than a change of nomenclature, for the purpoſe of convenience and preciſion, and to avoid ambiguity, or what appear to the author to be falſe views of phenomena and chemical facts.

The names of the metals are all made to terminate in Latin, in the neuter gender; and one word is uſed for denoting each in its moſt perfect ſtate of purity, as far as the preſent ſtate of chemical knowledge permits. Thus Platinum, Aurum, Argentum, &c. denote the perfect metallic, or reguline ſtate of Platina, Gold, Silver, &c.

The alkalies and earths are named as follow:

New Names.	*Old Names.*
Potaſh	Pure, or cauſtic, fixed vegetable alkali.
Soda	—— —— —— mineral ——
Ammonia	Volatile alkali prepared with quicklime.
Lime	Pure calcareous earth.
Magneſia	Calcined magneſia.
Barytes	Pure ponderous earth.
Clay or argil	Pure argillaceous earth.
Siliceous earth	Pure ſiliceous earth.

The combinations of alkalies, earths, and metallic oxyds with acids, forming what are called neutral, middle, earthy, and metallic ſalts, are divided into genera according to the acid which forms part of their conſtitution; and the peculiar baſis with which the acid is combined in each peculiar ſalt, forms the ſpecific name of that compound. By this means the former unintelligible, or falſe names of theſe ſalts, are rejected,

rejected, and terms are employed, which not only indicate the particular salt meant to be expressed, but also enumerate the ingredients, and even express the state of the ingredients which enter the composition. Thus all the salts which have the sulphuric acid, combined with an alkaline, earthy, or metallic base, are named *sulphats;* while those, having the sulphurous acid combined with the same bases, are named *sulphites:* and so of the other acids as in the following table.

New Names.	*Old Names.*
Sulphat of barytes	Heavy spar, vitriol of heavy earth.
potash	Vitriolated tartar, Sal de doubus, Arcanum duplicatum.
soda	Glauber's salt.
lime	Selenite, gypsum, calcareous vitriol.
magnesia	Epsom salt, sedlitz salt, magnesian vitriol.
ammonia	Glauber's secret sal ammoniac.
argil	Alum.
zinc	White vitriol, goslar vitriol, white coperas, vitriol of zinc.
iron	Green coperas, green vitriol, martial vitriol, vitriol of iron.
magnese	Vitriol of magnese.
cobalt	Vitriol of cobalt.
nickel	Vitriol of nickel.
lead	Vitriol of lead.
tin	Vitriol of tin.
copper	Blue coperas, blue vitriol, Roman vitriol, vitriol of copper.
bismuth	Vitriol of bismuth.
antimony	Vitriol of antimony.
arsenic	Vitriol of arsenic.
mercury	Vitriol of mercury.
silver	Vitriol of silver.
gold	Vitriol of gold.
platina	Vitriol of platina.

In

In ſome caſes theſe ſalts may be formed with a limited and permanent ſuper-ſaturating proportion of acid, or with the contrary exceſs of the alkaline earthy or metallic baſe: in theſe two caſes the particular ſtate of ſaturation is denoted by prefixing the word acidulous or alkaline to the former names. Thus cream, or cryſtals of tartar, which is known to conſiſt of potaſh, or the fixed vegetable alkali, united to an exceſs of the tartarous acid, is called acidulous tartarite of potaſh, and ſo of the reſt.

This is as full an account of the doctrines and nomenclature of the new chemical philoſophy, as the limits of this prefatory diſcourſe would admit: For farther particulars the reader muſt be referred to Mr. Lavoiſier's Elements, where full and clear explanations are given of all the particular parts of the ſyſtem; and where the chief objections, which have been made againſt it by the followers of the old theory, are obviated and anſwered.

It is certainly no ſmall confirmation of the reaſonableneſs, and ſuperior evidence of this new chemical philoſophy, that Dr. BLACK, who has long taught chemiſtry in this univerſity, with the greateſt and moſt deſerved reputation, and who is himſelf a very conſiderable chemical diſcoverer, has acknowledged, that the theory of phlogiſton, according to which all his reaſonings have been regulated ſince he began to give lectures, is now become much embarraſſed, in conſequence of the numerous diſcoveries which have lately been made; and that it does not afford ſuch clear and ſatisfactory explications of the phenomena of

of chemiſtry as Mr. Lavoiſier's theory, which is more ſimple and eaſily comprehenſible, and more cloſely connected with the new chemical facts.

Mr. KIRWAN alſo, who has long been a ſtrenuous defender of the Stahlian doctrine, and has even publiſhed a treatiſe in its ſupport againſt Mr. Lavoiſier's opinions, has, with more ingenuouſneſs than falls to the lot of moſt men, candidly and openly acknowledged his error, and now ſubſcribes to the truth of thoſe very opinions he ſo lately publickly oppoſed.

DIRECTIONS FOR PLACING THE PLATES.

Plate I. No. 1. 2. not cut ſeparate, to be placed between page 48 and 49.

II. to fold facing page 50.

III. No. 1. 2. not cut ſeparate, to be placed between page 54 and 55.

THE *EDINBURGH* NEW DISPENSATORY.

PART I.

ELEMENTS OF PHARMACY.

CHAPTER I.

A general View of the Properties and Relations of Medicinal Subſtances.

SECT. I.

VEGETABLES.

VEGETABLES are organized bodies, furniſhed with a variety of veſſels for the reception, tranſmiſſion, and perſpiration, of different fluids. Analogous to animals, they are produced from ſeeds or eggs, and are endowed with functions, by which the aliment they imbibe is changed into new forms, into ſolids and fluids, peculiar to particular plants, and to different parts of the ſame plant.

The analogy between the vegetable and animal kingdoms will appear ſtill more ſtriking, when we conſider that vegetables exhibit, though in a leſs degree, all the phenomena of ſenſibility and motion.

The *pabulum* of vegetables, like that of moſt animals, is of a mixed nature; and is compoſed of the neceſſary union of water, heat, light, and different kinds of airs.

From varieties in the ſtate and proportion of theſe ſeveral principles, a very multiplied diverſity takes place in the external form, quantity, and quality of one and the ſame vegetable: hence the difference of plants from the ſoil, climate, ſeaſon, and other ſimilar circumſtances. The influence of heat, and light, is perhaps the moſt important article in the aliment of vegetables. It is of importance however to remark, that the ſoundneſs and ſpecific principles of vegetables are not invariably the more complete in proportion to the vigour of their growth; high health, which is always a dangerous ſtate in the conſtitution of animals, is often the means of perverting or deſtroying the economy of vegetable life. Thus the finer aromatics, which naturally inhabit dry and ſandy ſoils,

ſoils, when tranſplanted into a moiſt and rich one, grow with rapidity and vigour, and have their bulk conſiderably increaſed; but loſe their fragrance, as if their active principles were exhauſted by the luxuriance of their growth.

Plants are alſo found to differ conſiderably in the different periods of their growth. Thus, ſome herbs in their infancy abound moſt with odoriferous matter; others again 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 ſweet one: others, as the orange, are firſt warm and aromatic, and afterwards by degrees become filled with a ſtrong acid. The common grain, and ſundry other ſeeds, when beginning to vegetate, are remarkably ſweet: yet the kernels of certain fruits prove, at the ſame period, extremely acid. The roots of ſome of our indigenous plants, whoſe juice is, during the ſummer, thin and watery, if wounded early in the ſpring, yield rich balſamic juices, which, expoſed to a gentle warmth, ſoon concrete into ſolid gummy reſins, ſuperior to many of thoſe brought from abroad. In open expoſures, dry ſoils, and fair warm ſeaſons, aromatic plants become ſtronger and more fragrant, while thoſe of an oppoſite nature become weaker. To theſe particulars therefore due regard ought to be had in collecting 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 each other. Thus the bitter herb wormwood riſes from an aromatic root; and the narcotic popy-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 thoſe plants that have been admitted as articles of the materia medica.

Without any obvious dependence on the circumſtances above mentioned, vegetables are, like animals, alſo obnoxious to diſeaſes and death; which, whether occaſioned by intenſe cold, by inſects, lightning, or other cauſes, always maintain a ſtriking analogy to the affections of animals. The principal difference between animals and vegetables is, that the ſeveral parts of vegetables do not conſtitute ſuch a mutually depending ſyſtem as thoſe of the more perfect animals: Hence it is, that a very conſiderable part of a plant may be diſeaſed or dead, while the reſt enjoys life and perfect good health. Though the phyſiology of vegetables is hitherto inſufficient for forming any complete doctrines of the cauſes and cure of their ſeveral diſeaſes; yet, in many caſes, it might be uſeful to attend to the formation of a pathology of the vegetable kingdom: in the ſtate even of our preſent knowledge, it is of importance in the ſtudy of pharmacy to be aware that ſuch diſeaſes really exiſt, and are capable of changing or deſtroying the active principles of many of our moſt valuable herbs. In the plants more evidently ſenſitive, the diſeaſes exhibit a very cloſe analogy to many of thoſe of animals: ſeveral of the remote cauſes are ſuch as are known

known to obſtruct perſpiration, to induce general debility, or otherwiſe diſorder the animal economy. The diſeaſes alſo are evidently marked by a diminution of their ſenſitive and moving principle; and perhaps, in conſequence of this diminution, their ſolids, their ſap, and other fluids, ſhrivel and decay, and the whole plant aſſumes new forms, and is impregnated with inert, or fraught with noxious, principles. Analogous alſo to animals, the plant, when deprived of the living principle, runs into all thoſe changes common to inanimate matter. We ſhall now proceed to examine the changes to which vegetables are ſubject.

I. *Productions from Vegetables by* Fermentation.

Fermentation is a ſpontaneous motion, excited in dead vegetables peculiar to thoſe organic ſubſtances.

The circumſtances favouring fermentation are in general, a certain degree of fluidity, a certain degree of heat, and the contact of the air.

There are however ſeveral ſubſtances, of themſelves not ſuſceptible of fermentation, which nevertheleſs may be brought into that ſtate 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. Without this expedient many vegetables would run immediately into the acetous, and ſome of them into the putrefactive fermentations. It is alſo found, that though acetous and putrefactive ferments are unable to ſtop the vinous fermentation, they are however capable of aſſimilating the liquor to their own nature in a more perfect form; and hence it is, that in the manufactures of wine, rum, and vinegar, it is found uſeful to keep the veſſels well ſeaſoned with the liquor intended to be prepared. Three different kinds or ſtages of fermentation have been generally diſtinguiſhed by chemiſts. The vinous, which furniſhes alcohol, or what is commonly called ſpirit; the acetous, which affords vinegar; and the putrefactive, which yields volatile alkali. Being generally conſtant in ſucceſſion to each other, the whole proceſs will be beſt underſtood by conſidering each of them apart. All vegetable ſubſtances are not capable of the vinous fermentation: The conditions neceſſary to its production are, a ſaccharo mucilaginous matter; a fluidity ſomewhat viſcous, a heat from 40 to 96 of Farenheit's thermometer; a conſiderable maſs of matter; and the acceſs of the external air.

The phenomena exhibited in the vinous fermentation are a briſk tumultuary motion, the liquor loſes its tranſparency and homogeneous appearance, its bulk and heat are conſiderably increaſed, the ſolid parts are buoyed up to the top, and a great quantity of a permanently elaſtic fluid is diſengaged. This fluid or gas being heavier than atmoſpheric air, floats near the ſurface of the liquor; and is eaſily diſtinguiſhable from common air, by extinguiſhing flame and animal life, precipitating lime from limewater, cryſtalliſing and rendering mild the cauſtic alkali: It is the gas ſylveſtre of Helmont, and the fixed air, aërial acid or carbonic acid of modern chemiſts. After ſome time the tumultuary motion in the liquor is ſuddenly checked, perhaps from the generation of the

alcohol; a fine lee is also precipitated; and the floating matter, if not purposely prevented, subsides to the bottom of the vessel. In the wines produced from the grape, a large quantity of a saline concrete is incrusted on the sides and bottom of the casks; and this is commonly known by the name of tartar, the properties of which we shall afterwards examine. At the termination of these phenomena, the vegetable matter has assumed new properties; and from being a mild, sweet, or gently aciduleus infusion, is now become the brisk pungent, and inebriating liquor, called Wine or Vinous Liquor.

Fermented or vinous liquors are prepared from a great variety of substances; the saccharine substances, or those rendered so by a beginning vegetation, are in general fittest for the purpose; a multitude of collateral circumstances are also necessary for the proper management of the process; and in vinous liquors, great diversities are observable. These differences are not only observable in wines produced from different substances, but also in those prepared from one and the same vegetable. These diversities may be referred to the different conditions of the substance to be fermented, to the states of fluidity and heat, and to the degree of fermentation to which the subject has been carried. This last is principally modified by the preceding causes and frequently by very minute and apparently trifling circumstances in the conduct of the operation. Hence the numerous varieties in the vinous liquors produced from the grape, which have been more peculiarly denominated *wines*. It is an important part of pharmacy to inquire into these differences with care and attention.

The diversity in vinous liquor is still more obvious in those produced from different vegetables. Many of the native qualities of the substances, as colour, taste, flavour, &c. often remain in the wine; not being totally subdued by that degree of fermentation necessary for rendering the liquor vinous. Hence the remarkable difference of wines produced from the grape, and the graminous seeds; the wine produced from these last has been more strictly called *beer*; and is well known to differ from wines produced from apples, pears, apricots, or any other fruit.

1. Of the Product of the Vinous Fermentation.

The product of all these fermented vegetables is, as we have just now mentioned, the pungent and intoxicating liquor called wine. It is proper, however, in pharmacy to inquire into the different principles which enter its composition. As the wine furnished by grapes is the most valuable and generally known, we shall take it as an example. Grape wine, then, is composed of a large quantity of water, of alcohol, of tartar, and of a colouring matter. It is proper, however, that we should lay down the proofs of such a combination in wine, and explain the methods by which it may be decomposed and separated into the constituent parts above mentioned.

For this purpose, recourse is generally had to the assistance of fire. The liquor is put into an alembic; and as soon as it boils a white milky fluid, of a pungent smell and taste, distils into the recipient. This fluid is called *aquavitæ*, or, in common language, *spirit*; it is compounded of water

water and certain matters capable of ſuſpenſion in water, of alcohol, and of a ſmall proportion of oil; which laſt communicates to it a milky colour: The yellow colour, which the ſpirit afterwards aſſumes, is partly owing to the ſame oil, and partly to a ſolution of the extractive matter of the caſks in which it has been kept. This aquavitæ, like wine, always partakes more or leſs of the flavour of the vegetable from whence it has been prepared; but by farther diſtillation, and other proceſſes, it is freed of its water, and of the native principles of the vegetable matter which the watry parts had kept in ſolution; when thus prepared, it is a pure *alcohol* or *inflammable ſpirit*, which is always the ſame from whatever vegetable the wine was produced.

After all the aquavitæ has been drawn off, the reſiduum now ceaſes to be wine; it is of a chocolate colour, of an acid and auſtere taſte; it has now aſſumed a heterogenous appearance, and a great quantity of ſaline cryſtals is obſerved in the liquor; theſe cryſtals are the *tartar*. By the above proceſſes, then, we have fully decompoſed *wine*: But it is to be obſerved, that by this analyſis we have not ſeparated the different parts of wine in their original and entire ſtate; nor are we hitherto acquainted with any method of regenerating the wine by recombining the aquavitæ with the reſiduum: Some product of the fermentation is, therefore, changed or deſtroyed. The reſiduum, when evaporated, aſſumes the form and conſiſtence of an extract; the colouring part may be abſtracted by rectified ſpirit of wine, but is not ſeparable from it by the addition of water: It ſeems therefore to be of a gummi reſinous nature, and extracted from the grape by means of the alcohol generated during the fermentation.

From this analyſis, it is obvious, that wine is compoſed of water, colouring matter, alcohol, and a ſomething that is changed or loſt. We ſhall refer the particular examination of alcohol and tartar to the proper places aſſigned them in this work; and we hope that from this general ſurvey of the ſubject, the properties of wine, as a ſolvent of ſeveral medicinal ſubſtances to be afterwards examined, will be much more readily underſtood. Before we go farther, it is proper to add, that the *lee* precipitated from wine during fermentation, is a compound of the ſtones and pieces of grape, tartar, and vitriolated tartar: The two firſt are inert bodies; the two laſt we ſhall particularly examine in their proper order. We are now prepared to conſider the nature and product of the next kind or ſtage of fermentation, viz. the

2. Acetous Fermentation.

To underſtand the proceſs of the acetous fermentation, we muſt leave for the preſent our analyſis of the product of the vinous fermentation, and return to the wine in its moſt perfect and entire ſtate. It is proper to obſerve, that, though, after the liquor has become vinous, a partial ceſſation of the more obvious phenomena takes place, yet the wine ſtill ſuffers a ſlow and imperceptible degree of fermentation. We muſt not conſider the liquor as being in a quieſcent ſtate, but as conſtantly approaching to the next ſtage, viz. the *acetous fermentation*. This kind of inſenſible fermentation, or what we may call the intermediate change, ſeems to be neceſſary to the perfection of the wine. Its degree, however,

ever, is to be regulated under certain limitations: When too much checked, as by cold, thunder, or other cauſes, the wine becomes vapid; when too much encouraged by heat, contact of air, &c. it approaches too far to the acetous change: But in order that the vinous ſhall proceed fully to the acetous fermentation, ſeveral circumſtances are required; and theſe are in general the ſame that were before neceſſary to the vinous ſtage, viz. a temperate degree of heat, a quantity of unfermented mucilage, and acid matter, ſuch as tartar, and the free acceſs of external air. When thus ſituated, the liquor ſoon paſſes into the acetous fermentation: But during this ſtage the phenomena are not ſo remarkable as in the vinous; the motion of the fermenting maſs is now leſs conſiderable, a groſs unctuous matter ſeparates to the bottom, the liquor loſes its vinous taſte and flavour, becomes ſour, and on diſtillation affords no inflammable ſpirit. It is now the acetous acid or vinegar; and when ſeparated by diſtillation from the unctuous lee, may be preſerved a conſiderable length of time without undergoing the putrid change: To this laſt, however, it always approaches in the ſame manner as the vinous conſtantly verges to the acetous fermentation; and this will much more readily happen if the acid be allowed to remain with the unctuous feculent matter above mentioned. When thus ſituated, the vinegar quickly loſes its tranſparency, aſſumes a blackiſh colour, loſes its ſourneſs and agreeable flavour, has an offenſive taſte and ſmell, and, when diſtilled at a certain period of the proceſs, yields volatile alkali.

The liquor is now arrived to the laſt ſtage, viz.

3. The Putrefactive Fermentation.

From the preceding phenomena, it is obvious that the ſame ſubſtance which is capable of the vinous and acetous, is capable of the putrefactive fermentation. It is perhaps impoſſible to induce the firſt without a mixture of the ſecond; nor the ſecond without a mixture of the third. Hence every wine is a little acid; and there are few vinegars without ſome diſpoſition towards putrefaction, or without volatile alkali, neutralized by the acid which predominates. Notwithſtanding this ſeeming continuation of one and the ſame proceſs, the putrefaction of vegetables has its particular phenomena. The vegetable matter, if in a fluid ſtate, becomes turbid, and depoſits a large quantity of feculent matter; a conſiderable number of air bubbles are raiſed to the top; but their motion is not ſo briſk in the putrefactive as in the vinous, or even the acetous fermentation: Neither the bulk nor heat of the liquor ſeems to be increaſed; but an acrid pungent vapour is perceived by the ſmell, and which, by chemical trials, is found to be the volatile alkali; by degrees this pungent odour is changed into one leſs pungent, but much more nauſeous. If the ſame train of phenomena have taken place in a vegetable conſiſting of parts ſomewhat ſolid, its coheſion is broke down into a ſoft pulpy maſs; this maſs, on drying, entirely loſes its odour, leaving a black, charry like reſiduum, containing nothing but earth and ſaline ſubſtances.

It is proper to obſerve, that though the circumſtances favouring the putrefactive

putrefactive are the ſame with thoſe requiſite to the vinous and acetous fermentations, yet theſe ſeveral conditions are not ſo indiſpenſable to the former as to the two latter ſtages. All vegetables have more or leſs tendency to putrefaction, and a great number of them are capable of the acetous fermentation: But the proportion of thoſe capable of the vinous is not conſiderable; and theſe laſt will run into the putrid in circumſtances in which they cannot undergo the vinous or even the acetous fermentations. Thus flour made into a ſoft paſte will become ſour; but it muſt be perfectly diſſolved in water to make it fit for the vinous ſtage; whereas mere dampneſs is ſufficient to make it paſs to the putrid fermentation: Beſides the condition of fluidity, a leſs degree of heat, and a more limited acceſs of air, are ſufficient for producing the putrefactive fermentation.

It is therefore probable, that all vegetables, in whatever ſtate they may be, are liable to a kind of putrefaction: In ſome the change is ſlow and gradual, but never fails at length to break down the texture and coheſion of the moſt ſolid.

We formerly obſerved, that the vapours ſeparated during the vinous fermentation were fixed air; and it is indeed true, that in the incipient ſtate of this fermentation a quantity of gas is ſtill evolved. In the advanced ſtate, however, we find theſe vapours of a different nature; they now tarniſh ſilver, and render combinations of lead with the vegetable acids black. When produced in large quantity, and much confined, as happens in ſtacks of hay put up wet, they burſt into actual flame, conſuming the hay to aſhes: On other occaſions, the eſcape of theſe vapours diſcovers itſelf by an emiſſion of light, as in the luminous appearance of rotten wood when placed in the dark. This gas is therefore different from that ſeparated during the vinous fermentation; it is the inflammable air of Dr. Prieſtly, or the hydrogen of Lavoiſier, either pure, or mixed, ſometimes with ſulphur, and ſometimes with phoſphorus.

We have thus, for the ſake of clearneſs, and in order to comprehend the whole of the ſubject, traced the phenomena of fermentation through its different ſtages: It is proper, however, to obſerve, that though every vegetable that has ſuffered the vinous will proceed to the acetous and putrefactive fermentations, yet the ſecond ſtage is not neceſſarily preceded by the firſt, nor the third by the ſecond; or in other words, the acetous fermentation is not neceſſarily confined to thoſe ſubſtances which have undergone the vinous, nor the putrefactive to thoſe which have undergone the acetous fermentation. Thus gums diſſolved in water paſs to the acetous without undergoing the vinous fermentation; and glutinous matter ſeems to run into putrefaction without ſhewing any previous acefcence: And farther, theſe changes frequently happen although the matter be under thoſe conditions which are favourable to the preceding ſtages.

From the foregoing ſketch, the importance of this ſubject in the ſtudy of Pharmacy will be obvious at firſt ſight: It cannot, however, afford us any uſeful information on the native principles of vegetables; but it preſents to us new products, the importance of which is well known in chemiſtry, in medicine, and in arts. The neceſſity of being well acquainted with the ſeveral facts will appear in the pharmaceutical hiſtory

and

and preparation of many of our moſt valuable medicines. We are next to conſider a ſet of no leſs complicated operations, viz.

II. *Productions from Vegetables by* Fire.

In order to analyſe, or rather to decompoſe vegetables by the naked fire, any given quantity of dry vegetable matter is put into a retort of glaſs or earth. Having filled the veſſel about one half or two thirds, we place it in a reverbatory furnace, adapting it to a proper receiver. To collect the elaſtic fluids, which, if confined, would burſt the veſſels (and which, too, it is proper to preſerve, as being real products of the analyſis,) we uſe a perforated receiver with a crooked tube, the extremity of which is received into a veſſel full of water, or of mercury, and inverted in a baſon containing the ſame fluid: By this contrivance, the liquid matters are collected in the ſame receiver, and the aëriform fluids paſs into the inverted veſſel. If the vegetable is capable of yielding any ſaline matter in a concrete ſtate, we interpoſe between the retort and the receiver another veſſel, upon whoſe ſides the ſalt ſublimes. Theſe things being properly adjuſted, we apply at firſt a gentle heat, and increaſe it gradually, that we may obſerve the different products in proper order. At firſt an inſipid watery liquor paſſes over, which is chiefly compoſed of the water of vegetation; on the heat being a little farther increaſed, this watery liquor, or *phlegm*, becomes charged with an oily matter, having the odour of the vegetable, if it poſſeſſed any in its entire ſtate; along with this oil we alſo obtain an acid reſembling vinegar, and which communicates to the oil ſomewhat of a ſaponaceous nature; on the heat being carried ſtill farther, we procure more acid, with an oil of a dark colour, and the colour gradually deepens as the diſtillation advances. The oil now ceaſes to retain the peculiar odour of the vegetable; and, being ſcorched by the heat, ſends forth a ſtrong diſagreeable ſmell like tar: It is then called *empyreumatic oil*. About this time alſo ſome elaſtic vapours ruſh into the inverted veſſel; theſe generally conſiſt of inflammable or fixed airs, and very often of a mixture of both; the volatile ſalt now alſo ſublimes, if the vegetable was of a nature to furniſh it. By the time the mattter in the retort has acquired a dull red heat nothing further will ariſe: We then ſtop; and allowing the veſſels to cool, we find a maſs of charcoal, retaining more or leſs the form and appearance of the vegetable before its decompoſition.

We have thus deſcribed, in the order of their ſucceſſion, the ſeveral products obtained from the generality of vegetables when analyſed in cloſe veſſels and in a naked fire.

It is, however, to be underſtood, that the proportion of theſe principles turns out very various; the more ſucculent vegetables yield more water, and the more ſolid afford a greater quantity of the other principles. Independently alſo of this difference, the nature of the products themſelves are found to differ in different vegetables: Thus in the cruciform plants, and in the emulſive and farinaceous ſeeds, the ſaline matter which comes over with the water and oil is found to be alkaline; ſometimes it is ammoniacal, from the combination of the acid with the volatile alkali paſſing over at the end of the proceſs; it is alſo probable,

that

that the acids of vegetables are not all of the ſame nature, though they exhibit the ſame external marks. When volatile alkali is obtained, it is always found in the mild effervescing ſtate; it is procured, however, from a few vegetables only; and ſeldom in a concrete form, but generally diſſolved in the phlegm: The plants containing much oily combuſtible matter ſeem to be thoſe which more peculiarly yield inflammable air, while the mucilagenous appear to be as peculiarly fitted for affording the fixed air or aerial acid. The chemical properties of charcoal are always the ſame from whatever vegetable it has been produced; but it conſtantly contains ſome ſaline matter; it therefore remains that we ſhould next decompoſe the charcoal, in order to obtain or ſeparate the articles next to be mentioned.

The fixed Salts of Vegetables.

When vegetable charcoal has been burnt, there remains a quantity of aſhes or cinders of a blackiſh grey or white colour; theſe, when boiled or infuſed in water, communicate to it a pungent ſaline taſte; the ſalt thus held in ſolution may be reduced to a concrete ſtate, by evaporating the water; this ſaline matter, however, is generally mixed with ferruginous, earthy and other impurities. In this impure ſtate it is the

Potaſhes uſed in Commerce.

This ſalt, or rather compound of different ſalts, is procured by burning large quantities of wood of any kind; and the proceſs is called *incineration*: The predominating ſalt, however, is alkaline; and as the neutral ſalts are obtained to better advantage by other means, they are generally neglected in the purification of potaſhes. Potaſhes, then, freed from its impurities, and ſeparated from the other ſalts by proceſſes to be hereafter mentioned, is

The fixed vegetable Alkali.

Alkalies in general are diſtinguiſhed by a pungent taſte, the very reverſe of that of ſourneſs; by their deſtroying the acidity of every ſour liquor; and by their changing the blue colours of vegetables to a green: They more or leſs attract moiſture from the air, and ſome of them deliquate. The fixed alkalies, which we ſhall at preſent conſider more particularly, are fuſible by a gentle heat: By a greater degree of heat they are diſſipated; their fixity, therefore, is only relative to the other kind of alkali, viz. volatile; they diſſolve and form glaſs with certain earths: And laſtly, when joined with acids to the point of ſaturation, they form what are called *Neutral Salts*.

Theſe characters will afford ſome neceſſary and preliminary knowledge of theſe ſubſtances in general; and we ſhall afterwards find that they are ſufficient to diſtinguiſh theſe ſalts from all other ſaline bodies: It is neceſſary, however, to examine them more minutely, and our analyſis has not yet reached ſo far as to preſent them in their ſimpleſt ſtate. Previous to the diſcoveries of Dr. Black, the vegetable fixed alkali (which we at preſent ſpeak of particularly,) when ſeparated from the foreign

foreign matters with which it is mixed in the aſhes, was conſidered to be in its pureſt ſtate ; we ſhall afterwards find that it is ſtill a compound body, and is really a neutral ſalt, compounded of pure alkali, and fixed air or the aerial acid. We preſume, then, that the particular hiſtory of its chemical and medicinal properties will be better underſtood when we come to thoſe proceſſes by which it is brought to its moſt pure and ſimple ſtate, and ſhall only therefore obſerve for the preſent, that fixed vegetable alkali, not only in its pure ſtate, but alſo when neutralized by aerial acid, is always the ſame, from whatever vegetable it has been produced. Thoſe of ſome ſea plants muſt, however, be excepted : The ſaline matter obtained from them is, like the former, in a mixed and impure ſtate ; it differs, however, from potaſhes, in containing an alkali that poſſeſſes different properties. The cinder of ſea plants containing this alkali is called

Soda.

Soda, as we have juſt now hinted, is produced by the incineration of the kali and other ſea plants : And from this impure and mixed maſs of cinder, is obtained the marine, mineral, or muriatic alkali, or natron, as it is now denominated by the London college. This alkali has acquired theſe names, becauſe it is the baſe of the common marine or ſea ſalt : It differs from the vegetable alkali in being more eaſily cryſtalizable ; when dried, it does not like the former attract humidity ſufficient to form a liquid ; it is ſomewhat leſs pungent to the taſte, and has leſs attraction for acids than the vegetable alkali.

It is, however, to be obſerved, that this alkali, when deprived of fixed air, that is to ſay, when brought to its pureſt ſtate, can ſcarcely, if at all, be diſtinguiſhed from the vegetable alkali ; and indeed the true diſtinction can only be formed from their combinations, each of them affording with the ſame acid very different neutral ſalts. It belonged to this place to mention ſome of the characters of alkalies in general, and alſo ſome of thoſe marks by which the vegetable and mineral alkalies are diſtinguiſhed from each other ; but for a more particular hiſtory of their chemical and medicinal properties, we refer to the account of their pharmaceutical preparations. As the volatile alkali is rarely produced from vegetables, but is generally obtained from animal matter, we ſhall conſider that kind of alkali when we come to analyſe the animal kingdom.

Of Vegetable Earth.

After all the ſaline matter contained in the aſhes of vegetables has been waſhed off by the proceſſes before mentioned, there remains an inſipid earthy like powder, generally of a whitiſh colour, inſoluble in water, and from which ſome iron may be extracted by the magnet. It is ſaid to have formed alum with the vitriolic acid ; a kind of ſelenite has alſo been obtained, but ſomewhat different from that produced by the union of the ſame acid with calcareous earth ; this reſiduum of burnt vegetables differs however from calcareous earth, in not being ſuſceptible of becoming quicklime by calcination. Later experiments have

have ſhewn that it is a combination of calcareous earth with phoſphoric acid; ſo that it is ſimilar to the aſhes of burnt bones.

We have thus finiſhed our analyſis of vegetables by the naked fire; and have only to obſerve, that, like the analyſis by fermentation, it can afford us no uſeful information on the native principles of the vegetable itſelf.

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 each other, would afford the ſureſt means of judging of their medicinal powers. But on proſecuting theſe experiments, it was ſoon found that they were inſufficient for that end; that the analyſis of poiſonous and eſculent plants were nearly and often preciſely the ſame: That by the action of a burning heat, the 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 are 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 fixed alkaline ſalt: What idea can this analyſis give of the medicinal qualities of *gum Arabic?*

III. Substances *naturally contained in Vegetables, and ſeparable by Art without Alteration of their native Qualities.*

It has been ſuppoſed, that there is one general fluid or blood which is common to all vegetables, and from which the fluids peculiar to particular plants and their parts are prepared by a kind of ſecretion: To this ſuppoſed general fluid botaniſts have given the name of *ſap*. This opinion is rendered plauſible from the analogy in many other reſpects between vegetable and animal ſubſtances: And indeed if we conſider the water of vegetation as this general fluid, the opinion is perhaps not very far from the truth; but the notion has been carried much farther than ſuppoſing it to be mere water, which opinion however does not ſeem to be well ſupported by experience. It is difficult to extract this ſap without any mixture of the conſtituent parts of the vegetables which afforded it: And in a few vegetables, from which it diſtils by wounding the bark, we find this ſuppoſed general blood poſſeſſing various properties: Thus the juice effuſed from a wounded birch is conſiderably different from that poured out from an inciſion in the vine.

Vegetables, like animals, contain an oil in two different ſtates. That is, in ſeveral vegetables a certain quantity of oil is ſuperabundant to their conſtitution, is often lodged in diſtinct reſervoirs, and does not enter into the compoſition of their other principles: In moſt vegetables, again, another quantity of oil is combined, and makes a conſtituent part of their ſubſtance. Of this laſt we formerly ſpoke in our analyſis of vegetables by fire; and it is the former we mean to conſider, under the three following heads.

1. Gross Oils.

Gross oils abound chiefly in the kernels of fruits, and in certain ſeeds; from which they are commonly extracted by expreſſion, and are hence 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 their qualities are much 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 fluid: By alkaline ſalts they are changed into a ſope, which is miſcible both with water and ſpirituous liquors, and is perfectly diſſolved by the latter into an uniform tranſparent fluid. The addition of any acid to the ſopy ſolution attacks 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 their fluidity greatly: 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 inflame. Theſe oils are liable to the ſame noxious alteration while contained in the original ſubjects: Hence ariſes the rancidity which the oily ſeeds and kernels, as almonds and other ſeeds, are ſo liable to contract in keeping. Nevertheleſs on triturating theſe ſeeds 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.

It appears then that ſome kind of fermentation goes on in the progreſs of oils in the rancid ſtate; and it would ſeem from ſome experiments by Mr. Macquer, that an acid is evolved, which renders them more ſoluble in ſpirit of wine than before. From ſome experiments of modern French chemiſts oils are ſuppoſed to become rancid, in conſequence of their having abſorbed a portion of oxygen or the acidifying principle.

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

2. Sebaceous

2. Sebaceous Matter.

From the kernels of ſome fruits, as that of the chocolate nut, we obtain, inſtead of fluid oil, a ſubſtance of a butyraceous conſiſtence; and from others, as the nutmeg, a ſolid matter as firm as tallow. Theſe concretes are moſt commodiouſly extracted by boiling the ſubſtance in water: The ſebaceous matter, liquefied by the heat, ſeparates and ariſes to the ſurface, and reſumes its proper conſiſtence 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 conſiſtence is owing to a larger admixture of the acidifying principle: For, in their reſolution by fire, they yield a vapour more ſenſibly acid than the fluid oils, and fluid oils, by the admixture of concentrated acids, are reduced to a thick or ſolid maſs.

3. Essential Oils.

Essential oils are obtained only from thoſe vegetables, or parts of vegetables, that are conſiderably 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 *Eſſences* or *Eſſential Oils*.

Eſſential oils are ſecreted fluids; and are often lodged in one part of the plant, while the reſt are entirely void of them. Sometimes they are found in ſeparate ſpaces or receptacles, viſible by the naked eye, as in the rind of lemons, oranges, citrons, and many other fruits. Theſe receptacles may be broken by preſſing the peel; and the oil ſqueezed out is viſible in the form of very minute drops; and if it is ſqueezed out into the flame of a candle, it inflames, and forms a ſtream of liquid fire; hence, too, an oleoſaccharum may be made, by rubbing the exterior ſurface of theſe peels with a piece of lump ſugar, which at once tears open theſe veſicles, and abſorbs their contained oil.

Eſſential oils unite with rectified ſpirit of wine, and compoſe with it one homogenous tranſparent fluid; though ſome of them require for this purpoſe a much larger proportion of ſpirit than others. The difference of their ſolubility perhaps depends on the quantity of diſengaged acid; that being found by Mr. Macquer not only to promote the ſolution of eſſential oils, but even of thoſe of the unctuous kind. Water alſo, though it does not diſſolve their whole ſubſtance, may be made to imbibe ſome portion of their moſt ſubtile matter, ſo as to become conſiderably impregnated with their flavour; by the admixture of ſugar, gum, the yolk of an egg, or alkaline ſalts, they can be wholly diſſolved or ſuſpended in water. Digeſted with volatile alkali, they undergo various changes of colour, and ſome of the leſs odorous acquire conſiderable degrees of fragrance; while fixed alkali univerſally impairs their odour.

The ſpecific gravity of moſt of theſe oils is leſs than that of water: Some of them, however, are ſo heavy as to ſink in water; but theſe varieties ſhall be noticed when we come to their preparation.

In

In the heat of boiling water, theſe oils totally exhale ; and they are commonly extracted from ſubjects that contain them in conſequence of this property.

Eſſential oils, expoſed for ſome time to a warm air, ſuffer an alteration very different from that which the expreſſed undergo. 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 fluid 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, and which is not exhalable without a burning heat, or ſuch as changes its nature and reſolves it into an acid, empyreumatic oil, and a black coal.

The admixture of a concentrated acid inſtantly produces, in eſſential oils, a change nearly ſimilar to that which time effects. In making theſe kinds of mixtures, the operator ought to be on his guard ; for when a ſtrong acid, particularly that of nitre is poured haſtily on an eſſential oil, a great heat and ebullition enſue, and the mixture burſts into a flame with an exploſion. The union of expreſſed oils with acids is accompained with much leſs conflict.

4. Concrete Essential Oil.

Some vegetables, as roſes and elecampane root, inſtead of a fluid 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 ſubtilty of parts, as the fluid oils : It equally exhales in the heat of boiling water, and concretes on 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 fluid 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 ſolid concrete, obtained chiefly from the woody parts of a certain Indian tree. It is volatile like eſſential oils, and ſoluble both in oils and ardent ſpirits : It unites freely with water by the intervention of gum, but very ſparingly and imperfectly by the other intermedia that render oils miſcible with watery liquors. It differs from the ſebaceous as well as fluid eſſential 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 ſuffering no reſolution, from any degree of fire to which it can be expoſed in cloſe veſſels, though readily combuſtible in open air ; in being diſſolved by concentrated acids into a liquid form ; and in ſeveral other properties which it is needleſs to ſpecify in this place.

6. Resin

6. Resin.

Essential oils, indurated by age or acids, are called *Refins*. When the indurated mafs has been expofed to the heat of boiling water, till its more fubtile part, or the pure effential oil that remained in it, has exhaled, the grofs matter left behind is likewife called refin. We find, in many vegetables, refins analogous both to one and the other of thefe concretes; fome containing a fubtile oil, feparable by the heat of boiling water, and others containing nothing that is capable of exhaling in that heat.

Refins in general diffolve in rectified fpirit of wine, though fome of them much more difficultly than others: It is chiefly by means of this diffolvent that they are extracted from the fubjects in which they are contained. They diffolve alfo in oils both expreffed and effential; and may be united with watery liquors by means of the fame intermedia which render the fluid oils mifcible with water. In a heat lefs than that of boiling water, they melt into an oily fluid; and in this ftate they may be incorporated with one another. In their refolution by fire, in clofe veffels, they yield a manifeft acid, and a large quantity of empyreumatic oil.

7. Gum.

Gum differs from the foregoing fubftances in being uninflammable; for though it may be burnt to a coal, and thence to afhes, it never yields any flame. It differs remarkably alfo in the proportion of the principles into which it is refolved by fire; the quantity of empyreumatic oil being far lefs, and that of the acid far greater. In the heat of boiling water it fuffers no diffipation; nor does it liquefy like refins; but continues unchanged, till the heat be fo far increafed as to fcorch or turn it to a coal.

By a little quantity of water, it is foftened into a vifcous adhefive mafs, called mucilage: By a large quantity it is diffolved into a fluid, which proves more or lefs glutinous according to the proportion of gum. It does not diffolve in vinous fpirits, or in any kind of oil: Nevertheleſs when foftened with water into a mucilage, it is eafily mifcible both with the fluid oils and with refins; which by this means become foluble in watery liquors along with the gum, and are thus excellently fitted for medicinal purpofes.

This elegant method of uniting oils with aqueous liquors, which has been kept a fecret in a few hands, appears to have been known to Dr. Grew. "I took (fays he) oil of aniſeeds, and pouring it upon *another* "*body*, I fo 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, eafily and inftantaneoufly diffolving "therein in the form of a milk. And note, this is done without the "leaft alteration of the fmell, tafte, nature, or operation of the faid oil. "By fomewhat the fame means any other ftillatitious oil may be tranf- "formed into a milk white butter, and in like manner be mingled with "water or any other liquor: Which is of various ufe in medicine, and "what I find oftentimes very convenient and advantageous to be done."

(Grew

(*Grew of Mixture, chap.* v. *inſt.* i § 7.) This inquiry has lately been further proſecuted in the firſt volume of the Medical Obſervations publiſhed by a ſociety of phyſicians in London; where various experiments are related, for rendering oils, both eſſential and expreſſed, and different unctuous and reſinous bodies, ſoluble in water by the mediation of gum. Mucilages have alſo been uſed for ſuſpending crude mercury, and ſome other ponderous and inſoluble ſubſtances: The mercury is by this means conſiderably divided; but the particles are very apt to run together or ſubſide, if a pretty conſtant agitation be not kept up.

As oily and reſinous 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 reſins and eſſential oils; though the ſpirit does not take up near ſo much of the gum as water does of the oil or reſin.

Acid liquors, though they thicken pure oils, or render them conſiſtent, 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 ſoluble 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 ſpiritous 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 each other.

We ſhall afterwards find that it will be convenient to imitate this natural combination by art. As the effects of medicines very generally depend on their ſolubility in the ſtomach, it is often neceſſary to bring their more inſoluble parts, ſuch as reſinous and oily matters, into the ſtate of gum reſin: This is done, as we have mentioned in the former article, by the mediation of mucilage. By this management theſe matters become much more ſoluble in the ſtomach; and the liquor thus prepared is called an emulſion.

9. Saline Matter.

Of the ſaline juices of vegetables there are different kinds, which have hitherto been but little examined: The ſweet and the acid ones are the moſt plentiful and the beſt known.

There have lately, however, been diſcovered a conſiderable variety of

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ſalts in different vegetables. The mild fixed alkali, which was formerly conſidered as a product of the fire, has been obtained from almoſt all plants by macerating them in acids; the vegetable alkali is the moſt common, but the mineral is alſo found in the marine plants. Beſides the fixed alkali, ſeveral other ſalts have been detected in different vegetables; ſuch as vitriolated tartar, common ſalt, Glauber's ſalt, nitre, febrifuge ſalt, and ſelenite. From ſome experiments, too, the volatile alkali has been ſuppoſed to exiſt ready formed in many plants of the cruciform or tetradynamian tribe.

It is, however, to be underſtood, that though ſome of theſe ſalts are really products of vegetation, others of them are frequently adventitious, being imbibed from the ſoil without any change produced by the functions of the vegetable.

The juices of vegetables, expoſed to a heat equal to that of boiling water, ſuffer generally no other change than the evaporation of their watery parts; the ſaline matter remaining behind, with ſuch of the other fixed parts as were blended with it in the juice. From many plants, 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 ſalt.

The ſalts more peculiarly native and eſſential to vegetables are the ſweet and the ſour; theſe two are frequently blended together in the ſame vegetable, and ſometimes paſs into each other at different ages of the plants. Of the four ſalts ſeveral kinds are known in pharmacy and in the arts; ſuch as thoſe of ſorrel, of lemons, oranges, citrons, &c. The ſaccharine ſalts are alſo obtained from a great number of vegetables; they may in general be eaſily diſcovered by their ſweet taſte: The ſugar cane is the vegetable from which this ſaline matter is procured in greateſt quantity and with moſt profit in commerce. For its medicinal and chemical properties we refer to the article SUGAR.

The ſweet and ſour ſalts above mentioned 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; while thoſe extracted by ſpirit of wine are more pure. By means of rectified ſpirit, ſome productions of this kind may be freed from their impurities. Perfect ſaccharine concretions from many of our indigenous ſweets may be thus purified.

There is another kind of ſaline matter obtained from ſome reſinous bodies, particularly from benzoin, which is of a different nature from the foregoing, and is a peculiar acid, ſoluble both in water and in vinous ſpirits, though difficultly and ſparingly in both: They ſhew ſeveral evi-

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dent marks of acidity, have a 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 are inflammable in the fire.

10. Farina or Flour.

This ſubſtance partakes of the nature of gum, but has more taſte, is more fermentable, and much more nutritive. It abounds in very many vegetables, and is generally depoſited in certain parts, ſeemingly for the purpoſe of its being more advantageouſly accommodated to their nouriſhment and growth. Several of the bulbous and other roots, ſuch as thoſe of potatoes, briony, thoſe from which caſſava is extracted, ſalep, and many others contain a great quantity of a white *fæcula* reſembling and really poſſeſſing the properties of ferina. The plants of the leguminous tribe, ſuch as peas and beans, are found alſo to abound with this matter. But the largeſt quantity of farina reſides in grains, which are therefore called *farinaceous*. Of this kind are wheat, rye, barley, oats, rice, and other ſimilar plants.

At firſt ſight farina appears to be one homogenous ſubſtance: It is, however, found to be a compound of three different and ſeparable parts. To illuſtrate this, we ſhall take as an example the farina of wheat, being the vegetable which affords it in greateſt quantity, and in its moſt perfect ſtate. To ſeparate theſe different parts, we form a paſte with any quantity of flour and cold water; we ſuſpend this paſte in a bag of muſlin or ſuch like cloth; we next let fall on it a ſtream of cold water from ſome height, and the bag may now and then be very gently ſqueezed; the water in its deſcent carries down with it a very fine white powder, which is received along with the water in a veſſel placed below the bag: The proceſs muſt be continued till no more of this white powder comes off, which is known by the water that paſſes through the bag ceaſing to be of a milky colour. The proceſs being now finiſhed, the farina is found to be ſeparated into three different ſubſtances: The glutinous or vegeto animal part remains in the bag; the amylum or ſtarch is depoſited from the water which has been received in the veſſel placed below the bag; and, laſtly a mucous matter is held diſſolved in the ſame water from which the ſtarch has been depoſited: This mucous part may be brought to the conſiſtence of honey, by evaporating the water which kept it in ſolution.

Theſe ſeveral parts are found alſo to differ remarkably in their ſenſible and chemical properties. The vegeto animal part is of a whitiſh grey colour, is a tenacious, ductile, and elaſtic matter, partly poſſeſſing the texture of animal membranes. Diſtilled in a retort, it yields, like all animal matters, a volatile alkali; and its coal affords no fixed alkali. It is not only inſoluble, but even indiffuſible, in water; both which appear from its remaining in the bag after long continued lotions. Like gums, it is inſoluble in alcohol, in oils, or either; but it is alſo inſoluble in water, and yields on diſtillation products very different from thoſe afforded by gums: It is therefore of an animal nature, and approaches perhaps nearer to the coagulable lymph of animals than to any other ſubſtance.

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The fixed alkali, by means of heat, diſſolves the gluten vegeto animale, but when it is precipitated from this ſolution by means of acids, it is found to have loſt its elaſticity. The mineral acids and eſpecially the nitrous, are alſo capable of diſſolving the vegeto animal part of the farina.

The ſtarch, amylum, or the amylaceous matter, makes the principal part of the farina. As we before noticed, it is that fine powder depoſited from the water which had pervaded the entire farina: It is of a greyiſh white colour, but can be rendered much whiter by making it undergo a certain degree of fermentation. Starch is inſoluble in cold water; but in hot water it forms a tranſparent glue; hence the neceſſity of employing cold water in ſeparating it from the vegeto animal part. Diſtilled in a retort, it yields an acid phlegm; and its coal affords, like other vegetables, a fixed alkaline ſalt. As ſtarch forms the greateſt part of the farina, it is probably the principal nutritive conſtituent in bread.

The mucous, or rather the mucoſo ſaccharine matter, is only in a very ſmall quantity. This ſubſtance on diſtillation is found to exhibit the phenomena of ſugar. The uſe of this matter ſeems to be that of producing the vinous fermentation: And we may obſerve that the preparation of good bread probably depends on a proper proportion of the three different parts above deſcribed; viz. that the vinous fermentation is promoted by the mucoſo ſaccharine part, the acetous by the ſtarch, and the putrid by the gluten vegeto animale. From different ſtates or degrees of theſe ſeveral ſtages of fermentation the qualities of good bread are probably derived. What remains on this very important ſubject will be taken up when we come to ſpeak of wheat in the Materia Medica.

11. Of the Colouring Matter of Vegetables.

The colouring matter of vegetables ſeems to be of an intermediate nature between the gummy and reſinous part. It is equally well extracted by water and by rectified ſpirit from many plants: It is alſo, however, procurable in the form of a *lake*, not at all ſoluble in either of theſe menſtrua. It would ſeem that the colouring matter, ſtrictly ſo called, has hitherto eluded the reſearches of chemiſts. It is only the *baſe* or *nidus*, in which the real colouring matter is embodied, that chemiſtry has as yet reached; and on the chemical properties of this *baſe*, colours are capable of being extracted by different menſtrua, and of being variouſly accommodated to the purpoſes of dying. The ſubſtances from which the colours of vegetables are *immediately* derived, is without doubt a very ſubtile body. Since plants are known to loſe their colour when excluded from the light of the ſun, there is reaſon to think that the *immediately* colouring ſubſtance is primarily derived from the matter of the ſun, ſomewhat elaborated by vegetable life.

Many of theſe dyes are evolved or variouſly modified by chemical operations. Thus a colouring matter is ſomewhat depoſited in the form of a *fæcula* during the putrefaction of the vegetable; in others it is evolved or changed by alum, by acids, or by alkali. We may alſo obſerve, that any part of the vegetable may be the baſe of the colouring matter. This

appears from the ſolubility of the different dyes in their proper menſtrua; and in theſe ſolutions we have not been able to ſeparate the real colouring matter from the baſe in which it is inviſcated. After all, then, we muſt conclude, that a full inveſtigation of this ſubject more properly belongs to the ſublimer parts of chemiſtry, than to the buſineſs in which we are at preſent engaged.

The colouring drugs will be conſidered in their proper places.

In finiſhing our hiſtory of the vegetable kingdom, it only remains that we ſhould offer ſome

General Obſervations on the foregoing Principles.

1. ESSENTIAL oils, as already obſerved, are obtainable only from a few vegetables: 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 ſeveral 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 infuſions and ſpirituous tinctures of a plant, contain reſpectively more ſubſtances than thoſe of which water or ſpirit is the proper diſſolvent.

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

4. If a vegetable ſubſtance, containing all the principles we have enumerated, be boiled in water, the eſſential oil, whether fluid 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 foundations, moſt of the ſubſtances contained in vegetables may be extracted, and obtained in a pure ſtate, however they may be compounded together in the ſubject.

5. Sometimes one or more of the principles is found naturally diſengaged from the others, lying in diſtinct receptacles within the ſubject, or extravaſated and accumulated on the ſurface. Thus, in the dried roots of angelica, cut longitudinally, the microſcope diſcovers veins of reſin. In the flower cups of hypericum, and the leaves of the orange tree, tranſparent points are diſtinguiſhed by the naked eye: Which, at firſt view, ſeem to be holes, but on a cloſer examination are found to be

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 ſo copiouſly ſupplied with the oily and reſinous fluid, that they frequently burſt, eſpecially in the warm climates, and diſcharge their contents in great quantities. The Acacia tree in Egypt, and the plumb and cherry in Europe yield almoſt pure gummy exudations. From a ſpecies of aſh is ſecreted the ſaline ſweet ſubſtance manna; and the only kind of ſugar with which the antients were acquainted, appears to have been a natural exudation from the cane.

6. The foregoing principles are, as 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 generally found concentrated.

7. In ſome vegetables, the whole medicinal activity reſides in one principle. Thus, in ſweet almonds, the only medicinal principle is a groſs oil; in horſe radiſh root, an eſſential oil; in jalap root, a reſin; in marſh mallow root, a gum; in the leaves of ſorrel, an acid.

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 flavoured eſſential oil, and a bitter gum reſin.

9. The groſs inſipid oils and ſebaceous matters, the ſimple inſipid gums, and the ſweet and acid ſaline ſubſtances, ſeem to agree both in their medicinal qualities, and in their pharmaceutic properties.

10. But eſſential oils, reſins, and gum reſins, differ much in different ſubjects. As eſſential 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. Reſins frequently partake of the oil, and conſequently of the differences depending on it; with this farther diverſity, that the groſs reſinous part often contains other powers than thoſe which reſide in oils. Thus from wormwood a reſin may be prepared, containing, not only the ſtrong 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 virtue of vegetables, generally reſide in different ſorts of reſinous matter, either pure or blended with gummy and ſaline parts; of which kind of combinations there are many ſo intimate, that the component parts can ſcarcely be ſeparated from each other, the whole compound diſſolving almoſt equally in aqueous and ſpirituous menſtrua.

11. There are ſome ſubſtances alſo, which, from their being totally ſoluble in water, and not in ſpirit, may be eſteemed to be mere gums; but which nevertheleſs, poſſeſs virtues never to be found in the ſimple gums. Such are the aſtringent gum called acacia, and the purgative gum extracted from aloes.

12. It is ſuppoſed that vegetables contain certain ſubtile principles different in different plants, of too great tenuity to be collected in their pure ſtate, and of which oils, gums, and reſins are only the matrices or vehicles. This inquiry however is foreign to the purpoſes of pharmacy, which is concerned only about groſſer and more ſenſible objects. When

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we obtain from an odoriferous 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 a fragrant principle more ſubtile than itſelf is diffuſed through it. 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 happens from the avolation of a ſubtile principle, or from a change produced in the ſubſtance of the oil itſelf.

SECT. II.

Animals.

FROM the hiſtory we have already given of the vegetable kingdom, our details on animal ſubſtances may, in many particulars, be conſiderably abridged. All animals are fed on vegetables, either directly or by the intervention of other animals. No part of their ſubſtance is derived from any other ſources except water and air. The ſmall quantity of ſalt uſed by man and ſome other animals, is only neceſſary as a ſeaſoning, or as a ſtimulus to the ſtomach. As all animal matter then is derived from vegetables we accordingly find that the former is capable of being reſolved into the ſame principles as thoſe of the latter. Thus, by repeated diſtillations, we obtain from animal ſubſtances the ſame proximate principles which we found in vegetables. But though the principles of vegetable and animal ſubſtances are fundamentally the ſame, yet theſe principles are combined in a very different manner. It is exceedingly rare that animal ſubſtances are capable of the vinous or acetous fermentations; and the putrefactive, into which they run remarkably faſt, is alſo different in ſome particulars from the putrefaction of vegetables; the ſmell is much more offenſive, in the putrefaction of animal than of vegetable ſubſtances. The putrefaction of urine is indeed accompanied with a peculiar fetor, by no means ſo intolerable as that of other animal matters: This is probably owing to the pungency derived from the volatile alkali. When analyſed by a deſtructive heat, animals afford products very different from thoſe of vegetables: The empyreumatic oil has a particular, and much more fetid odour; and the volatile ſalt, inſtead of being an acid, as it is in moſt vegetables, is found in animals to be a volatile alkali. Chemiſts have ſpoken of an acid procurable from animal ſubſtances; and indeed certain parts of animal bodies are found to yield a ſalt of this kind; but it by no means holds with animal ſubſtances in general; and though the proofs to the contrary were even concluſive, it is confeſſedly in ſo ſmall a quantity as not to deſerve any particular regard. In ſome animals, however, an acid exiſts, uncombined and ready formed in their bodies. This is particularly manifeſt in ſome inſects, eſpecially ants, from which a peculiar acid is procured by boiling them in water. The ſolid parts of animal bodies, as the muſcles, teguments, tendons, cartilages, and even the bones, when boiled with water, give a gelatinous matter or *glue* reſembling the vegetable gums, but much more adheſive. We

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muſt, however, except the horny parts and the hair, which ſeem to be little ſoluble either in water or in the liquors of the ſtomach. The acids, the alkalies, and quicklime, are alſo found to be powerful ſolvents of animal matters. It is from the ſolid parts that the greateſt quantity of volatile alkali is obtained; it ariſes along with a very fetid empyreumatic oil, from which it is in ſome meaſure ſeparated by repeated rectifications. This ſalt is partly in a fluid, and partly in a concrete ſtate; and from its having been antiently prepared in the greateſt quantity from the horns of the hart, it has been called *ſalt* or *ſpirit of hartſhorn*. Volatile alkali is, however, procurable from all animals and from almoſt every part of animal bodies, except fat. Though we are ſometimes able to procure fixed alkali from an animal cinder, yet it is probable that this ſalt did not make any part of the living animal, but rather proceeded from the introduction of ſome ſaline matter, incapable of being aſſimilated by the functions of the living creature.

In ſpeaking of the fluid parts of animals, we ſhould firſt examine the general fluid or blood, from whence the reſt are ſecreted. The blood, which at firſt ſight appears to be an homogeneous fluid, is compoſed of ſeveral parts, eaſily ſeparable from each other, and which the microſcope can even perceive in its uncoagulated ſtate. On allowing it to ſtand at reſt, and to be expoſed to the air, it ſeparates into what are called the *craſſamentum* and the *ſerum*. The craſſamentum, or cruor, chiefly conſiſts of the red globules, joined together by another ſubſtance, called the coagulable lymph: The chemical properties of theſe globules are not as yet underſtood; but they ſeem to contain the greateſt quantity of the iron found in the blood. The ſerum is a yellowiſh ſubvilcid liquor, having little ſenſible taſte or ſmell: At a heat of 156 of Farenheit, it coagulates. This coagulation of the ſerum is alſo owing to its containing a matter of the ſame nature with that in the craſſamentum, viz. the coagulable lymph: Whatever, then, coagulates animal blood, produces that effect on this concreſcible part. Several cauſes and many different ſubſtances, are capable of effecting this coagulation; ſuch as contact of air, heat, alcohol, mineral acid, and their combinations with earths, as alum, and ſome of the metallic ſalts. The more perfect neutral ſalts are found to prevent the coagulation, ſuch as common ſalt and nitre.

Of the fluids ſecreted from the blood, there are a great variety in men and other animals. The excrementitious and redundant fluids, afford in general the greateſt quantity of volatile alkali and empyreumatic oil: Some of the ſecreted fluids, on a chemical analyſis, yield products in ſome degree peculiar to themſelves. Of this kind is the urine, which is found to contain in the greateſt abundance the noted ſalt formed from the phoſphoric acid and volatile alkali. The fat, too, differs from the other animal matters, in yielding by diſtillation a ſtrong acid, but no volatile alkali. There is alſo much variety in the quantity and ſtate of the combination of the ſaline and other matters in different ſecreted fluids; but for a fuller inveſtigation of this and other parts of the ſubject, we refer to the doctrines of Anatomy, Phyſiology, and Chemiſtry; with which it is more immediately connected than with the Elements of Pharmacy.

Animal

Animal oils and fats, like the groſs oils of vegetables, are not of themſelves ſoluble either in water or vinous ſpirit: But they may be united with water by the intervention of gum or mucilage. Moſt of them may be changed into ſope by fixed alkaline ſalts; and be thus rendered miſcible with ſpirit, as well as water.

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. Charthuſer relates, that from caſtor an actual eſſential oil has been obtained in a very ſmall quantity, but of an exceedingly ſtrong diffuſive ſmell.

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

The gelatinous principles of animals like the gum of vegetables, diſſolves 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 inſects, particularly the ant, are found to contain an acid juice, which approaches nearly to the nature of vegetable acids.

There are, however, ſundry 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 mixes uniformly with cold or warm water, yet on conſiderably heating the mixture, the animal matter ſeparates from the watery fluid, and concretes into a ſolid maſs. Some phyſicians have been apprehenſive, that the heat of the body, in certain diſeaſes, 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 ſoft and fluid parts of animals are ſtrongly diſpoſed to run into putrefaction; they putrify 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.

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 ſcurvies, &c.

The craſſamentum of human blood changes, by putrefaction, into a dark livid coloured liquor; a few drops of which tinge the ſerum with a tawny hue, like the ichor of ſores and dyſentric fluxes.

Putrid craſſamentum alſo changes a large quantity of recent urine to a flame coloured water, ſo common in fevers and in the ſcurvy. This mixture, after ſtanding an hour or two, gathers a cloud reſembling what

what is ſeen in the crude water of acute diſtempers, with ſome oily matter on the ſurface like the ſcum which floats on ſcorbutic urine.

The ſerum of the blood depoſites, in putrefaction, a ſediment reſembling well digeſted pus, and changes to a faint olive green. A ſerum 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 fleſh 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 corrupting aliments. In foul 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 moſt ſaline matters, even by the fixed and volatile alkaline ſalts, which have generally been ſuppoſed to produce a contrary effect. Of all the ſalts that have been tried, ſea ſalt ſeems to reſiſt 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 likewiſe ſomewhat correcting it when putrid; the mineral acids have this laſt effect in a more remarkable degree. Vinous ſpirits, aromatic and warm ſubſtances, and the acrid plants, falſely called *alkaleſcent*, as ſcurvy graſs and horſe radiſh, are found alſo to reſiſt putrefaction. Sugar and camphor are found to be powerfully antiſeptic. Fixed air, or the aerial acid, is likewiſe thought to reſiſt putrefaction; but above all the nitrous air is found to be the moſt effectual in preſerving animal bodies from corruption. The liſt of the ſeptics, or of thoſe ſubſtances that promote putrefaction, is very ſhort; and ſuch a property has only been diſcovered in calcareous earths and magneſia, and a very few ſalts, which have theſe earths for their baſes.

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 ſour. Sir John Pringle has found, that animal fleſh in ſubſtance, beaten up with bread or other farinaceous vegetables and a proper quantity of water, into the conſiſtence of a pap, and kept in a heat equal to that of the human body, grows in a little time ſour; while the vegetable matters, without the fleſh, ſuffer no ſuch change.

It was obſerved in the preceding ſection, that ſome few vegetables in the reſolution of them by fire, diſcover ſome agreement, in their matter, with bodies of the animal kingdom; yielding a volatile alkaline ſalt in conſiderable quantity, with little or no acid, or fixed alkali, which the generality of vegetables afford. In animal ſubſtances alſo, there are ſome exceptions to the general analyſis; from animal fats, as we before obſerved, inſtead of a volatile alkali, an acid liquor is obtained; and their empyreumatic oil wants the peculiar offenſiveneſs of the other animal oils.

SECT.

SECT. III.

Minerals.

I. Oils *and* Bitumens.

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

There are different ſorts of theſe mineral oils, more or leſs tinged, of a more or leſs agreeable, and a ſtronger or weaker ſmell. By the admixture of concentrated acids, which raiſe no great heat or conflict with them, they become thick, and at length conſiſtent; and in theſe ſtates 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 liquefy by heat, but require the heat to be conſiderably ſtronger than vegetable products. Their ſmells are various; but all of them, either in the natural ſtate, when melted or ſet on fire, yield a peculiar kind of ſtrong ſcent, called from them *bituminous*.

The ſolid bitumens are, amber, jet, aſphaltum, or bitumen of Judea, and foſſil or pit coal. All theſe bitumens when diſtilled, give out an odorous phlegm, or water, more or leſs coloured and ſaline; an acid, frequently in a concrete ſtate; an oil, at firſt reſembling the native petrolea, but ſoon becoming heavier and thicker; and, laſtly; a quantity of volatile alkali is obtained: The reſiduum is a charry matter, differing in its appearances according to the nature of the bitumen which had been analyſed.

From the obſervations of ſeveral naturaliſts, it is probable that all bitumens are of vegetable and animal origin; that the circumſtances by which they differ from the reſinous and other oily matters of vegetables and animals, are the natural effects of time, or of an alteration produced on them by mineral acids; or perhaps they are the effect of both theſe cauſes combined. This opinion is the more probable, ſince bitumens, on a chemical analyſis, yield oil and volatile alkali; neither of which are found in any other minerals.

II. Earths.

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.

1. *Earths ſoluble in the nitrous, muriatic, and vegetable acids, but not at all or exceeding ſparingly in the vitriolic acid. When previouſly diſſolved in other acids, they are precipitated by the addition of this laſt, which thus unites*

unites with them into inſipid, or nearly inſipid concretes, ſcarcely, or ſometimes not, ſoluble in water.

Of this kind are,

1. 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 mineral kingdom. The fine ſoft chalk, the coarſer lime ſtones, the hard marbles, the tranſparent ſpars, the earthy matter contained in waters, and which ſeparating from them, incruſtates the ſides of the caverns, or hangs like iſicles from the top, receiving from its different appearances different appellations. How ſtrongly ſoever ſome of theſe bodies have been recommended for particular medicinal purpoſes, they are only fundamentally different forms of this calcareous, earth; ſimple pulverization depriving them of the ſuperficial characters by which they were diſtinguiſhed in the maſs. Moſt of them generally contain a greater or leſs admixture of ſome of the indiſſoluble kinds of earths; 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 pureſt; and is therefore in general preferred. They all burn into a ſtrong quicklime; in this ſtate a part of them diſſolves in water, which thus becomes impregnated with the aſtringent and lithontriptic powers that have been erroneouſly aſcribed to ſome of the earths in their natural ſtate.

During the calcination of calcareous earths, a large quantity of elaſtic vapour is diſcharged; the abſence of this fluid is the cauſe of the cauſticity of quicklime, and of its ſolubility in water in the form of lime water. For a more full account of this ſubject, ſee the articles FIXED AIR, LIME WATER, and CAUSTIC LEY.

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. Ponderous earth, called alſo Barytes; *diſtinguiſhable from the former by ſuperior ſpecific gravity, being about twice the weight of an equal bulk of Lime.* The nature of this kind of earth has not been long known, and it was not received into the liſt of the materia medica till the laſt edition of the Edinburgh pharmacopœia. For its peculiarities and habitudes ſee the article BARYTES.

II. *Earths ſoluble with eaſe in the vitriolic as well as other acids, and yielding, in all other combinations therewith, ſaline concretes ſoluble in water.*

1. Magneſia alba: *Compoſing with the vitriolic acid a bitter purgative ſalt.* 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 ſalt from ſea water; from the fluid which remains uncryſtallized in the purifaction of ſome ſorts of rough nitre. It alſo occurs in mixture with other earths in different ſtones as in ſope rock and others.

2. Aluminous earth: *Compoſing with the vitriolic acid a very aſtringent ſalt.* This earth alſo has been ſeldom found naturally pure. It is obtained

from alum; which is no other than a combination of it with the vitriolic acid.

III. *Earths which by digeſtion with acids are not at all diſſolved.*

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

2. Talky earth: *Not ſtriking fire with ſteel, and ſcarcely 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 pulveriſed; and ſoft, ſo as to be cut with a knife.

III. Metals.

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

To underſtand the writers in chemiſtry, it is proper to be informed that metals are ſubdivided into the *perfect*, the *imperfect*, and the *ſemi metals*.

Thoſe poſſeſſed of ductility and malleability, and which are not ſenſibly altered by very violent degrees of heat, are called *perfect metals*: Of theſe there are three; gold, ſilver, and platina. It is, however, probable, that the mark of their indeſtructibility by fire is only relative; and indeed, modern chemiſts have been able, by a very intenſe degree of heat to bring gold into the ſtate of a *calx*, or ſomething very nearly reſembling it.

Thoſe metallic ſubſtances which poſſeſs the diſtinctive properties of the perfect metals, but in a leſs degree, are called the *imperfect metals*: Theſe are, copper, iron, tin, and lead.

Laſtly, thoſe bodies having the metallic characters in the moſt imperfect ſtate, that is to ſay, thoſe which have no ductility and the leaſt fixity in the fire, are diſtinguiſhed by the name of *ſemi metals*: Theſe are, antimony, biſmuth, zinc, cobalt, nickel, manganeſe, and arſenic; which laſt might be rather conſidered as the boundary between the metallic and the ſaline bodies.

Mercury has been generally ranked in a claſs by itſelf.

All metallic bodies, when heated in cloſe veſſels, melt or *fuſe*. This *fuſion* takes place at different degrees of heat in different metals; and it does not appear that this proceſs produces any change in the metals, provided it be conducted in cloſe veſſels. Metals, expoſed to the combined action of air and fire, are converted into earth like ſubſtances called *calces*; by this proceſs, called *calcination*, the metal ſuffers remarkable changes. From the diſtinctive marks we have before given of the metallic bodies, it will be obvious, that the perfect metals are moſt ſlowly, the imperfect more quickly, and the ſemi metals moſt eaſily and

ſooneſt,

ſooneſt, affected in this operation. This earth like powder, or *calx*, is found to poſſeſs no metallic aſpect, but is conſiderably heavier than the metal before its calcination; it has no longer any affinity with metallic bodies, nor even with the metal from which it has been produced.

Beſides this method of calcining metals by air and fire, they may likewiſe be brought into the ſtate of a calx, by diſſolving them in acids, from which they may be afterwards freed by evaporating the acid, or by adding to the ſolution an alkaline ſalt. Metals may be alſo calcined by detonation with nitre. This change in their obvious properties is generally accompanied with a remarkable alteration in their medicinal virtues: Thus quickſilver, taken into the body in its crude ſtate and undivided, ſeems inactive, but proves, when calcined by fire, 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 arſenic 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 ſome inflammable ſubſtance. This recovery of the metallic calces into the metallic form is called *reduction*. During this proceſs an elaſtic aerial fluid eſcapes, which is found to be *pure air*, either in a ſeparate ſtate, or combined with the inflammable ſubſtances added to reduce the calx.

The converſion of metals into calces is owing to the abſorption of pure air; and the reduction, to the extrication of pure air.

All metallic bodies diſſolve in acids; ſome only in particular acids, ſome only in compoſitions of acids, as gold in a mixture of the nitrous and marine; and others, in all acids. Moſt of them are more ſoluble in acids in the form of calx, than in their pure metallic form. Some likewiſe diſſolve in alkaline liquors, as copper; and others, as lead, in expreſſed oils. Fuſed with a compoſition of ſulphur and fixed alkaline ſalt, moſt of them are ſoluble 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 ceruſs, 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 was called *ſaccharum ſaturni*, but now more properly *plumbum acetatum*; and thus mercury, with a certain quantity of the muriatic acid, forms the violent corroſive ſublimate, which, by diminiſhing the proportion of acid, becomes the milder medicine called *mercurius dulcis*.

IV. Acids.

The ſalts of this order are very numerous; but as we are at preſent treating of *Minerals*, we ſhall therefore confine ourſelves to the *mineral* or *foſſil* acids.

Theſe 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* or *muriatic* from common ſea ſalt. They are generally in the form of a watery fluid: They have all a remarkable attraction for water, and imbibe the humidity of the air with rapidity and the generation of heat. Although heat be produced by their union with water, yet when mixed with ice in a certain manner, they generate a great degree of cold. Acids change the purple and blue colours of vegetables to a red: They reſiſt fermentation; and laſtly, they impreſs that peculiar ſenſation on the tongue called *ſourneſs*, and which their name imports. But it is to be obſerved, that they are all highly corroſive, inſomuch as not to be ſafely touched, unleſs largely diluted with water, or united with ſuch ſubſtances 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 fumes: A part of the acid unites intimately with the vinous ſpirit into a new compound, void of acidity, called *dulcified ſpirit* or *Æther*. It is obſervable, that the muriatic 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 ſpirit, while thoſe with the other acids are not. All theſe acids effervelce ſtrongly with mild alkaline ſalts both fixed 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 muriatic 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 its former name *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 left in a dry form.

From the coalition of the different acids with the three different alkalies, and with the ſeveral ſoluble earths and metallic bodies, reſult a variety of ſaline compounds; the principal of which ſhall be particulariſed in the ſequel of this work.

The vitriolic acid, in its concentrated liquid ſtate, is much more ponderous than the other two; it emits no viſible vapour in the heat of the atmoſphere, but imbibes moiſture which increaſes its weight; the nitrous and muriatic emit copious corroſive fumes; the nitrous yelloviſh red, and the muriatic white ones. If bottles containing the three acids be ſtopt with cork, the cork is tinged black with the vitriolic, corroded into a yellow ſubſtance by the nitrous, and into a whitiſh one by the muriatic.

It is above 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 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 ſoluble in the liquor, renders the whole milky at firſt, but by ſtanding a ſhort while the new compound gradually ſubſides. The ſame phenomenon occurs in a much more evident manner if, inſtead of a ſolution of chalk, we uſe a ſolution of Barytes.

The nitrous acid alſo, with whatever kind of body it be combined, is both diſtinguiſhed and extricated if any inflammable ſubſtance be brought to a ſtate of ignition with it. If the ſubject be mixed with a little powdered charcoal and made red hot, a deflagration or fulmination enſues; that is, a bright flame with a hiſſing noiſe; and the inflammable matter and the acid being thus conſumed or diſſipated together, there remains only the ſubſtance which was before combined with the acid, and the ſmall quantity of aſhes afforded by the coal.

This property of the nitrous acid deflagrating with inflammable ſubſtances ſerves not only as a criterion of the acid in various forms and diſguiſes, but likewiſe for diſcovering inflammable matter in bodies, when its quantity is too ſmall to be ſenſible on other trials.

All theſe acids will be more particularly examined when we come to treat of each of them apart. There are, however, a few other mineral acids which are of importance to be known; theſe are *aqua regia*: *acid of borax*; *ſparry acid*; and laſtly *fixed air*, which has of late been called *aerial acid*, *acid of chalk*, and *carbonic acid*.

Aqua regia has been generally prepared by a mixture of certain proportions of the nitrous and muriatic acids. It is of little avail in pharmacy whether we conſider it as a diſtinct acid, or only as a modification of the muriatic. It has been found, that the muriatic acid when diſtilled with *manganeſe*, ſuffers a change which renders it capable of diſſolving gold and platina; this change is produced by the acid acquiring a redundance of pure air. This experiment, however, renders it probable, that the nitrous acid in the common aqua regia, is only ſubſervient to accompliſhing the ſame change in the muriatic acid, which is produced by diſtilling that acid with manganeſe.

As aqua regia has been only uſed in the nicer operations in chemiſtry, and in the art of aſſaying, we think it unneceſſary to ſay more of it in this place.

The *acid of borax*, or *ſedative ſalt of Homberg*, may be extracted from borax, a neutral ſalt, whoſe baſe is mineral alkali. It has alſo been found native in the waters of ſeveral lakes in Tuſcany. It is a light, cryſtaliſed concrete ſalt: Its taſte is ſenſibly acid; it is difficultly ſoluble in water; but the ſolution changes blue vegetable colours to a red. With vitreſcent earths, it fuſes into a white glaſs: It unites with the

other

other alkalies, with magnesia, and with quicklime. The salts resulting from these combinations are very imperfectly known. The salt has been called *sedative*, from its supposed virtues as an anodyne and refrigerant remedy; but modern physicians have very little faith in this once celebrated drug.

The *sparry acid* is so called, from its being extracted from a fossil called *sparry flour, or vitreous spar*. As it has not yet been employed for any purpose in pharmacy, we think it would be improper to attempt any farther account of it here.

Besides the acids above mentioned, there have also been discovered acids seemingly of a particular nature, in amber, in arsenic, and other minerals: But as these have not hitherto been applied to any use in pharmacy, they cannot properly have a place in this work.

We now come to the last, but perhaps the most generally diffused, acid in nature: This is the aerial acid, or

Fixed Air.

In our pharmaceutical history of this body, we shall only use the name *fixed air* originally given to it by its inventor Dr. Black. It has received many different names, according to the substances from which it is disengaged, and to the different opinions concerning its nature; it is the *gas silvestre* of Helmont, the *acid of chalk, calcareous gas mephitic gas, mesphitic acid, aerial acid*, and *carbonic acid*, of modern chemists. In accommodating our account of it to the purposes of pharmacy, it is most convenient to consider it as an acid. It may be extricated by heat, or by other acids, from all calcareous earths; that is, from all those earths which by calcination are converted into quicklime; such as chalks, marble, limestone, sea shells, &c. It is likewise extricated from mild, fixed, and volatile alkalies, and from magnesia. Thus, if the vitriolic, or almost any other acid, be added to a quantity of calcareous earth or mild alkali, a brisk effervescence immediately ensues; the fixed air is discharged in bubbles: And the other acid takes its place. If this process be conducted with an apparatus to be afterwards described, the fixed air, separated from the calcareous earth, may be received and preserved in close vessels. When thus disengaged, it assumes its real character, viz. that of a *permanently elastic fluid*. Fixed air is also separated in great quantity during the vinous fermentation of vegetable matters. When a calcareous earth is deprived of this acid by heat, it is converted into the caustic substance, *quicklime*. When alkalies, fixed or volatile, are deprived of it, they are rendered caustic, incapable of crystallization, or of effervescing with other acids. They are also in this *deaerated* state much more powerful in dissolving other bodies. By recombining this acid with quicklime, calcined magnesia, or caustic alkali, these substances again assume their former weight and properties. When these bodies are combined with fixed air they are called *mild*; as *mild calcareous earth, mild alkali, &c.* And when deprived of this acid, they are called *caustic*; as *caustic calcareous earth, caustic alkali, &c.* But as magnesia is not rendered caustic by calcination, it would perhaps be more proper to call them *aerated* and *deaerated*. Fixed air is more disposed

poſed to unite with barytes and calcareous earth than with any other ſubſtance; next to theſe it has the ſtrongeſt attraction for fixed alkali, then for magneſia, and laſtly for volatile alkali. We ſhall afterwards find that theſe relative powers of the different ſubſtances to unite with it lay the foundation of many important proceſſes in pharmacy.

When we pour a ſmall quantity of this acid into lime water, the liquor inſtantly aſſumes a white colour, and the lime gradually precipitates, leaving the water clear and taſteleſs: The lime in this experiment has abſorbed the acid, and has therefore become *mild* or *aerated* calcareous earth. This acid is capable of being abſorbed by water; and the water thus impregnated, precipitates lime in lime water: But if a certain larger quantity of this impregnated water be added, the lime is rediſſolved, and the liquor recovers its tranſparency. Water impregnated with it is capable of diſſolving iron; and in this way are formed native and artificial chalybeate waters. Zinc is alſo ſoluble in the ſame liquor. This acid is eaſily expelled from the water by boiling, and even by time alone, if the veſſel be not kept cloſe ſhut. Fixed air extinguiſhes flame and animal life, and ought therefore to be cautiouſly managed: Like other acids, it changes the blue colours of vegetables to a red, and communicates an acidulous taſte to the water impregnated with it.

From theſe ſeveral facts, it will appear obvious, that *mild* or *effervescing alkalies*, whether fixed or volatile, are really neutral ſalts, compounded of this acid and pure alkali: Like other acids, it unites with theſe bodies, diminiſhes their cauſticity, and effects their cryſtallization. In ſpeaking, therefore, of *pure alkali*, we ought to confine ourſelves to thoſe in the *cauſtic* or *deaerated* ſtate. Many other properties of this acid might be mentioned, but we have noticed all thoſe which we thought were concerned in the buſineſs of pharmacy. We ſhall have occaſion to recur to the ſubject when we come to the preparation of ſeveral compound drugs.

Let us next take a view of what paſſes in the combinations of acids with different ſubſtances.

If a fixed alkaline ſalt be united with a vegetable acid, as vinegar, and formed into a neutral ſalt, on adding to this compound ſome muriatic acid, the acetous acid will be diſengaged, ſo as to exhale totally in a moderate heat leaving the muriatic in poſſeſſion of the alkali: The addition of the nitrous will in like manner diſpoſſeſs the muriatic, which now ariſes in its proper white fumes, 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 fumes, 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: A fixed alkali will diſlodge the volatile: And the remaining ſalt will be

the

the ſame as if the acid and fixed alkali had been joined together at firſt, without the intervention of any of the other bodies.

The power of bodies, on which theſe various tranſpoſitions and combinations depend, is called by the chemiſts *affinity* or *elective attraction*; 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 a greater attraction* for the alkali than for the metal: And when, on the contrary, they ſay it has a greater attraction for fixed alkali than for the volatile, they mean only that it will unite with the fixed in preference to the volatile; and that if previouſly united with a volatile alkali, it will forſake this for a fixed one.

The doctrine of the attractions of bodies is of a very extenſive uſe in 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 if, any of them, from an error in the proceſs, or other cauſes, prove unfit for the uſe intended, they may be rendered applicable to other purpoſes, by ſuch tranſpoſitions of their component parts as are pointed out by the knowledge of their attractions.

We ſhall therefore ſubjoin a table of the principal attractions obſerved in pharmaceutical operations, formed from that of the famous Bergman.

The table is to be thus underſtood. The ſubſtance printed in capitals on the top of each ſeries, has the greateſt attraction for that immediately under it, a leſs attraction for the next, and ſo on to the end of the ſeries: That is, if any of the remote bodies has 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, throwing out the remote one. Thus, in the firſt column of the vitriolic acid, a fixed alkali being placed between the acid and iron, it is to be concluded, that wherever vitriolic acid and iron are mixed together, the addition of any fixed alkaline ſalt will unite with the acid, and occaſion the iron to be ſeparated. Where ſeveral ſubſtances are expreſſed in one ſeries, it is to be underſtood, that any of thoſe bodies which are nearer to the uppermoſt, will in like manner diſengage from it any of thoſe which are more remote.

TABLE

TABLE OF SINGLE ATTRACTIONS.

By WATER.

Vitriolic acid.	Nitrous acid.	Muriatic acid.	Aqua regia.
Barytes,	Vegetable alkali,	Vegetable alkali,	Vegetable alkali,
Vegetable alkali.	Foſſil alkali,	Foſſil alkali,	Foſſil alkali,
Foſſil alkali,	Barytes,	Barytes,	Barytes,
Lime,	Lime,	Lime,	Lime,
Magneſia,	Magneſia,	Magneſia,	Magneſia,
Volatile alkali,	Volatile alkali,	Volatile alkali,	Volatile alkali,
Clay,	Clay,	Clay,	Clay,
Zinc,	Zinc,	Zinc,	Zinc,
Iron,	Iron,	Iron,	Iron,
Lead,	Lead,	Lead,	Lead,
Tin,	Tin,	Tin,	Tin,
Copper,	Copper,	Copper,	Copper,
Antimony,	Antimony,	Antimony,	Antimony,
Arſenic,	Arſenic,	Arſenic,	Arſenic,
Mercury,	Mercury,	Mercury,	Mercury,
Silver,	Silver,	Silver,	Silver,
Gold,	Gold,	Gold,	Gold,
Water,	Water,	Water,	Water,
Alkohol.	Alkohol.	Alkohol.	Alkohol.

By FIRE.

Vegetable alkali,	Barytes,	Barytes,	Barytes,
Foſſil alkali,	Vegetable alkali,	Vegetable alkali,	Vegetable alka
Barytes,	Foſſil alkali,	Foſſil alkali,	Foſſil alkali,
Lime,	Lime,	Lime,	Lime,
Magneſia,	Magneſia,	Magneſia,	Magneſia,
Metals,	Metals,	Metals,	Metals,
Volatile alkali,	Volatile alkali,	Volatile alkali,	Volatile alkali,
Clay.	Clay.	Clay.	Clay.

TABLE *of* SINGLE ATTRACTIONS *continued.*

BY WATER.

ACID OF BORAX.	ACID OF SUGAR.	ACID OF TARTAR.	ACID OF SORREL.
Lime,	Lime,	Lime,	Lime,
Barytes,	Barytes,	Barytes,	Barytes,
Magnesia,	Magnesia,	Magnesia,	Magnesia,
Vegetable alkali,	Vegetable alkali,	Vegetable alkali,	Vegetable alkali,
Fossil alkali,	Fossil alkali,	Fossil alkali,	Fossil alkali,
Volatile alkali,	Volatile alkali,	Volatile alkali,	Volatile alkali,
Clay,	Clay,	Clay,	Clay,
Zinc,	Zinc,	Zinc,	Zinc,
Iron,	Iron,	Iron,	Iron,
Lead,	Lead,	Lead,	Lead,
Tin,	Tin,	Tin,	Tin,
Copper,	Copper,	Copper,	Copper,
Antimony,	Antimony,	Antimony,	Antimony,
Arsenic,	Arsenic,	Arsenic,	Arsenic,
Mercury,	Mercury,	Mercury,	Mercury,
Silver,	Silver,	Silver,	Silver,
Gold,	Gold,	Gold,	Gold,
Water,	Water,	Water,	Water,
Alkohol.	Alkohol.	Alkohol.	Alkohol.

BY FIRE.

Lime,			
Barytes,			
Magnesia,			
Vegetable alkali,			
Fossil alkali,			
Metals,			
Volatile alkali,			
Clay.			

TABLE

TABLE *of* SINGLE ATTRACTIONS *continued.*

BY WATER.

ACID OF LEMON.	ACETOUS ACID.	ACID OF PHOSPHORUS.	AERIAL ACID.
Lime,	Barytes,	Lime,	Barytes,
Barytes,	Vegetable alkali,	Barytes,	Lime,
Magnesia,	Fossil alkali,	Magnesia,	Vegetable alkali,
Vegetable alkali,	Volatile alkali,	Vegetable alkali,	Fossil alkali,
Fossil alkali,	Lime,	Fossil alkali,	Magnesia,
Volatile alkali,	Magnesia,	Volatile alkali,	Volatile alkali,
Clay,	Clay,	Clay,	Clay,
Zinc,	Zinc,	Zinc,	Zinc,
Iron,	Iron,	Iron,	Iron,
Lead,	Lead,	Lead,	Lead,
Tin,	Tin,	Tin,	Tin,
Copper,	Copper,	Copper,	Copper,
Antimony,	Antimony,	Antimony,	Antimony,
Arsenic,	Arsenic,	Arsenic,	Arsenic,
Mercury,	Mercury,	Mercury,	Mercury,
Silver,	Silver,	Silver,	Silver,
Gold,	Gold,	Gold,	Gold,
Water,	Water,	Water.	Water.
Alkohol.	Alkohol.		

BY FIRE.

	Barytes,	Lime,	
	Vegetable alkali.	Barytes,	
	Fossil alkali,	Megnesia,	
	Lime,	Vegetable alkali,	
	Magnesia,	Fossil alkali,	
	Metals,	Metals,	
	Volatile alkali,	Volatile alkali,	
	Clay.	Clay.	

TABLE

TABLE *of* SINGLE ATTRACTIONS *continued.*

BY WATER.

VEGETABLE ALKALI.	FOSSIL ALKALI.	VOLATILE ALKALI.	BARYTES.
Vitriolic acid,	Vitriolic acid,	Vitriolic acid,	Vitriolic acid,
Nitrous acid,	Nitrous acid,	Nitrous acid,	Acid of ſugar,
Muriatic acid,	Muriatic acid,	Muriatic acid,	Acid of ſorrel,
Phoſphoric acid.	Phoſphoric acid,	Phoſphoric acid.	Phoſphoric acid,
Acid of ſugar,	Acid of ſugar,	Acid of ſugar,	Nitrous acid,
Acid of tartar,	Acid of tartar,	Acid of tartar,	Muriatic acid,
Acid of ſorrel,	Acid of ſorrel,	Acid of ſorrel,	Acid of lemon,
Acid of lemon,	Acid of lemon,	Acid of lemon,	Acid of tartar,
Acid of benzoin,	Acid of benzoin,	Acid of benzoin,	Acid of benzoin,
Acetous acid,	Acetous acid,	Acetous acid,	Acetous acid,
Acid of borax,	Acid of borax,	Acid of borax,	Acid of borax,
Aerial acid,	Aerial acid,	Aerial acid,	Aerial acid,
Water,	Water,	Water,	Water,
Unctuous oils,	Unctuous oils,	Unctuous oils,	Unctuous oils,
Sulphur,	Sulphur,	Sulphur,	Sulphur.
Metals.	Metals.	Metals.	

BY FIRE.

Phoſphoric acid,	Phoſphoric acid,	Vitriolic acid,	Phoſphoric acid,
Acid of borax,	Acid of borax,	Nitrous acid,	Acid of borax,
Vitriolic acid,	Vitriolic acid,	Muriatic acid,	Vitriolic acid,
Nitrous acid,	Nitrous acid,	Acetous acid,	Nitrous acid,
Muriatic acid,	Muriatic acid,	Barytes,	Muriatic acid,
Acetous acid,	Acetous acid,	Lime,	Acid of benzoin.
Barytes,	Barytes,	Magneſia,	Acetous acid,
Lime,	Lime,	Clay,	Fixed alkali,
Magneſia,	Magneſia,	Sulphur.	Sulphur,
Clay,	Clay,		Lead.
Sulphur.	Sulphur.		

TABLE

TABLE *of* SINGLE ATTRACTIONS *continued.*

BY WATER.

LIME.	MAGNESIA.	CLAY.	WATER.
Acid of ſugar,	Acid of ſugar,	Vitriolic acid,	Vegetable alkali,
Acid of ſorrel,	Phoſphoric acid,	Nitrous acid,	Foſſil alkali,
Vitriolic acid,	Vitriolic acid,	Muriatic acid,	Volatile alkali,
Acid of tartar,	Nitrous acid,	Acid of ſugar,	Alkohol,
Phoſphoric acid,	Muriatic acid,	Acid of ſorrel,	Æther,
Nitrous acid,	Acid of ſorrel,	Acid of tartar,	Vitriolic acid,
Muriatic acid,	Acid of tartar,	Acid of lemon,	Vitriolated tartar,
Acid of lemon,	Acid of lemon,	Acid of phoſphorus,	Alum,
Acid of benzoin,	Acid of benzoin,	Acid of benzoin,	Green Vitriol,
Acetous acid,	Acetous acid,	Acetous acid,	Corroſive ſublimate.
Acid of borax,	Acid of borax,	Acid of borax,	
Aerial acid,	Aerial acid,	Aerial acid.	
Water,	Sulphur.		
Unctuous oil,			
Sulphur.			

BY FIRE.

Phoſphoric acid,	Phoſphoric acid,	Phoſphoric acid,
Acid of borax,	Acid of borax,	Acid of borax,
Vitriolic acid,	Vitriolic acid,	Vitriolic acid,
Nitrous acid,	Nitrous acid,	Nitrous acid,
Muriatic acid,	Muriatic acid,	Muriatic acid,
Fixed alkali,	Fixed alkali,	Fixed alkali,
Sulphur,	Sulphur,	Sulphur,
Lead.	Lead.	Lead.

TABLE

TABLE *of* SINGLE ATTRACTIONS *continued.*

BY WATER.

SULPHUR.	HEPAR SULPHURIS.	ALKOHOL.	ÆTHER.
Lead, Tin, Silver, Mercury, Arsenic, Antimony, Iron, Vegetable alkali, Volatile alkali, Barytes, Lime, Magnesia, Unctuous oils, Essential oils, Æther, Alkohol.	Gold, Silver, Mercury, Arsenic, Antimony, Copper, Tin, Lead, Iron, Alkohol, Water.	Water, Æther, Essential oils, Volatile alkali, Fixed alkali, Hepar sulphuris, Sulphur.	Alkohol, Essential oils, Expressed oils, Water, Sulphur.

BY FIRE.

Fixed alkali, Iron, Copper, Tin, Lead, Silver, Antimony, Mercury, Arsenic,	Iron, Copper, Tin, Lead, Silver, Antimony, Mercury, Arsenic.		

TABLE

TABLE *of* SINGLE ATTRACTIONS *continued.*

BY WATER.

ESSENTIAL OILS	EXPRESSED OILS.	GOLD.	SILVER.
Æther, Alkohol, Expreſſed oils, Fixed alkali, Sulphur.	Æther, Eſſential oils, Fixed alkali, Volatile alkali, Sulphur.	Æther, Muriatic acid, Aqua regia, Nitrous acid, Vitriolic acid, Acid of tartar, Phoſphoric acid, Fixed alkali, Volatile alkali.	Muriatic acid, Acid of ſugar, Vitriolick acid, Phoſphoric acid, Nitrous acid, Acid of tartar, Acid of ſorrel, Acid of lemon, Acetous acid, Aerial acid, Volatile alkali.

BY FIRE.

		Mercury, Copper, Silver, Lead, Tin, Antimony, Iron, Zinc, Arſenic, Hepar ſulphuris,	Lead, Copper, Mercury, Tin, Gold, Antimony, Iron, Zinc, Arſenic, Hepar ſulphuris, Sulphur.

TABLE *of* SINGLE ATTRACTIONS *continued.*

BY WATER.

MERCURY.	LEAD.	IRON.	COPPER.
Muriatic acid,	Vitriolic acid,	Acid of ſugar,	Acid of ſugar,
Acid of ſugar,	Acid of ſugar,	Acid of tartar,	Acid of tartar,
Phoſphoric acid,	Acid of tartar,	Vitriolic acid,	Muriatic acid,
Vitriolic acid,	Phoſphoric acid,	Muriatic acid,	Vitriolic acid,
Acid of tartar,	Acid of ſorrel,	Nitrous acid,	Nitrous acid,
Acid of lemon,	Muriatic acid,	Phoſphoric acid,	Phoſphoric acid,
Nitrous acid,	Nitrous acid,	Acid of ſorrel,	Acid of ſorrel,
Acetous acid,	Acid of lemon,	Acid of lemon,	Acid of lemon,
Acid of borax,	Acetous acid,	Acetous acid,	Acetous acid,
Aerial acid.	Acid of borax,	Acid of borax,	Acid of borax,
	Aerial acid,	Aerial acid.	Aerial acid,
	Fixed alkali.		Fixed alkali,
			Volatile alkali,
			Expreſſed oils.

BY FIRE.

Gold,	Gold,	Arſenic,	Gold,
Silver,	Silver,	Copper,	Silver,
Lead,	Copper,	Gold,	Arſenic,
Tin,	Mercury,	Silver,	Iron,
Zinc,	Tin,	Tin,	Zinc,
Copper,	Antimony,	Antimony,	Antimony,
Antimony,	Arſenic,	Lead,	Tin,
Arſenic,	Zinc,	Mercury,	Lead,
Iron,	Iron.	Hepar ſulphuris,	Mercury,
Hepar ſulphuris,	Hepar ſulphuris,	Sulphur.	Hepar ſulphuris,
Sulphur.	Sulphur.		Sulphur.

TABLE *of* SINGLE ATTRACTIONS *continued.*

BY WATER.

TIN.	ARSENIC.	ZINC.	ANTIMONY.
Acid of tartar,	Muriatic acid,	Acid of ſugar,	Muriatic acid,
Muriatic acid,	Acid of ſugar,	Vitriolic acid,	Acid of ſugar,
Vitriolic acid,	Vitriolic acid,	Muriatic acid,	Vitriolic acid,
Acid of ſugar,	Nitrous acid,	Nitrous acid,	Nitrous acid,
Phoſphoric acid,	Acid of tartar,	Acid of ſorrel,	Acid of tartar,
Nitrous acid,	Phoſphoric acid,	Acid of tartar,	Acid of ſorrel,
Acid of ſorrel,	Acid of ſorrel,	Phoſphoric acid,	Phoſphoric acid,
Acid of lemon,	Acid of lemon,	Acid of lemon,	Acid of lemon,
Acetous acid,	Acetous acid,	Acetous acid,	Acetous acid,
Acid of borax,	Volatile alkali,	Acid of borax,	Acid of borax,
Fixed alkali,	Unctuous oils.	Aerial acid,	Aerial acid.
Volatile alkali.		Volatile alkali.	

BY FIRE.

Zinc,	Copper,	Copper,	Iron,
Mercury,	Iron,	Antimony,	Copper,
Copper,	Silver,	Tin,	Tin,
Antimony,	Tin,	Mercury,	Lead,
Gold,	Lead,	Silver,	Silver,
Silver,	Gold,	Gold,	Zinc,
Lead,	Zinc,	Arſenic,	Gold,
Iron,	Antimony,	Lead,	Mercury,
Arſenic,	Hepar ſulphuris,	Iron.	Arſenic,
Hepar ſulphuris,	Sulphur.		Hepar ſulphuris,
Sulphur.			Sulphur.

Cases of double elective Attractions.

By WATER.

1. Epſom ſalt with Mild vegetable alkali,	Give	1. Vitriolated tartar and Common magneſia.
2. Vitriolic Ammoniac with Mild mineral alkali,		2. Mild volatile alkali and Glauber's ſalt.
3. Vitriolated tartar with Nitrous ſelenite,		3. Saltpetre and Vitriolic ſelenite.
4. Vitriolated tartar with Mercurial nitre,		4. Saltpetre and Vitriol of mercury.
5. Saltpetre with Luna cornea,		5. Cubic nitre and Lunar cauſtic.
6. Vitriolated tartar with Luna cornea,		6. Febrifugal ſalt and Vitriol of ſilver.
7. Acetated tartar with Mercurial nitre,		7. Saltpetre and Acetous mercurial ſalt.

By HEAT.

1. Vitriolic ammoniac with Common ſalt,	Give	1. Common ſal ammoniac and Glauber's ſalt.
2. Vitriolic ammoniac with Acetated tartar,		2. Acetous ammoniacal ſalt and Vitriolated tartar.
3. Vitriol of mercury with Common ſalt,		3. Corroſive ſublimate and Glauber's ſalt.
4. Crude antimony with Corroſive ſublimate,		4. Butter of antimony and Cinnabar.

CHAP.

CHAPTER II.

Of the Pharmaceutical Apparatus.

ONE of the principal parts of the pharmaceutic apparatus consists 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 conveniency of the place and the particular purposes they are intended to answer. We shall here endeavour to give a general idea of their structure, 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, five or six inches deep: With a grate or some iron bars across the bottom, for supporting the fuel. The following construction however is most convenient. Fig. 1. Plate. 1. It is a cylinder of plate iron about 10 or 12 inches long and about 8 or 9 in diameter, open at the top and close below, and is supported by 4 feet. At G. about 4 inches from the bottom a grate is placed, the plan of which is represented at C. Below the grate is the ash pit with its door D for the admission of air and taking out the ashes. This furnace is designed for such operations as require only a moderate heat; as infusion, decoction, and the evaporation of liquids. The vessel containing the subject matter, is supported over the fire by a trevet, or by some bars laid over the top of the furnace.

A similar cylinder, lined with such materials as are capable of sustaining a strong fire; with a grate and ash pit beneath, as in the preceding; and a conical dome at the top with a perpendicular pipe, or chimney; makes a WIND FURNACE. Fig 2.

The greater the perpendicular height of the chimney, the greater will be the draught of air through the furnace, and the more intensely will the fire burn; provided the width of the chimney is sufficient 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 half the area of the grate.

As the intensity of the fire depends wholly upon the quantity of air successively passing through and animating the burning fuel, it is obvious, that the most vehement fire may be suppressed or restrained at pleasure, by closing more or less 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. But the heat is most conveniently regulated by keeping the ash pit door entirely shut,

ſhut, and having a range of holes of different ſizes provided with proper pins, whereby we may admit as much air as we pleaſe. Theſe holes may be made to bear a certain proportion to each other; the ſmalleſt being conſidered as one, the next to it in ſize muſt have twice the opening, the next to that double of the ſecond, &c.; and ſo on to the number of ſeven or eight; and by combining theſe holes variouſly together, we can admit any quantity of air from 1. to 255; as 1. 2. 4. 8. 16. 32. 64. 128. See Fig. 2. E.

There are two general kinds of theſe wind furnaces; one, with the chimney on the top, over the middle of the furnace, (fig. 2.); the other, with the chimney on one ſide, and the mouth clear, (fig. 3.)

In the firſt, either the upper part of the furnace is contracted to ſuch an aperture, that the chimney may ſit 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 inſide of the furnace cannot be come at from above, a door is made in the ſide, a little above the grate, for ſupplying the fuel, inſpecting the matter in the fire, &c. Fig. 2. F.

For performing FUSIONS in this furnace, the crucible, or melting veſſel, is placed immediately among the fuel, with a ſlip of a 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 deſigned as a REVERBERATORY, that is for diſtillation in long necked 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 the door above mentioned; or at leaſt ſo remote from it, that the receiver, fitted on the neck of the diſtilling veſſel without the furnace, may not lie in the operator's way when he wants to ſtir the fire or throw in freſh fuel. Fig. 4.

When a furnace of this kind is deſigned only for a *ſand bath*, it is moſt commodious to have the ſand placed on a long iron plate, furniſhed with a ledge of free ſtone or brick work 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 furnace to the other, Fig. 5.

When large veſſels, as *ſtills*, are fixed in furnaces, a conſiderable part of the bottom of the veſſel is commonly made to reſt upon ſolid brick work.

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

FIG. 6

FIG. 7.

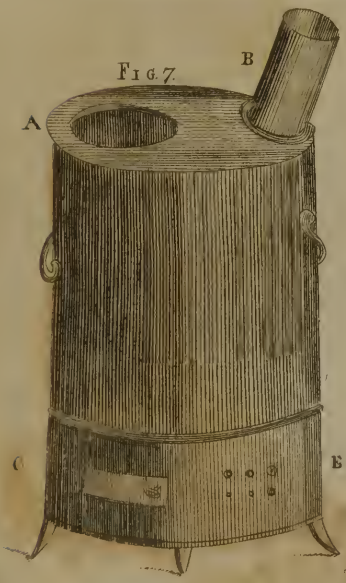


FIG. 8.

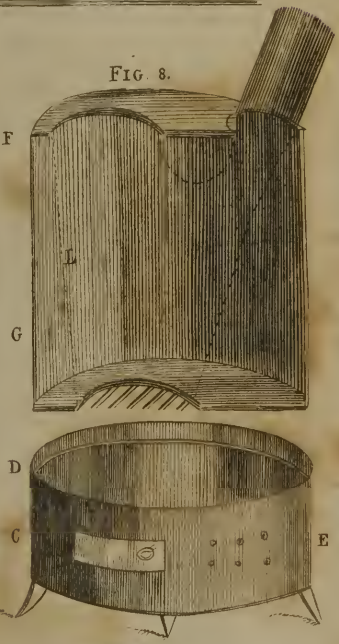


FIG. 9.

FIG. 10.

PLATE I. N°. I.

FIG. 1

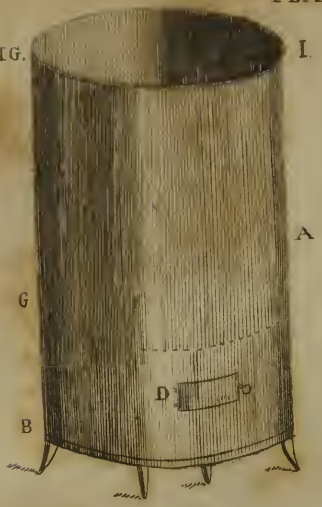


FIG. 2

FIG. 1.

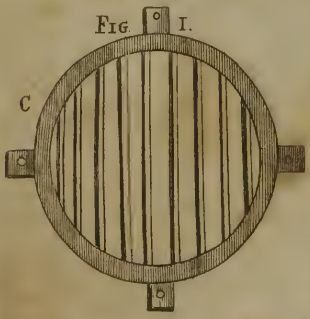


FIG. 4

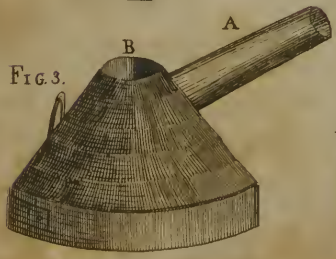


FIG. 3.

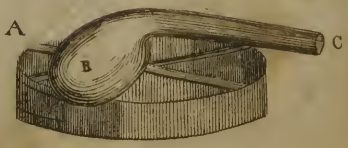
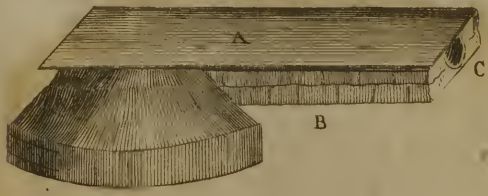


FIG. 5.



The pots for diſtilling hartſhorn and aquafortis in the larger 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 brick work: So that leſs ſupport being neceſſary underneath, a greater ſurface of the wide bottom lies expoſed to the immediate action of the fire.

If a furnace, communicating with its chimney, by a lateral canal, as in the ſand furnace above mentioned, be carried to a conſiderable height above the part where this canal enters it, and if 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 conſumes, 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. Fig. 6.

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 to the canal or flue, or a number of openings according to the ſize of the furnace and the degree of heat required, for ſupplying the 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 aſhes.

This furnace is deſigned only for heating bodies exterior to it. Its canal or flue, as in the ſand furnace already deſcribed, paſſes under a ſand bath or water bath; at the farther end of which it riſes perpendicularly to ſuch a height, as may occaſion a ſufficient draught of air through the fire.

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

With regard to the materials of furnaces, the fixed 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 ſand, 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.

Dr. Black has contrived one of the moſt ſimple and elegant furnaces with which we are yet acquainted. Beſides its durability, it will be found, though but one inſtrument, to anſwer all the purpoſes either of the practical or ſpeculative chemiſt. Plate I. Fig. 7 and 8.

EXPLANATION

EXPLANATION *of* PLATE I.

Fig. 1. A common ſtove which ſtands on feet, and is moveable from place to place.

A, The body of the ſtove.

B, Its feet.

C, The grate, which is that uſed in Dr. Black's furnace, to be afterwards deſcribed, and which we would recommend as the beſt for every kind of portable furnace.

Fig. 2. A wind furnace.

A, Its dome.

F, The door for ſupplying fuel.

C, The chimney.

D, The door of the aſh pit.

E, The regiſter, or damping plate.

Fig. 3. A ſimilar furnace with its vent carried off to one ſide, or backward.

A, The beginning of its chimney from the back part.

B, The mouth of the furnace, ſerving as the door, and may be covered with a tile.

Fig. 4. Plan of a wind furnace when deſigned for a reverberatory.

A, The iron bars, which cannot be ſhewn, but may very eaſily be conceived.

B, A retort ſupported on the bars.

C, The neck of the retort, coming out at an aperture of the furnace in the oppoſite ſide of the door.

Fig. 5. Plan of a wind furnace when deſigned for a ſand bath.

A, A long iron plate, one end of which cloſely ſhuts the mouth of the furnace.

B, A ledge of free ſtone or brick work.

C, The mouth of the canal.

Regiſters, &c. as in the other furnaces.

Fig. 6. An athanor.

A, The tower which has a cover at the top B when uſed.

C, The fire place.

D, The aſh pit.

E, E, An oblong frame of metal or ſtone connected with the tower A.

F, F, A chamber connected to the fire place C, and continued up to the chimney G. Above this chamber the reſt of the frame is lined with iron.

H, H, A cavity for holding ſand, which is heated by the long range of fire in the chamber below.

Fig. 7. and 8. Dr. Black's furnace. To render our deſcription of this inſtrument as ſimple as poſſible, let the reader ſuppoſe that the body of the common ſtove, fig. 1. is made of an oval form, and cloſed at each end by a thick iron plate. The upper plate or end of the furnace is perforated with two holes: One of theſe, A, is pretty large, and is often the mouth

mouth of the furnace; the other hole, B, is intended for fixing the vent on.

The undermoſt plate or end of the furnace has only one circular hole, ſomewhat nearer to the end of the ellipſe than the other; hence a line paſſing through the centre of both circular holes has a little obliquity forwards: This is ſhewn in fig. 8. which is a ſection of the body of the furnace, and exhibits one half of the upper and one half of the under nearly correſponding holes. The aſh pit, fig. 7. and 8. C, is made of an elliptical form like the furnace; but is ſomewhat wider, ſo that the bottom of the furnace goes within the brim; and a little below there is a border, D, fig. 8. that receives the bottom of the furnace. Except the holes of the damping plate, E. fig 7. and 8 the parts are all cloſed by means of a quantity of ſoft lute, upon which the body of the furnace is preſſed down, whereby the joining is made quite tight; for it is to be obſerved, that in this furnace the body, aſh pit, vent, and grate, are all ſeparate pieces, as the furnace comes from the hands of the workman. The grate C, fig. 1. is made to apply to the outſide of the lower part or circular hole: It conſiſts of a ring ſet upon its edge, and bars likewiſe ſet on their edges. From the outer part of the ring proceed four pieces of iron, by means of which it can be ſcrewed on: It is thus kept out of the cavity of the furnace, and preſerved from the heat, whereby it laſts much longer. The ſides of the furnace are luted, to confine the heat, and to defend the iron from its action. The luting is ſo managed, that the inſide of the furnace forms in ſome meaſure the figure of an inverted truncated cone.

We have thus combined the two figures 7. and 8. in order to deſcribe as exactly as poſſible this furnace in its entire ſtate; but to prevent confuſion, it muſt be underſtood, that fig. 7. repreſents the body of the furnace with its bottom received within the aſh pit. As in this figure we could not exhibit the bottom of the furnace, we have in fig. 8. ſuppoſed the body of the furnace to be cut down through its middle; whereby one half of the undermoſt hole, with a proportional part of the grate applied to it, is exhibited along with, and nearly oppoſed to one half of the upper hole F; and the dotted lines L L, ſhew the form of the cavity of the furnace after the lute lining has been put in. It is alſo to be underſtood, that the aſh pit of fig. 8. is not, like the body of the furnace, divided in its middle, but is the aſh pit of fig. 7. only detached from the bottom of the furnace, in order to repreſent the border D, on which the bottom of the furnace is received.

Now to adapt this furnace to the different operations in chemiſtry, we may firſt obſerve, that for a melting furnace we need only provide a covering for the upper hole A, which in this caſe is made the door of the furnace. As this hole is nearly over the grate, it is very convenient for introducing, and examining from time to time, the ſubſtances that are to be acted on. The cover for the door may be a flat and ſquare tyle or brick. Dr. Black uſually employs a ſort of lid made of plate iron, with a rim that contains a quantity of luting. The degree of heat will be greater in proportion to the number of holes we open in the damping plate E: By this means the furnace may be employed in moſt operations in the way of aſſaying: And though it does not admit of the introduction

introduction of a muffle, yet if a ſmall piece of brick is placed end ways in the middle of the grate, and if large pieces of fuel are employed, ſo that the air may have free paſſage through it, metals may be aſſayed in this furnace without coming in contact with the fuel. It may therefore be employed in thoſe operations for which a muffle is uſed; and thus lead and other ſundry metals may be brought to their proper calces.

When we wiſh to employ this furnace for thoſe diſtillations requiring an intenſe heat, the earthen retort is to be ſuſpended by means of an iron ring having three branches ſtanding up from it, fig 9. This ring hangs down from the hole A about half a foot; ſo that the bottom of the retort reſts upon the ring, and is immediately hung over the fuel. The opening round the upper part of the retort, between it and the edges of the hole A, is filled up with broken crucibles or potſherds, and theſe are covered over with aſhes, which tranſmit the heat very ſlowly. This furnace then anſwers for diſtillations performed with the naked fire.

For diſtillations with retorts, performed in the ſand bath, there is an iron pot (fig. 10.) fitted for the opening of the furnace A, and this is employed as a ſand pot. In theſe diſtillations the vent B becomes the door of the furnace.

This furnace anſwers very well too for the common ſtill; part of which may be made to enter the opening A, and hang over the fire. In this caſe, likewiſe, the vent B is the door of the furnace, by which freſh fuel is to be added: But in ordinary diſtillations it is never neceſſary to add freſh fuel; and even in the diſtillation of mercury, phoſphorus of urine, and indeed during any proceſs whatever, the furnace generally contains ſufficient to finiſh the operation; ſo effectually is the heat preſerved from diſſipation, and the conſumption of the fuel is ſo very ſlow.

Very commodious portable furnaces for experiments and operations in a ſmall ſcale may be conſtructed of Black lead Crucibles as follows.

Fig. 2. plate 2. repreſents a ſection of ſuch a furnace for diſtilling in a ſand heat. A B is a black lead crucible (ſuppoſed, for the more eaſily ſhowing the conſtruction of the inſide of the furnace, to be cut down through the middle.) In the bottom of the crucible a circular hole C is cut, and the crucible is ſupported on an iron trevet *fig.* 5. which has alſo a circular hole correſponding to the hole in the bottom of the crucible or a little larger; at a little diſtance above the bottom a grate G is placed. The plan of the grate is repreſented by *fig.* 3. having three ſmall projections *a*, *a*, *a*, which reſt on three notches cut in the inſide of the crucible. The top of the crucible is covered with an iron plate *fig.* 6. having two circular holes in it: The larger one L for holding the ſand pot P (the form of which is ſeen at *fig.* 4.) and the ſmaller hole S anſwers both for a door, for adding freſh fuel, and for the vent. The ſand pot P, hangs by its ledge *r* on the iron plate I, and the retort R is placed with its neck N pointing from the vent S. Fig. 1. is a perſpective view of the furnace ſtanding on its trevet, with a retort in the ſand pot.

In order to have a melting furnace, we take another crucible exactly of the ſame ſize with the firſt, which has alſo a circular hole cut through its bottom; this laſt crucible is inverted over the other as in Fig. 7. A is the firſt crucible ſtanding on its trevet B. C is the ſecond crucible

inverted

PLATE II.

Fig. 1.

Fig. 2.

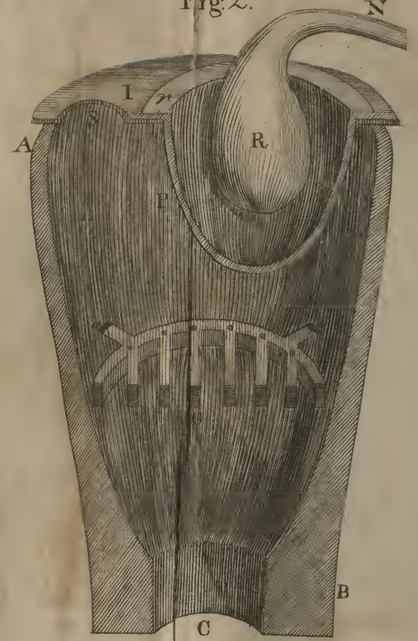


Fig. 3.

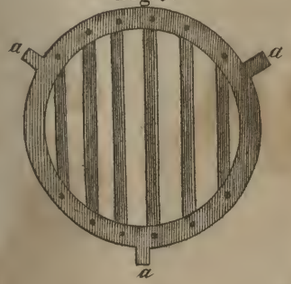


Fig. 4.

Fig. 5.

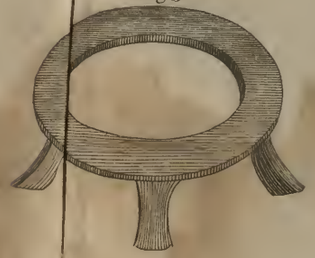


Fig. 6.

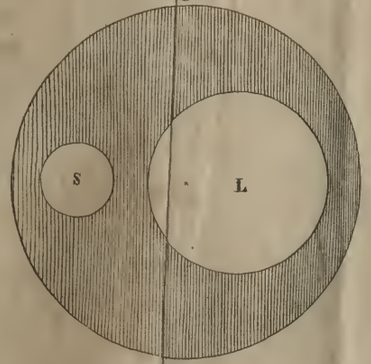


Fig. 9.

Fig. 11.

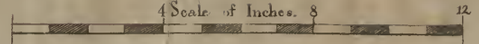


Fig. 7.

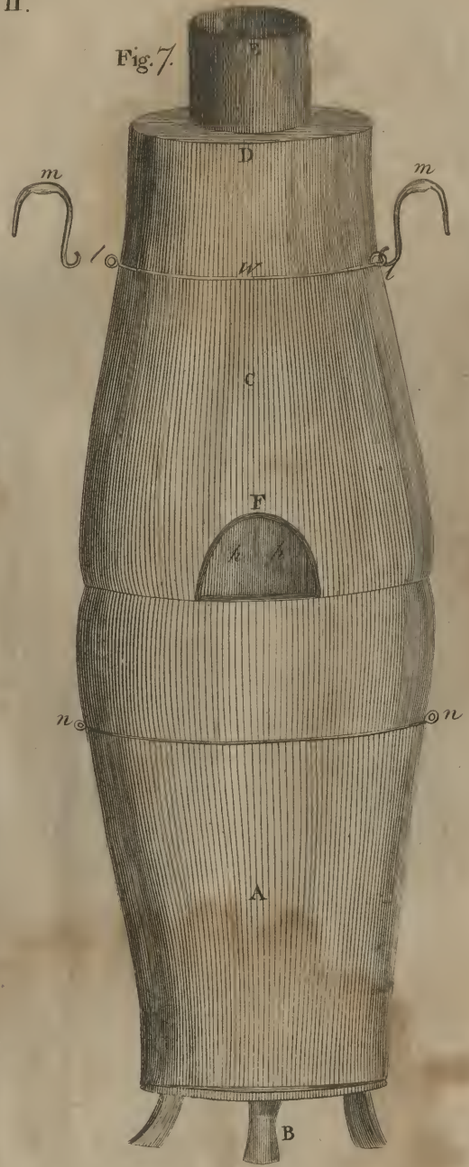


Fig. 10.

Fig. 8.

inverted over the other; its hole in the bottom D becoming the vent of the furnace, which may be heightened into a chimney by an iron pipe E. At the edge of the upper crucible, a ſemicircular hole F is cut, which ſerves for introducing freſh fuel, or for inſpecting the operation. The piece cut out muſt be preſerved, and will ſerve as a door; and two ſmall holes *h h* muſt be made in it for introducing the prongs of a fork, Fig. 10 in order to open or ſhut the door when the furnace is hot. After the matter we are working on is in fuſion, the veſſel containing it cannot be taken out by the door F; but, in order to do this, we muſt remove the upper crucible C. As it is too hot to be touched, we muſt have a wire hoop *w* fixed firmly in a ſmall groove round the crucible. In this wire are two loops *l l*, by which, with the hooke handles *m m*, we can eaſily lift off the hot crucible. This wire hoop is uſeful alſo for giving additional ſtrength to the crucible; and, as we may ſometimes have occaſion to lift the undermoſt crucible, while it is hot, a ſimilar hoop may be alſo put round it as at *n n*.

This melting furnace can alſo be employed as a reverberating one for diſtillations in the naked fire, the door F ſerving as an opening for letting out the neck of the retort.

With a very little alteration in its parts this furnace can be eaſily converted into an aſſay furnace. For this purpoſe we muſt remove the grate G and place a larger one, Fig. 9. on the top of the lower crucible juſt level with the bottom of the door F, and on this grate the muffle Fig. 11. is to be placed with its mouth correſponding to the door F. A ſection of this aſſay furnace is repreſented by Fig. 8. A, the larger grate reſting on the rim of the under crucible, B the muffle with its mouth correſponding with the door F.

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 ſand bath or water bath is uſed to defend the veſſel from the immediate action of the fire, and to render the heat leſs fluctuating.

Both theſe baths have their peculiar advantages and inconveniences. In water, the heat is equal through every part of the fluid: Whereas in ſand 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 ſand or other ſolid intermedia are neceſſarily employed. There is this convenience alſo in the ſand bath, that the heat may be readily diminiſhed or increaſed about any particular veſſel, by raiſing it higher out of the ſand or ſinking it deeper; that different ſubjects may be expoſed to different degrees of heat from one fire; and that

it keeps the veſſels ſteady. The ſand made choice of ſhould be 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 glaſſes, or other veſſels that are apt to crack in the fire, muſt be cautiouſly heated by ſlow 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 reſiduum by a blow.

As a defence from the violence of the fire, and to prevent the contact of cold air on ſupplying freſh fuel, &c. the glaſs is to be coated over, to the thickneſs of about half a crown, with Windſor loam, ſoftened with water into a proper conſiſtence, and beaten up with ſome horſe-dung, or other clayey compoſitions above mentioned in page 47.

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 fixed alkaline ſalt inſtead of water. For moſt other purpoſes, a piece of wet bladder, or paſte of flour and water, or of lintſeed meal (that is, the cake left after the expreſſion of oil of lintſeed,) are ſufficient lutes.

Sometimes clay and chalk are mixed up into a paſte, and ſpread upon ſlips of paper; and ſometimes gum arabic is uſed inſtead of the clay, and mixed up in the ſame manner.

Wet bladders contract ſo ſtrongly by drying, that they frequently break the veſſels: And the fat lute of Mr. Macquer, which is a compoſition of clay and chalk with oil, is too cloſe for moſt operations. Where very elaſtic ſteams are to be condenſed, we are often obliged, even where the common lutes are employed, to leave, or make, an opening which may be occaſionally ſtopped by a plug: By this means we give paſſage to a part of theſe vapours, which prevents the burſting of the veſſels and facilitates the condenſation of the reſt. If we wiſh to collect incondenſible vapours, we receive them into a jar inverted under a baſon of water or quickſilver, as directed in our Analyſis of Vegetables by fire.

Beſides theſe, there are alſo required ſome other kinds of lutes for joining veſſels together in operations requiring a ſtrong heat, and for lining furnaces. Four parts of ſand and one of clay anſwers beſt for luting: But for lining the inſide of furnaces, ſix or ſeven parts of ſand to one of clay is neceſſary, in order to prevent the contraction and conſequent cracking the of clay, which it moſt readily does when freeſt of ſand. Beſides this lute immediately next to the fire, three parts, by weight, of charcoal, to one of common clay, are firſt mixed in a dry powder, and as much water is to be added as will make them into balls of the conſiſtence of ſnow: Theſe balls are beat very firm and compact, by means of a hammer, on the inſide of the furnace, to the thickneſs of about

one

one inch and a half: The other lute is ſpread over this to about the thickneſs of half an inch; and this too is beat ſolid by means of a hammer, and allowed to dry ſlowly, that all cracks and fiſſures may be prevented. After the body of the furnace is thus lined, the vent is applied and lined in the ſame manner; and the whole being dried, which requires a long time, a fire is kindled in the furnace, which is gradually heated for a day or two, and is then raiſed to the greateſt intenſity: By theſe means the whole luting acquires a hardneſs equal to that of free-ſtone. Theſe are the lutes recommended and uſed by Dr. Black; and except for ſome operations in metallurgy, he ſeems to have been the firſt who thought of employing charcoal as an ingredient for the lining of furnaces.

The few ſimple lutes here deſcribed, will be found to anſwer all the purpoſes of the more operoſe compoſitions recommended for theſe intentions by the chemical writers.

Vessels.

In this place, we ſhall only give the operator a few general cautions with regard to the *matter* of the veſſels deſigned for containing the ſubject; and refer their deſcription to the plates, and to the account of the operations in which they are employed.

Metalline veſſels poſſeſs the advantage of being able to bear ſudden alterations of heat and cold, and of being very ſtrong, ſo as to be capable of confining elaſtic ſteams; but, except thoſe made of gold or platina, they are readily corroded by acids, even by the mild ones of the vegetable kingdom. Copper veſſels are corroded alſo by alkaline liquors, and by ſome neutral ones, as ſolutions of ſal ammoniac. It is obſervable, that vegetable acids do not act upon this metal by boiling, ſo 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 ſoon diſſolves ſo 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. From the want of tranſparency in theſe veſſels, we are alſo deprived of the advantage of ſeeing the different changes during the operation.

The earthen veſſels poſſeſs none of the deſirable qualities for chemical operations, except that of ſuſtaining very violent degrees of heat, without being melted or otherwiſe changed. Theſe veſſels are leſs liable to external cracks from ſudden applications of heat and cold, when they are made with a certain proportion of ſand mixed with the clay, than when they are made of clay alone. Black lead, too, mixed with the clay, makes the veſſels ſuſtain violent degrees, and ſudden alterations, of heat ſurpriſingly well; crude clay, reduced to a kind of ſand by violent heat, and then mixed with raw clay, is found to furniſh veſſels excellently fitted for thoſe operations where ſand might be corroded: But of all kinds of earthen ware, the moſt perfect is porcelain, compoſed of the fineſt clay mixed with a ſtony matter capable of melting in a violent heat. This, however, is too coſtly an article for general uſe. Reaumur

diſcovered

discovered a method of imitating porcelain, by melting the coarser kinds of glass with a mixture of sand and clay: This has been found to be nearly of the colour of porcelain, to be much stronger than glass, and to bear the most sudden changes of heat and cold that we have occasion to apply. There has not hitherto been any manufacture of this ware; and till then it will not probably come into general use.

The common earthen vessels are of a loose porous texture; and hence are apt to imbibe a considerable quantity of certain liquids, particularly of those of the saline kind; which soon discover their having penetrated 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 consists 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 acetated lead.

The vessels called, from their hardness and compactness, *stone ware* are in a good measure free from the inconveniences of the coarser earthen ones. Their glazing, being a part of the clay itself superficially vitrified by means of the fumes of common salt, appears to be proof against acids. None of this kind of ware is now manufactured in Britain it is therefore rarely to be met with.

Glass vessels suffer no corrosion, and give no taint, in any of the pharmaceutic operations. When, therefore, they are made of a proper thinness, when they are well annealed, and when blown into a spherical form, so that the heat may be equally applied they are preferable to all others, where they are not exposed to great and sudden changes of heat and cold, and where strength is not required: What is called the *flint glass*, which contains a quantity of lead in its composition, is the best for chemical purposes. Having made these general remarks, we next come to describe the particular instruments used in pharmacy: But as the nature and uses of each will be better understood after reading the following chapter, and the processes in which they are employed, we shall here only give a short explanation of the figures of these instruments; and to which the reader may occasionally recur in going over the sequel of the work.

Explanation *of* Plate III.

Fig. 1. An evaporating dish, being such a section of a globe of glass as is best fitted for exposing a large surface.

Fig. 2. The chemical phial or matrass, furnished with a long neck for allowing the vapours raised by heat or mixture to circulate and be condensed, whereby their escape is prevented.

Fig. 3. A retort and receiver together, to shew their connexion during distillation or sublimation. The receiver is of a conical figure; whereby the steams have more room to circulate and condense. Dr Black has found this form more convenient, when we wish to get out sublimed matter, or to clean the vessel.

In the last figure was represented an example of the *distillatio per latus*,

PLATE III. N°. I.

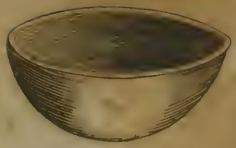


FIG. 1.

FIG. 2.

FIG. 3.

FIG. 4.

PLATE III N°2

Fig. 5.

Fig. 6.

Fig. 11.

Fig. 7.

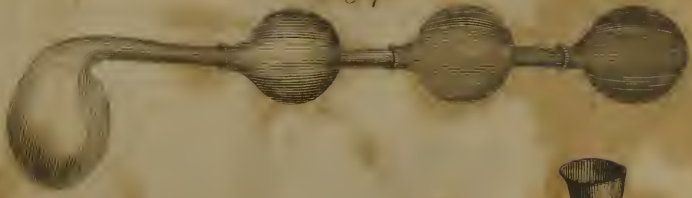


Fig. 8.

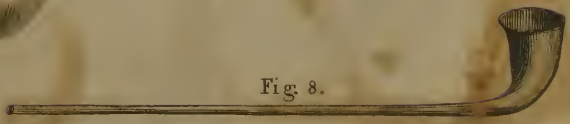
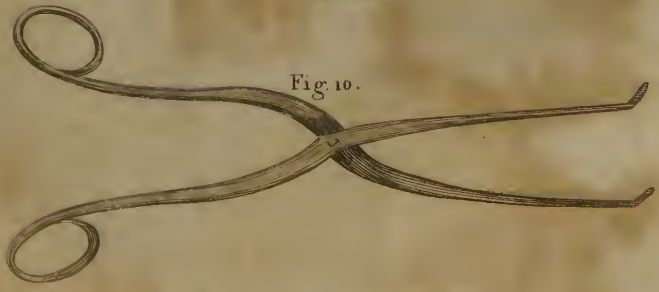


Fig. 9.

Fig. 10.



tus, or the diſtillation by the retort and receiver; and it is uſed in all caſes where nice operations are required, or where metallic veſſels would be corroded by the contained matter. The *diſtillatio per aſcenſum* is performed by,

Fig. 4. A copper ſtill.

A, The body of the ſtill containing the matter.

B, The head of the ſtill into which the vapour immediately ariſes; this is made to ſit very cloſely to the body, ſo as to require little or no luting.

C, A pipe iſſuing from the middle of the top of the head, and deſcending to C, is received into the pipe D.

D, The pipe or worm deſcending into a large veſſel E, containing a quantity of cold water to keep the pipe cool, which facilitates the condenſation of the vapours.

F, The further extremity of this pipe, coming out at an opening, in the under part of the veſſel E; from this extremity the condenſed matter diſtils.

This inſtrument is on the conſtruction uſed and recommended by Dr. Black, and varies a little from the common form. He finds it unneceſſary that the pipe D ſhould be made ſerpentine, which renders the cleaning of it very difficult and uncertain.

Fig. 5 A ſeparatory, for ſeparating oil from water.

This inſtrument has a pipe coming from its ſide near its middle, and is to be placed under the end of the pipe F, *fig.* 4. The diſtilled mixture of the oil and water by reſting in this veſſel ſeparates; the oil either ſwims on the ſurface of the water above the lateral pipe, or ſinks below it; in either caſe the water will run off by itſelf through the pipe, and the oil will be detained in the veſſel.

Fig. 6. A ſubliming glaſs. The under part of which is kept hot, when intended to ſublime ſolid matters, and the upper part is kept cool, whereby the vapour is condenſed in the form of a cake at the top. The mouth of the veſſel is to be ſtopt by a looſe ſtopper. This method is not ſo well fitted for large operations as the retort and receiver.

Fig. 7. Adopters, which are receivers that have pipes iſſuing from their farther extremity, which are received into other receivers or adopters; we may increaſe or diminiſh the number of adopters at pleaſure. They are uſeful for the condenſation of very elaſtic vapours, as thoſe of the cauſtic volatile alkali, vitriolic ether, &c.

Fig. 8. A retort funnel for pouring liquors into a retort, without wetting the neck of the retort; and it is neceſſary that in drawing out the funnel we ſhould keep it applied to the upper part of the retort, whereby the drop hangs from the under edge of the funnel, and therefore cannot touch the inſide of the retort.

Fig. 9. A crucible, which is angled at the top for the conveniency of pouring out the contained matter. It is narrow below for receiving ſmall quantities, which in a larger compaſs might be leſs eaſily brought together. The black lead and clay crucibles are often acted on by ſaline matters, and ſometimes deſtroyed; they anſwer however much better for fuſing metals than thoſe of clay and ſand. Theſe laſt anſwer beſt for

ſaline

ſaline ſubſtances: But being more liable to break than the other, they may be made ſecurer by incloſing the crucible containing the matter within another crucible, and filling up the interſtice with ſand.

The crucible in this figure ſtands upon a pedeſtal, which is a piece of clay or brick between the crucible and the grate, to prevent the cold air ſtriking the bottom while the top is hot. To prevent the fuel from falling in, we uſe covers made of clay, or we invert another crucible upon that containing the matter, and ſecure the joining by a proper lute.

Fig. 10. A pair of crucible tongs for putting in or taking out the matter to be wrought on.

Fig. 11. The form of the cylindrical glaſs meaſures recommended by the College of Edinburgh; for the particular deſcriptions of theſe meaſures ſee the ſubſequent article MEASURES.

WEIGHTS.

Two different kinds of weights are uſed in this country; one in the merchandiſe of gold and ſilver; the other for almoſt all other goods. 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 ſixteen ounces; and the ounce into ſixteen parts, called drachms.

The pound of the London and Edinburgh pharmacopœias is that of the goldſmiths, divided in the following manner:

The pound	contains	twelve ounces.
The ounce		eight drachms.
The drachm		three ſcruples.
The ſcruple		twenty grains.

The medical or Troy pound is leſs than the Averdupois, but the ounce and the drachm greater. The Troy pound contains 5760 grains: The Averdupois 7000 grains. The Troy ounce contains 480 grains; the Averdupois only 437½. The Troy drachm 60; the Averdupois drachm ſomewhat more than 27.

Theſe differences in our weights have occaſioned great confuſion 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 drachms, uſing Averdupois ounces. 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 where any are directed in leſſer denominations than the ounce, as theſe ſubdiviſions, uſed by the apothecaries, are made to a different ounce.

The Edinburgh College have expreſsly adverted to the errors ariſing from this promiſcuous uſe of weights, and ſtrongly recommend the uſe of the Troy pound and ounce. Sets of thoſe weights are made with accuracy and ſold by Mr. John Milne, founder in the High ſtreet Edinburgh.

MEASURES.

Measures.

The meaſures employed by the London College are the common wine meaſures.

A gallon	contains	eight pints (*libræ.*)
The pint		ſixteen ounces.
The ounce		eight drachms.

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.

The Edinburgh College, ſenſible of the many errors from the promiſcuous uſe of weights and meaſures, and of their different kinds, have in the laſt edition of their Pharmacopœia entirely rejected meaſures and employ the Troy weight in directing the quantity either of ſolid or fluid ſubſtances. For greater convenience in weighing water, wine, and other fluids of nearly the ſame ſpecific gravity, they have recommended the uſe of glaſs meaſures ſubdivided like the weights into ounces, drachms, and grains. There are three of theſe meaſures of different ſizes, although all of them are of the ſame ſhape (ſee Plate III. *fig.* 11.) the largeſt of them is 10 inches long, and an inch and three quarters wide in the inſide; a longitudinal line is engraved on one ſide of it and on this line tranverſe marks are made correſponding to ounces, beginning from the bottom, and proceeding upwards to 12 ounces, or one pound. The ſecond meaſure is 6 inches long, and one inch diameter within; the ſcale engraved on its ſide correſponds with drachms, beginning from the bottom, and proceeding upwards to 16 drachms, or two ounces. The laſt meaſure is 4 inches long and half an inch diameter within; the ſcale engraved on its ſide correſponds with grains, beginning from the bottom, and proceeding upwards to 120 grains or 2 drachms. Theſe meaſures are made at the glaſs manufactory at Leith, from patterns ſent them by the college of phyſicians.

As theſe meaſures are made to correſpond with the reſpective weights of water, it is evident that they can only be employed for aſcertaining determined weights of ſuch fluids as have the ſame or nearly the ſame ſpecific gravity with water; as wines, tinctures, infuſions, &c. And not for the ſtrong acids, rectified ſpirit, &c. whoſe ſpecific gravities are different from that of water. Thus the quantity of ſtrong vitriolic acid filling the 12 ounce, or pound meaſure, would weigh 22 ounces 1 drachm and 36 grains. And the ſame meaſure of rectified ſpirit of wine would only weigh 10 ounces.

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 ſhowing the comparative gravities of the fluids themſelves. We here inſert ſuch a table for a pint, an ounce, and a drachm meaſure, according to the London pharmacopœia, of thoſe liquids, whoſe gravity has been determined by experiments

that

that can be relied on. The wine gallon contains 231 cubic inches; whence the pint contains $28\frac{7}{8}$, the ounce $1\frac{705}{1728}$ and the drachm $\frac{2371}{10224}$ of a cubic inch.

	Pint weights			Ounce measure weights	Drachm measure weights
	ounces	drachms	grains	grains	grains
INFLAMMABLE SPIRITS.					
Highly rectified ſpirit of wine	12	5	32	38	$47\frac{1}{2}$
Common rectified ſpirit of wine	13	2	40	400	50
Proof ſpirit	14	1	36	426	$53\frac{1}{4}$
Dulcified ſpirit of ſalt	14	4	48	448	$55\frac{3}{4}$
Dulcified ſpirit of nitre	15	2	40	460	$57\frac{1}{2}$
WINES.					
Burgundy	14	1	36	426	$53\frac{1}{4}$
Red port	15	1	36	456	57
Canary	15	6	40	475	$59\frac{1}{2}$
EXPRESSED OILS.					
Olive oil	13	7	29	418	$52\frac{1}{4}$
Lintſeed oil	14	2	8	428	$53\frac{1}{2}$
ESSENTIAL OILS.					
Oil of turpentine	12	1	4	364	$45\frac{1}{2}$
of orange peel				408	51
of juniper berries				419	$52\frac{3}{8}$
of roſemary				430	$53\frac{3}{4}$
of origanum				432	54
of caraway ſeeds				432	54
of nutmegs				436	$54\frac{1}{2}$
of ſavin				443	$55\frac{3}{8}$
of hyſſop				443	$55\frac{3}{8}$
of cummin ſeed				448	56
of mint				448	56
of pennyroyal				450	$56\frac{1}{4}$
of dill ſeed				457	$57\frac{1}{8}$
of fennel ſeed				458	$57\frac{1}{4}$
of cloves				476	$59\frac{1}{2}$
of cinnamon				476	$59\frac{1}{2}$
of ſaſſafras				503	$62\frac{7}{8}$

ALKALINE

	Pint weighs			Ounce measure weighs	Drachm measure weighs
	ounces	drachms	grains	grains	grains
ALKALINE LIQUORS.					
Aqua kali puri, *Pharm. Lond.*	16	0	0	480	60
Spirit of sal ammoniac	17	1	10	$514\frac{3}{4}$	$64\frac{1}{2}\frac{1}{2}$
Strong sope boilers ley	17	6	24	534	$66\frac{3}{4}$
Lixivium tartari	24	0	0	720	90
ACID LIQUORS.					
Wine vinegar	15	3	44	464	58
Beer vinegar	15	6	56	476	$59\frac{1}{2}$
Glauber's spirit of salt	17	4	0	525	$65\frac{5}{8}$
Glauber's spirit of nitre	20	2	40	610	$76\frac{1}{4}$
Strong oil of vitriol	28	5	20	860	$107\frac{1}{2}$
ANIMAL FLUIDS.					
Urine	15	5	20	470	$58\frac{7}{8}$
Cows milk	15	6	40	475	$59\frac{3}{8}$
Asses milk	16	0	0	480	60
Blood	16	1	4	484	$60\frac{1}{2}$
WATERS.					
Distilled water	15	1	50	$456\frac{7}{8}$	$57\frac{1}{8}$
Rain water	15	2	40	460	$57\frac{1}{2}$
Spring water	15	3	12	462	$57\frac{3}{4}$
Sea water	15	5	20	470	$58\frac{7}{8}$
QUICKSILVER.	214	5	20	6440	805

CHAPTER III.

Of the Pharmaceutical Operations.

SECT. I.

Solution.

SOLUTION is an intimate commixture of ſolid bodies with fluids into one ſeemingly homogeneous liquor. The diſſolving fluid is called a *menſtruum* or *ſolvent*; and the body diſſolved is called the *ſolvend*.

Objections have been made, and perhaps with propriety, to theſe terms; as it is ſuppoſed that the two bodies uniting in ſolution act reciprocally on each other; there is, however, no danger from the words themſelves, if we do not derive them from a miſtaken theory. Solution cannot take place, unleſs one of the bodies, at leaſt, be in a fluid ſtate; and this fluidity is effected either by water or fire; hence ſolution is ſaid to be performed in the *humid*, or in the *dry way*. Thus, for inſtance, if any quantity of brimſtone be diſſolved in a ſolution of fixed alkali, the brimſtone is ſaid to be diſſolved in the *humid way*; but if the brimſtone be diſſolved by melting it with the dry alkali, the ſolution is ſaid to be done in the *dry way*. The compound produced by this mixture is called hepar ſulphuris, and is the ſame in both. Another kind of ſolution reſembling that by the dry way, is, however, to be carefully diſtinguiſhed from it: If, for example, a piece of Glauber's ſalt is put into a pan over the fire, the ſalt very ſoon aſſumes a liquid ſtate; but on continuing the heat, it loſes its fluidity, and becomes a white powder: This powder is the ſalt freed from its water, and it is found to be very refractory. This liquidity depended on the water of cryſtallization, being enabled, by the heat, to keep the ſalt in ſolution, and the ſalt ceaſed to be fluid as ſoon as its cryſtallizing water was evaporated. This kind of ſolution, which is ſometimes called the watery fuſion, differs not from the firſt, or humid way.

The principal menſtrua uſed in pharmacy are, *water, vinous ſpirits, oils, acid and alkaline liquors.*

Water is the menſtruum of all ſalts, of vegetable gums, and of animal jellies. 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 ſalts require for the diſſolution. Mr. Eller has given a large

large ſet in the Memoirs of the Royal Academy of Sciences of Berlin, for the year 1750, from which the following table is extracted.

Eight ounces by weight of diſtilled water diſſolved,

	oz.	dr.	gr.
Of Refined ſugar	24	0	0
Green vitriol	9	4	0
Blue vitriol	9	0	0
White vitriol	4	4	0
Epſom ſalt	4	0	0
Purified nitre	4	0	0
Soluble tartar	4	0	0
Common ſalt	3	4	0
Sal gemmæ	3	4	0
Sal catharticus Glauberi	3	4	0
Seignette's ſalt	3	0	0
Allum	2	4	0
Sal ammoniac	2	4	0
Vitriolated tartar	1	4	0
Salt of hartſhorn	1	4	0
Sugar of lead	1	2	0
Cream of tartar	1	0	0
Borax	0	4	20

Though theſe experiments appear to have been made with great care, yet the proportions of the ſeveral ſalts, ſoluble in a certain quantity of water, will not always be found exactly the ſame with theſe above ſet down. Salts differ in their ſolubility 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 ſolution: The matter which remains in making nitrous acid is no other than a vitriolated tartar: And it diſſolves ſo 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 this acid ſoluble ſalt in the ſhops, under the name of vitriolated tartar. The degree of heat occaſions alſo a remarkable difference in the quantity of ſalt taken up: In very cold weather, eight ounces of water will diſſolve only about one ounce of nitre; whereas in warm weather, the ſame quantity will take up four ounces. To theſe circumſtances are probably owing, in part, the remarkable differences in the proportional ſolubilities of ſalts, 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; water in a temperate ſtate diſſolving nearly as much of it as very hot water; and accordingly this is the ſalt in which the different experiments agree the beſt. In the experiments of Hoffmann, Neumann, and Petit, the proportion of this ſalt, on a reduction of the numbers, comes out exactly the ſame, viz. three ounces of the ſalt to eight of water; Dr. Brownrigg makes the quantity

quantity of salt a little more; Dr. Grew, a drachm and a scruple more; and Eller, as appears in the above table, four drachms more; so that in the trials of six different persons, made probably in different circumstances, the greatest difference is only one sixth of the whole quantity of salt; whereas in some other salts there are differences of twice or thrice the quantity of the salt. In the experiments from which the table is drawn, the water was of the temperature of between 40 and 42 degrees of Farenheit's thermometer.

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

Eight ounces of water dissolved

	oz.	dr.	gr.
Of fixed alkaline salt - - above	8	0	0
Sal diureticus - -	8	0	0
Sugar candy, both brown and white - -	9	0	0
Sugar of milk - - -	0	2	40
Essential salt of sorrel - -	0	1	20

Though water takes up only a certain quantity of one kind of salt, yet when saturated 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, which 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,

Fully saturated with	Nitre	dissolved afterwards	Sal ammoniac	10		
	Common salt		Nitre	10	Sal ammoniac	2
	Nitre		Fixed alkali	7	Common salt	2
	Common salt		Nitre, near	2	Fixed alkali	2½
	Volatile alkali		Nitre	4	Sugar	2
	Sal ammoniac		Common salt	2½		
	Soluble tartar		Nitre	2		
	Vitriolated tartar		Fixed alkali	2		
	Glauber's salt		Nitre	1	Sugar	1
	Epsom salt		Sugar	6		
	Borax		Fixed alkali	2		

In regard to the other class of bodies for which water is a menstruum, 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 consistence. 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 mixes with vinous spirits, with acid and alkaline liquors, not with oils, but imbibes some

ſome of the more ſubtile parts of eſſential oils ſo as to become impregnated with their ſmell and taſte.

Rectified *ſpirit of wine*, or rather *alkohol*, is the menſtruum of the eſſential oils and reſins of vegetables; of the pure diſtilled oils, and ſeveral of the colouring and medicinal parts of animals; of ſome mineral bituminous ſubſtances, as of ambergris; and of ſopes though it does not act upon the expreſſed oil and fixed alkaline ſalt, of which ſope is compoſed: Whence if ſope contains any ſuperfluous quantity of either the oil or ſalt, it may by means of this menſtruum be excellently purified. 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 ſal diureticus, or of the volatile alkali and the nitrous acid, as alſo the ſalt of amber, &c. It mixes with water and with acids; not with alkaline lixivia.

Oils diſſolve vegetable reſins and balſams, 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 linſeed oil; but requires ſix ounces of eſſential oil, as turpentine.

All acids diſſolve alkaline ſalts, alkaline earths, and metallic ſubſtances. The different acids differ greatly in their action upon theſe laſt; one diſſolving 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 ſtate.

The *muriatic* acid diſſolves zinc, iron, and copper; and though it ſcarcely acts on any other metallic ſubſtance in the common way of making ſolutions, it may nevertheleſs be artfully combined with them all. 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 fume, 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 muriatic acids, called *aqua regia*.

The *vitriolic* acid, diluted with water, eaſily 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.

Fixed air, or the aerial acid, diſſolves iron, zinc, and calcareous earth; and theſe ſolutions muſt be conducted without heat.

Alkaline *lixivia* diſſolve oils, reſinous ſubſtances, and ſulphur. Their power is greatly promoted by the addition of quicklime; inſtances of which occur in the preparation of ſope, and in the common cauſtic.

cauſtic. Thus acuated, they reduce the fleſh, bones, and other ſolid parts of animals, into a gelatinous matter.

This increaſed acrimony in alkaline ſalts, is owing to the abſtraction of their fixed air; that acid having a greater attraction for quicklime than for alkalies.

Solutions made in water and in ſpirit of wine poſſeſs the virtues of the body diſſolved; while oils generally ſheath 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 accompained with heat, effervescence, and a copious diſcharge of elaſtic aerial fluids, different in different caſes.

There is another ſpecies of ſolution, in which the moiſture of the air is the menſtruum. Fixed 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 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 liquefied by this ſlow action of the aerial moiſture. This proceſs is called *deliquation*.

SECT. II.

Extraction.

THE liquors which diſſolve certain ſubſtances in their pure ſtate, ſerve likewiſe to *extract* them from admixtures of other matter. Thus ardent ſpirit, the menſtruum of eſſential oils and reſins, takes up the virtues of the reſinous 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 which by themſelves it has little effect upon; even eſſential oils being, as we have formerly obſerved, rendered ſoluble in that fluid by the admixture of gummy and ſaline matter, of which all vegetables participate

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 ſubject 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. If the vegetable matter is itſelf ſucculent and watery, it is ſometimes only neceſſary to expreſs the juice, and evaporate it to the proper conſiſtence.

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 little from digeſtion; only that the ſteam, 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 again upon the ſubject. Digeſtion is uſually performed in a matraſs bolt head, Florence flaſk, or the like; either of which may be converted into a circulatory veſſel, by inverting another in the mouth of it, and ſecuring the juncture with a piece of wet bladder. A ſingle matraſs, if its neck be very long and narrow, will anſwer the purpoſe as effectually: The vapour cooling and condenſing before it can riſe to the top: In a veſſel of this kind, even ſpirit of wine, one of the moſt volatile liquors we know, may be boiled without any conſiderable loſs. The uſe of this inſtrument is likewiſe free from the inconvenience which may in ſome caſes attend the other, of the uppermoſt veſſel being burſt or thrown off. As the long necked matraſſes here recommended are difficultly filled or emptied, and likewiſe very dear, a long glaſs tube may be occaſionally luted to thoſe with ſhorter necks.

Heat greatly expedites extraction; but by this 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 and logwood impart little to aqueous liquors without a boiling heat; while even a ſmall degree of warmth proves greatly prejudicial to the fine bitter of carduus benedictus. This plant, which infuſed in boiling or digeſted in ſenſibly hot water gives out a naufeous taſte ſo offenſive to the ſtomach as to promote vomiting, yields to cold water a grateful balſamic bitter.

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, depoſite in cold weather a part of their contents, and thus become proportionally 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

Thin fluids readily depoſite their more ponderous impurities by ſtanding at reſt for ſome time in a cool place; and may then be *decanted*, or poured off clear, by inclining the veſſel.

Glutinous, unctuous, or thick ſubſtances, are to be liquefied by a ſuitable heat; when the groſſer feculencies will fall to the bottom; and the lighter ariſing to the ſurface, may 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 purpoſe.

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 ſort 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, ſmall ſticks, or ſlender glaſs rods, 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 the fluid to tranſude. In ſome caſes a funnel made of wire is put between 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 whites of eggs; which concreting and 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 flannel bag.

Decantation, colature, and filtration, are applicable to moſt of the medicated liquors that need 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 the medicine will loſe almoſt all the virtue that the poppies communicated; and inſtead of a mild opiate, turns out little other than a plain ſyrup of ſugar.

It may be proper to obſerve, that the common ſorts of filtering paper are apt to communicate a diſagreeable flavour: And hence in filtering fine bitters or other liquor, whoſe gratefulneſs is of conſiderable conſequence, the part which paſſes through firſt ought to be kept ſeparate for inferior purpoſes.

SECT. IV.

Crystallization.

WATER, aſſiſted by heat, diſſolves a larger proportion of moſt ſaline ſubſtances than it can retain when cold; hence, on the abatement of the heat, a part of the ſalt ſeparates from the menſtruum, and

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 ſimilar cauſes, prove tranſparent and of regular figures.

Salts, diſſolved in a large quantity of water, may be recovered from it in their cryſtalline form, by boiling down the ſolution, till ſo much of the fluid 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 in hot water, by forming a pellicle on that part which is leaſt hot, viz. on the ſurface. If large, beautiful and perfectly figured cryſtals are required, this point is ſomewhat too late; for if the ſalt thus begins to coaleſce while conſiderably hot, on being removed into a cold place its particles will run too haſtily and irregularly together; the pellicle at the ſame time falling down through the liquor, proves a farther 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.

The fixed alkalies, eſpecially the mineral, when fully ſaturated with fixed air or the aerial acid aſſumes a cryſtalline form; but theſe cryſtals are not ſo perfect as when the ſame alkalies are united with the other acids; the volatile alkalies cannot cryſtallize by the method juſt deſcribed becauſe they eſcape before the menſtruum exhales.

Some even of the other neutral ſalts, particularly thoſe of which certain metallic bodies are the baſis, are ſo ſtrongly retained by the aqueous fluid, 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 ſpirit of wine is ſuch a ſubſtance; by the prudent addition of which, theſe kinds of ſalts ſeparate freely from the menſtruum and form large and beautiful cryſtals ſcarcely 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 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 ſalts require different quantities of water to keep them diſſolved; and hence, if a mixture of two or more be diſſolved in this fluid, they will begin to ſeparate and cryſtallize at different periods of the evaporation. On 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 admixture of each other; that which requires moſt water to diſſolve ſhooting firſt into cryſtals.

It is proper to remark, that a ſalt, when cryſtallizing, ſtill retains, and combines with, a certain portion of water; this water is not eſſen-

tial to the salt as a salt, but is essential to a salt as being crystallized; it is therefore called by the chemists the *water of crystallization*. The quantity of this water varies in different salts: In some of them, as in Glauber's salt, alum, and copperas, it makes up about one half of their weight; in others, as in nitre, common salt, and especially selenites, it is in very small quantity. As salts unite to the water of their crystallization by their attraction for water alone, we accordingly find that this water is perfectly pure, and contains, in complete crystals, no substance foreign to the salt. Salts not only differ in the quantity of water necessary to their solution, but some of them are also soluble with equal facility in cold as in hot water. Sometimes, then we employ evaporation; sometimes cooling; and at other times both these expedients are used alternately, to separate different salts dissolved in the same liquor. It is obvious, that those which are nearly or equally soluble in cold as in boiling water, can only be crystallized by evaporation; those again, which are much more soluble in boiling than in cold water, are to be separated by cooling. Of the first of these is common or muriatic salt: Of the latter is nitre or saltpetre. To separate these two salts, when both of them happen to be dissolved in the same water, we have recourse to alternate evaporation and cooling. If in such a solution a pellicle appears in the boiling liquor before crystals can be formed in cooling, we then conclude that the common salt predominates: In this case we evaporate the water, and separate the common salt as fast as it is formed, till the liquor on cooling shows crystals of nitre: We then allow the nitre to crystallize by cooling. After all the nitre, which had been dissolved by the heat alone, has now separated by cooling, we resume the evaporation, and separate the common salt till the cooling liquor again shews crystals of nitre. We thus repeat the same series of operations, by which means these two salts may be alternately crystallized; the one by evaporation, the other by cooling, till they are perfectly separated from each other. If in the beginning of the operation the liquor had, upon trial, given crystals of nitre by cooling, before any pellicle appeared on its surface when boiling, this would have indicated that the nitre was predominant in the solution; the nitre in this case would have been crystallized, first by cooling till the quantity of nitre exceeding that of the common salt having been separated, the common salt would next have crystallized in its turn by evaporation. The example we have now given may be applied to other salts, or to a number of salts which may happen to be dissolved in the same liquor. For though there are few so completely soluble in cold water as common salt, and few so scantily as nitre; yet there are scarcely two salts which either precisely shew the same solubility or the same appearance of their crystals. It is obvious, too, that by crystallization we discover the peculiar predominant salt in any solution of mixed saline matter; but as one salt always takes down a small portion of another, it is necessary to redissolve the first products, and repeat the crystallization, in order to render the separation complete.

We see, then, that though the crystal appearance and form does not alter the salt itself, yet that this process affords an elegant method of discovering compound solutions of salts, of judging of their purity, and lastly,

laſtly, of ſeparating different ſalts from each other. Cryſtallization, therefore, is one of the moſt important agents in pharmacy and ought to be well underſtood. We ſhall attempt to explain the particular management in cryſtallizing particular ſalts, when we come to treat of each ſeparately.

SECT. V.

Precipitation.

BY this operation, bodies are recovered from their ſolutions, 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 each other.

Precipitation, therefore, is of two kinds; one, where the ſubſtance ſuperadded unites with the menſtruum, and occaſions that which was before diſſolved to be thrown down; the other, in which it unites with the diſſolved body, and falls 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 aquafortis by the muriatic acid.

The ſubjects of this operation, as well thoſe which are capable of being precipitated as thoſe which precipitate them, will readily appear by the Table of Attractions. The manner of performing it is ſo ſimple, as to need no particular directions; all that is required, is to add the precipitant by degrees, as 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 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 fixed alkaline ſalt is diſſolved in water, and ſulphur diſſolved in this lixivium; the addition of acids ſeparates and throws down the ſulphur, only in virtue of the acid uniting with, and neutralizing the alkali by which the ſulphur was held diſſolved: Conſequently, if the precipitation be made with the vitriolic acid, and the acid gradually dropt in till the alkali be completely ſaturated, that is, as long as it continues to occaſion any precipitation or turbidneſs, the liquor will yield, by proper evaporation and cryſtallization, a neutral ſalt compoſed of the vitriolic acid and fixed alkali, that is, vitriolated tartar. In like manner, if the precipitation

be

be made with the nitrous acid, a true nitre may be recovered from the liquor; if with the muriatic, the ſalt called cubic nitre; and if with the acid of vinegar, the kali acetata.

SECT. VI.

Evaporation.

EVAPORATION, the third method of recovering ſolid bodies from their ſolutions is effected by the means of heat; which *evaporates* the fluid part, and the matter which was diſſolved therein is left behind in its ſolid form.

The general rules for evaporation are, to place the matter in a flat, ſhallow wide veſſel, ſo that a large ſurface of the liquor may be preſented to the air: For it is only from the ſurface that evaporation takes place. The degree of heat ought to be proportioned to the volatility of the ſubſtance to be evaporated, and to the degree of the fixity of the matter to be left: Thus, the leſs fixed the matter to be left is, and the more ſtrongly it adheres to the volatile parts, the leſs the degree of heat ought to be; and in ſuch caſes, too, a forcible current of air is ſometimes ſcarcely admiſſible: On the contrary, when the matter to be evaporated is not very volatile, and when the matter to be left is very fixed, and does not adhere ſtrongly to the volatile part, the evaporation may be urged by a ſtrong heat, aided by a current of air directed upon the ſurface of the liquor.

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 fluid: As the ſolutions of fixed 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.

Water extracts the virtues of ſundry 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 infuſion 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 flavour is called *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 farther evaporation. More particular directions for performing this operation to the greateſt advantage will be given hereafter.

SECT.

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 it is the buſineſs of diſtillation to collect and preſerve. For this purpoſe the ſteam is received in proper veſſels, and being there cooled, condenſes into a fluid 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 with vehemence by fire.

To the firſt belong, the diſtillation of the pure inflammable 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 of ariſing along with their ſteam.

As boiling water extracts or diſſolves the eſſential 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, containd 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 flavour of all plants reſide; it is evident, that water may be impregnated by diſtillation, 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: That conſequently infuſions and diſtilled waters are very different from each other: That the firſt may be rendered ſtronger by pouring the liquor on freſh parcels of the ſubject; but that the latter cannot be in like manner improved by *cohobating*, or rediſtilling them from freſh ingredients.

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 more gentle the heat, and the ſlower the diſtillation goes on, the volatile parts are the more perfectly ſeparated in their native ſtate.

The apparatus uſed for diſtilling ſpirits, waters, and oils, conſiſts 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 thence conveyed through a *worm*, or long ſpiral pipe, placed in a veſſel of cold water

water called a *refrigeratory*; and being there condenſed, runs down into a *receiver*. (ſee *fig.* 4. PLATE III.)

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 fixed: So that where one ſubject contains medicinal parts of both kinds, they may thus be obtained diſtinct, without one being injured by the proceſs which collects the other.

THE ſubjects of the ſecond kind of diſtillation are, the groſs oils of vegetables and animals, the mineral acids, and the metallic fluid 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 neck being bent to one ſide, *retorts*: To the farther end of the neck a *receiver* is luted, which ſtanding without the furnace, the vapours ſoon condenſe in it, without the uſe of a refrigeratory: (ſee *fig.* 3. PLATE III. and R. fig. 2. PLATE II.) nevertheleſs, to promote this effect it is uſual, eſpecially in warm weather, to cool the receiver, by occaſionally applying wet clothes 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 fixed matter, as ſcarcely to ariſe even over the low neck of the retort. Theſe are moſt commodiouſly diſtilled in ſtreight necked earthen veſſels, called *long necks*, 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 furnace. In this manner, the vitriolic acid was diſtilled. The matter which remains in the retort or long neck, after the diſtillation, is vulgarly called *caput mortuum*.

In theſe diſtillations, a quantity of elaſtic air is frequently generated: Which, unleſs an exit be allowed, blows off or burſts the receiver. The danger of this may be prevented, by leaving a ſmall hole in the luting, to be occaſionally opened or ſtopt with a wooden plug; or by fitting to the apparatus other veſſels, by which the vapours may be condenſed, or conveyed away.

SECT. VIII.

SUBLIMATION.

AS all 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 concretes into a ſolid hard maſs, it is commonly called a *ſublimate*; if into a powdery form, *flowers*.

The

The principal ſubjects of this operation are, volatile alkaline ſalts; neutral ſalts, compoſed of volatile alkalies and acids, as ſal ammoniac; the ſalt of amber, and flowers of benzoin; 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*, or *ferrum ammoniacale*.

The fumes of ſolid bodies in cloſe veſſels riſe but 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 preceeding operation; a ſingle veſſel, as a *matraſs*, or tall *vial*, or the like, being frequently ſufficient.

SECT. IX.

Expression.

THE *preſs* is chiefly uſed for forcing out the juices of ſucculent herbs and fruits, and the inſipid oils of the unctuous ſeeds and kernels.

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

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. The ſubject is well pounded, and included in a ſtrong canvaſs bag, between which, and the plates of the preſs, a haircloth is interpoſed.

The inſipid oils of all the unctuous ſeeds are obtained, uninjured, by this operation, if performed without heat; which though it greatly promotes the extraction of the oil, at the ſame time gives an ungrateful flavour, and increaſes the oil's diſpoſition to grow rancid.

The oils expreſſed from aromatic ſubſtances generally carry with them a portion of their eſſential oil; hence the ſmell and flavour 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 the almond, the pungency of the muſtard remaining entire in the cake left after the expreſſion.

SECT. X.

Exsiccation.

THERE are two general methods of exſiccating 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 fluid, 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 assistance 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 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 unimpaired, 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. The 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, on standing for some time, into a thick part, which falls to the bottom; and a thin aqueous one, which swims above it: This last 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 cucumber, to be spoken of in its place, is the only one which practice now retains.

Indissoluble 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 fluid is large, as in the edulcoration of precipitates, it may be separated by decantation or filtration.

We observed before, that one of the principal circumstances favouring fermentation, was a certain degree of moisture. Exsiccation is therefore employed to dissipate humidity, and render vegetables thereby less liable to those changes produced by a kind of insensible fermentation.

SECT. XI.

Comminution.

COMMINUTION is the bare reduction of solid 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 *pulverised* in a *mortar*.

For very light, dry substances, resins, and the roots of tenacious texture, the mortar may in some cases be previously rubbed with a little sweet oil, or a few drops of oil be occasionally added: This prevents the finer powder of the first from flying off. Camphor is commodiously 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, *grated*.

The comminution of the harder minerals, as calamine, crystal, flint, &c. is greatly facilitated by *extinction*; that is, by heating them red hot, and

and quenching them in water: By repeating this process a few times, most of the hard stones become easily pulverizable. 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 dexterous 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 *granulation*.

On a similar principle, certain salts, as nitre, may be reduced into powder in large quantity, by dissolving them in boiling water, setting the solution over a moderate fire, and keeping the salt constantly stirring during its exsiccation, so as to prevent its particles, disjoined by the fluid, from reuniting together into larger masses.

Powders are reduced to a great degree of fineness by *triturating*, 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 *levigated* or ground on a flat smooth *marble* or *iron plate*, or what is best a porphyry; 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 effect. The resinous purgatives, when finely triturated, are more easily soluble in the animal fluids, 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 medicine in many chronical disorders.

By comminution, the heaviest bodies may be made to float in the lightest fluids, for a longer or shorter time, according to their greater or less degree of tenuity. Hence we are furnished 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*.

SECT. XII.

Fusion.

FUSION is the reduction of solid bodies into a state of fluidity by fire. Almost all natural substances, the pure earths, and the solid 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 soft resinous substances, *liquefy* in a gentle warmth; wax, pitch, sulphur, and the mineral bitumens, require a heat too great for the hand to support: Fixed alkaline salt, common salt, nitre, require a red, or almost white, heat to melt them; and glass, a full white heat.

Among metallic substances, tin, bismuth, and lead, flow 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 ſometimes a menſtruum for another, not fuſible of itſelf in the ſame degree of heat. Thus red-hot ſilver melts on being thrown into melted lead leſs hot than itſelf; and thus if ſteel, heated to whiteneſs, be taken out of the furnace, and applied to a roll of ſulphur, the ſulphur inſtantly liquefying, occaſions the ſteel to melt with it; hence the *chalybs cum ſulphure* of the ſhops. This ſubſtance nevertheleſs, remarkably impedes the fuſion of ſome other metals, as lead; which when united with a certain quantity of ſulphur requires a very ſtrong fire for its fuſion.

Sulphur is the only unmetallic ſubſtance which mixes in fuſion with metals. Earthy, ſaline, and other like matters, even the calces and glaſſes prepared from metals themſelves, float diſtinct upon the ſurface, and form what is called *ſcoriæ* 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.

BY 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 *combuſtion*; and the change of metals into an earthy like powder, which in the 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 unctuous inflammable matter be ſuffered to fall into the veſſel, the effect expected 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 original metallic ſtate again.

Thoſe

Thoſe metals which require a ſtrong fire for fuſion, calcine with a much leſs heat than is ſufficient to make them flow. Hence the burning or *ſcorification* of ſuch iron or copper veſſels as are long expoſed to a conſiderable fire without defence from the air. Gold and ſilver are not calcinable except in a very ſtrong degree of fire.

In calcination, the metals viſibly emit fumes; nevertheleſs the weight of the calx proves greater than that of the metal employed.

The calcination of metallic bodies, gold, ſilver, and mercury excepted, is greatly promoted by nitre. This proceſs is uſually termed *deflagration* or *detonation*.

All the metallic calces and ſcoriæ are revived into their 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 antimony, lead, and biſmuth excepted, can be made to melt at all, without ſome addition, in the ſtrongeſt fire that can be produced in the common furnaces. The additions called *fluxes*, employed for promoting their fuſion, conſiſt chiefly of fixed alkaline ſalts. A mixture of alkaline ſalt 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 ſetting the powders on fire with a bit of coal or a red hot iron, then covering the veſſel, and ſuffering 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 is called from its colour the *black flux*. Metallic calces or ſcoriæ, mixed with twice their weight of this compound, and expoſed to a proper fire in a cloſe covered crucible, melt and reſume their metallic form.

PART

PART II.

MATERIA MEDICA.

THE MATERIA MEDICA comprehends all thoſe ſubſtances, whether natural, or artificial, that are employed in medicine.

Much pains have been beſtowed by the writers on the materia medica, in attempting to form uſeful arrangements of theſe articles. Some have arranged them according to their natural affinities; others according to their active conſtituent parts; and a third ſet, according to their real or ſuppoſed virtues. It muſt, indeed be allowed, that ſome of theſe arrangements are not without conſiderable uſe, as throwing light upon the nature and qualities of particular articles; but no arrangement has yet been propoſed which is not liable to numerous objections. Accordingly, in the Pharmacopœias publiſhed by the colleges of Phyſicians both of London and Edinburgh, the articles of the materia medica are arranged in alphabetical order; and the ſame plan is now alſo adopted in almoſt every Pharmacopœia of eſtimation lately publiſhed on the continent of Europe. This plan, therefore, we ſhall here follow; ſubjoining to the name of each article which we think ought to enter ſuch a liſt, a ſhort view of its natural, medical and pharmaceutical hiſtory.

ABELMOSCHUS

ABELMOSCHUS [*Brun.*] *Semina.*

Hibiscus Abelmoschus Linnæi.

Musk seed.

These seeds are the product of a plant indigenous in Egypt, and in many places both of the East and Westindies. They are of a small size, and reniform shape; they are very remarkable for possessing a peculiar and very fragrant odour; the smell which they give out may be compared to that of musk and amber conjoined: Those brought from the island of Martinico are generally esteemed the most odorous, but we have seen some the product of hot houses in Britain, which, in point of flavour, seemed not inferior to any imported from abroad.

These seeds, although introduced into some of the foreign pharmacopœias, have hitherto been principally, if not only, used as a perfume; and as their medicinal powers still remain to be ascertained, it is perhaps with propriety that hitherto no place has been given them in the list either of the London or Edinburgh Colleges. But their peculiar flavour, as well as other sensible qualities, point them out as a subject well deserving a particular investigation.

ABIES [*Gen.*] *Summitates coni. Pinus Abies & Pinus Sylvestris Lin.*

The common and the Scotch fir.

These are large evergreen trees, frequent in nothern climates. Tho' they have now no place either in the London or Edinburgh Pharmacopœias, yet they stand in several of the foreign ones, and are employed for different purposes in medicine. They are indigenous in some parts of Britain, but are chiefly to be met with in plantations, where they grow with great luxuriance. From these trees in different parts of Germany, the Strasburgh turpentine is extracted. The branches, and the fruit or cones, gathered about the end of autumn, abound with a resinous matter, and yield, on distillation, their essential oil, and a liquor impregnated with a peculiar acid. It has been stiled *acidum abieti*; and when added to water, is thought to communicate to it both the taste and other properties of tar water. The acidum abietis was frequently prescribed by the late Dr. Hope in the Royal Infirmary of Edinburgh; and he thought that he found good effects from it in some instances of obstinate coughs, particularly in those cases of chronic catarrh, which are often benefited by diuretics. The wood and tops of the fir tree are sometimes employed under the form of decoction or infusion, with the view of promoting urine and sweat; and these formulæ have been thought serviceable in healing internal ulcerations, particularly those of the urinary passages.

Infusions of the spruce fir are much employed in Canada, with a view both to the prevention and cure of genuine scorbutus. And we are told, that with these intentions they were found beneficial in the British army at Boston, when the scurvy prevailed in an alarming degree.

ABROTANUM [*Lond.*] *Folium.* [*Ed.*] *Herba.*

Artemisia Abrotanum Lin.

Southernwood.

This is a shrubby plant, cloathed with very finely divided leaves of a light green colour. The flowers which are very small and yellowish, hang downwards, several together, from the middle of the branches to

the

the top. It is not, like ſome other ſpecies of the artemiſia, indigenous in Britain; but though a native of warm climates, it readily bears the viciſſitudes of ours, and is eaſily cultivated in gardens; from thence alone it is obtained when employed for medical purpoſes; the leaves fall off every winter, but the roots and ſtalks continue for many years.

Southernwood has a ſtrong ſmell, which, to moſt people, is not diſagreeable; it has a pungent, bitter, and ſomewhat naufeous taſte. Theſe qualities are very completely extracted by rectified ſpirit, and the tincture thus formed is of a beautiful green colour. They are leſs perfectly extracted by watery liquors, the infuſion being of a light brown colour.

Southernwood, as well as ſome other ſpecies of the ſame genus, particularly the abſinthium and ſantonicum, has been recommended as an anthelmintic; and it has alſo been ſometimes uſed as a ſtimulant, detergent, and ſudorific. It has likewiſe been employed externally in diſcutient and antiſeptic fomentations. It has alſo been uſed under the form of lotion and ointment for cutaneous eruptions, and for preventing the hair from falling off. But although it ſtill retains a place in the pharmacopœias both of London and Edinburgh, it does not enter any fixed formula in either of theſe works, and is at preſent very little employed in practice.

ABSINTHIUM MARITIMUM [*Lond.*] *Cacumen.*

Artemiſia maritima Lin.

Sea wormwood, the tops.

The leaves of ſea wormwood are much ſmaller than thoſe of the common: They are hoary on the upper ſide as well as the lower; the ſtalks alſo are hoary all over. It grows wild about ſalt marſhes, and ſeveral parts about the ſea coaſts.—In taſte and ſmell it is weaker and leſs unpleaſant than the common wormwood. The tops of ſea wormwood formerly entered ſome of the compound diſtilled waters; but they are now rejected, and are very little employed in practice.

ABSINTHIUM VULGARE [*Lond.*] *herba.*

ABSINTHIUM [*Edin.*] *Summitates florentes.*

Artemiſia Abſinthium Lin.

Common wormwood; the leaves and flowering tops.

The leaves of this ſort of wormwood are divided into roundiſh ſegments, of a dull green colour above, and whitiſh underneath. It grows wild in ſeveral parts of Britain; about London, large quantities are cultivated for medicinal uſe; it flowers in June and July; and after having ripened its ſeeds, dies down to the ground, excepting a tuft of the lower leaves, which generally abides the winter.

Wormwood is a ſtrong bitter; and was formerly much uſed as ſuch, againſt weakneſs of the ſtomach, and the like, in medicated wines and ales; but its uſe with theſe intentions, is exceptionable, on account of the ill reliſh and offenſive ſmell with which it is accompained. It may be freed from theſe qualities partly 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, proves a bitter ſufficiently grateful, without any diſguſtful flavour. This extract, which had formerly, a place in the Edinburgh pharmacopœia, is ſtill retained in ſome of the

the beſt foreign ones; but it is probably leſs active than the ſtrong tincture now directed by the Edinburgh college.

ACACIA VERA [*Brun.*]
Mimoſa nilotica Lin

Acacia is the inſpiſſated juice of the unripe fruit of the ſame tree which produces the gum arabic.

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 ſweetiſh reliſh. This inſpiſſated juice entirely diſſolves in watery liquors; but rectified ſpirit of wine ſcarcely produces any effect on it.

Acacia is a mild aſtringent medicine. The Egyptians give it in ſpitting of blood, to the quantity of a drachm, diſſolved in any convenient liquor; and repeat this doſe occaſionally: They likewiſe employ it in collyria for ſtrengthening the eyes, and in gargariſms for quinſeys. Among us it is little uſed, and is rarely met with in the ſhops. What is uſually ſold for the Egyptian acacia, is the inſpiſſated juice of unripe ſloes; this is harder, heavier, of a darker colour, and ſomewhat ſharper taſte, than the true ſort. In ſeveral pharmacopœias, as in the Suecica and Genevenſis, this inſpiſſatted ſloe juice has a place under the title of Acacia Noſtras.

ACETOSA [*Lond.*] *Folium.* [*Edin.*] *Folia.*
Rumex Acetoſa Lin.
Sorrel; the leaf.

Sorrel grows wild in fields and meadows throughout Britain. The leaves have a reſtringent acid taſte, without any ſmell or particular flavour: 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 efficacious 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 of ſcurvy-graſs.

The roots of ſorrel have a bitteriſh auſtere taſte, without any acidity: They are ſaid to be deobſtruent and diuretic. They had formerly a place in the Edinburgh pharmacopœia, but are now rejected from it. They are ſtill, however, retained in the pharmacopœia Suecica, and ſome other of the beſt foreign ones: But they have little other effect than of giving a reddiſh colour to the articles with which they are combined.

The ſeeds of this plant were formerly uſed in diarrhœas and dyſenteries; but have long been ſtrangers to the ſhops, and are now juſtly expunged both from the London and Edinburgh pharmacopœas, and indeed from moſt of the foreign ones. They have no remarkable ſmell, and ſcarcely any taſte.

ACETUM VINI [*Ed.*]
Vinegar: An acid produced from fermented vinous liquors by a ſecond fermentation.

Wine vinegar is conſiderably pur-

er 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 ropineſs and ſlimineſs to which this kind of vinegar is very much ſubject; the ſtronger and more ſpiritous the wine, the better and ſtronger vinegar it yields. The French vinegars are ſaid by Geoffrey to ſaturate above one thirty fifth of their weight of fixed 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 diſorders, 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. Weakneſs, fainting, vomiting, hicup, hyſterical, and hypochondriacal complaints, have been frequently relieved by vinegar applied to the mouth and noſe, or received into the ſtomach. It has been uſed internally in rabies canina. It is often uſefully employed as a powerful menſtruum for extracting the virtues of other articles.

ACIDUM VITRIOLICUM.

[*Lond. Ed.*]

Vitriolic acid.

This is inſerted in the Materia Medica on account of its being generally made, not by the apothecary, but by the trading chemiſt, and moſt commonly from ſulphur. The operation is performed in leaden veſſels, ſometimes 20 feet high and 10 broad; with an eighth part of nitre to ſupply the abſence of the external air, and ſome water to condenſe the ſteams. It is concentrated and conſiderably purified by evaporation. It is then colourleſs, without ſmell, extremely corroſive, very fixed, and the moſt ponderous of all unmetallic fluids. Its ſpecific gravity, according to both the London and Edinburgh Colleges, ſhould be to that of diſtilled water as 185 to 100. It powerfully attracts water from the air, and in uniting with water produces a great degree of heat. It poſſeſſes the general properties of acids in an eminent degree.

On account of its fluidity, it is not uſed as a corroſive. Blended with unctuous matter in the proportion of one to eight, it is applied in itch and other chronic eruptions, and likewiſe as a rubefacient in local palſy and rheumatiſm. Diluted with water, it ſhews conſiderable action on the human calculus out of the body; and therefore has been propoſed internally in that diſeaſe, particularly where ſurgical operation is improper. As checking fermentation, as well as being aſtringent and tonic, it is much uſed in morbid acidity, relaxation, and weakneſs of the ſtomach. Its effects are propagated over the ſyſtem; and hence its eſtabliſhed uſe in paſſive hæmorrhagies, gleets, and fevers of the typhous kind. It is alſo uſed internally in itch and other chronical eruptions; and when given to nurſes having the itch, it is ſaid to cure both themſelves and their children. As combined with ardent ſpirit, with different metallic ſubſtances, &c. it enters ſeveral articles to be mentioned afterwards.

ACONITUM [*Lond.*] *Herba*; [*Ed.*] *Folia.*

Aconitum Napellus Lin.

Large blue Wolfsbane, or Monk's hood the herb and leaves.

This

This is a perennial plant, growing naturally in various mountainous parts of Europe. The juice has a disagreeable smell and an acrid taste, becoming less acrid on inspissation. It has long been considered as one of the most active of the vegetable poisons, and when taken to any considerable extent, it occasions sickness, vomiting, purging, vertigo, delirium, fainting, cold sweats, convulsions, and even death. Dr. Stoerk of Vienna was probably the first who employed it for medical purposes; and he recommended it to the attention of other practitioners, in a treatise published in 1762. He represents it as a very effectual remedy in glandular swellings, venereal nodes anchylosis, spina ventosa, itch, amaurosis, gouty and rheumatic pains, intermittent fevers, and convulsive disorders. Stoerk's formula was two grains of the inspissated juice rubbed down with two drachms of sugar. He began with ten grains of this powder night and morning, and increased it gradually to six grains of the inspissated juice twice a day. Others have used a tincture made of one part of the dry leaf, and six parts of spirit of wine, in the dose of forty drops. But although the aconitum has now a place in the Pharmacopœias both of the London and Edinburgh colleges, and likewise in most of the other modern Pharmacopœias, yet it has by no means answered those expectations which might have been formed from Dr. Stoerk's account. It is, however, unquestionably a very active, and in some cases an useful article.

ACORUS, see CALAMUS AROMATICUS.

ÆRUGO [*Ed.*] Verdegris.

This is a preparation of copper, made chiefly at Montpelier in France, by stratifying copper plates with grape stalks that have been impregnated with a fermented vegetable acid: In a few days, the plates are found covered with a pale green downy matter, which is scraped off from the copper, and the process again repeated. The appellation therefore of Cuprum acetatum gives a proper idea of its constituent parts.

Verdegris, as it comes to us, is generally mixed with stalks of the grape; they may be separated, in pulverization, by discontinuing the operation as soon as what remains seems to be almost entirely composed of them.

Verdegris is rarely or never used internally. Some writers highly extol it as an emetic, and say, that a grain or two being taken acts as soon as received into the stomach; but its use has been too often followed by dangerous consequences to allow of its employment. Verdegris applied externally, proves a gentle detergent and escharotic, and serves to take down fungous flesh arising in wounds. With these intentions it is an ingredient in different officinal compositions.

AGARICUS [*Ed.*]
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 said to have been sometimes brought into the shops 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

beaten ſoft, and applied externally, has been much celebrated as a ſtyptic; and ſaid to reſtrain not only venal but arterial hæmorrhagies, 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 ſoft fungous applications.

AGRIMONIA [*Roſ.*] *Herba.*
Agrimonia Eupatoria Lin.
Agrimony; the plant.

This is a common plant in hedges and the borders of fields. The leaves have an herbaceous, ſomewhat acrid, roughiſh taſte, accompanied with an aromatic flavour. Agrimony was ſuppoſed to be aperient, detergent, and to ſtrengthen the tone of the viſcera: Hence it has been recommended in ſcorbutic diſorders, in debility and laxity of the inteſtines, &c. Digeſted in whey, it affords a diet-drink, grateful to the palate and ſtomach. It is very little employed by regular practitioners, and has no place in the liſt either of the London or Edinburgh Colleges.

ALCHEMILLA [*Brun.*] *Folia.*
Alchemilla vulgaris Lin.
Ladies mantle; the leaves.

This plant grows wild in many partsof England: The leaves ſeem as if plaited or folded together, ſo as to have given occaſion to the Engliſh name of the plant. The leaves of the alchemilla diſcover to the taſte a moderate aſtringency, and were formerly much eſteemed in ſome female weakneſſes and in fluxes of the belly. They are now rarely uſed; though both the leaves and roots might doubtleſs be of ſervice in caſes where mild aſtringents are required.

ALKEKENGI [*Brun.*] *Baccæ.*
Phyſalis Alkekengi Lin.
Winter cherry; the berries.

This is a low, branched ſhrub, with leaves like thoſe of nightſhade; and white flowers, which ſtand ſingle at the joints. The flower cup changes into a membranous cover, which at length burſts and diſcovers a fruit of a fine red colour, about the ſize 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 have in general been repreſented 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 were formerly 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 this diſorder, by taking eight of theſe cherries at each change of the moon; they occaſioned a copious diſcharge of extremely fetid urine.

They have not, however, ſupported this character with others; inſomuch that they have now no place either in the London or Edinburgh Pharmacopœias, and are very little employed by any Britiſh practitioner.

ALLIARIA [*Brun.*] *Herba.*
Erysimum Alliaria Lin.
Saucealone, or jack by the hedge; the plant.

This

This plant is common in hedges and ſhady waſte places, flowering in May and June. The leaves have a bitteriſh acid taſte; and, when rubbed between the fingers, emit a ſtrong ſmell, approaching to that of garlic. They have been 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 allaria: This, he informs us, with a little oil on the ſurface, keeps in perfection for years; whereas the herb in ſubſtance ſoon loſes its virtue in keeping. At preſent it is very little employed either in medicine or ſurgery.

ALLIUM [*Lond. Ed.*] *radix.*
Allium ſativum Lin.
Garlick; the root.

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 eaſily ſeparable from each other. 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 ſoon diſcoverable in the breath; and taken internally, its ſmell is communicated to the urine, or the matter of an iſſue, and perſpires through the pores of the ſkin.

This pungent root ſtimulates the whole body. Hence, in cold leucophlegmatic habits, it proves a powerful expectorant, diuretic, and if the patient be kept warm, ſudorific; it has alſo been ſuppoſed to be emmenagogue. In catarrhous diſorders of the breaſt, flatulent cholics, hyſterical, and other diſeaſes proceeding from laxity of the ſolids, it has generally good effects: It has likewiſe been found ſerviceable in ſome hydropic caſes. Sydenham relates, that he has known the dropſy cured by the uſe of garlick alone; he recommends it chiefly as a warm ſtrengthening medicine in the beginning of the diſeaſe.

Garlick is alſo a favorite remedy in the cure of intermittents; and it has been ſaid to have ſometimes ſucceeded in obſtinate quartans, after the Peruvian bark had failed, particularly when taken to the extent of one or two cloves daily in a glaſs of brandy or other ſpirits.

The liberal uſe of garlick is apt to occaſion headachs, flatulencies, 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, and where there is reaſon to ſuſpect an unſound ſtate of the viſcera, this ſtimulating medicine is manifeſtly improper, and never fails to aggravate the diſtemper.

The moſt commodious form for taking 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

its virtues, are so acrimonious, as to be unfit for general use. A syrup and oxymel of it were formerly kept in the shops; but it does not now enter any officinal preparation in our pharmacopœias; and it is proper that even the pills should always be an extemporaneous prescription, as they suffer much from keeping.

Garlick made into an ointment with oils, &c. and applied externally, is said to resolve and discuss cold tumors, and has been greatly esteemed in cutaneous diseases. It has likewise been sometimes employed as a repellent. When applied in the form of a poultice to the pubis, it has sometimes proved effectual in producing a discharge of urine, when retention has arisen from a want of due action of the bladder; and some authors have recommended, in certain cases of deafness, the introduction of a single clove, wrapt in thin muslin or gauze, into the meatus auditorius. Sydenham assures us, that among all the substances which occasion a derivation or revulsion from the head, none operates more powerfully than garlick applied to the soles of the feet: Hence he was led to use 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 soles of the feet, and renewed once a day till all danger was over.

ALNUS [*Ross.*] *Folia, Cortex.*
Betula Alnus L n.

The leaves and bark of the alder tree.

They have a bitter styptic disagreeable taste. The bark is recommended in intermittent fevers; and a decoction of it, in gargarisms, for inflammations of the tonsils; but it is little employed in modern practice.

ALOE [*Lond. Ed.*]
Aloe perfoliata L n.

Aloes.

Aloe is the inspissated juice of certain plants of the same name. The antients distinguished two sorts of aloes: The one was pure and of a yellowish colour inclining to a red, resembling the colour of a liver, and thence named hepatic; the other was full of impurities, and hence supposed to be only the dross of the better kind. At present, various sorts are met with in the shops; which are distinguished either from the places, whence they are brought, from the species of the plants, or from some differences in the juices themselves. Three different kinds may be mentioned, although two of them only have now a place in our pharmacopœias.

(1) ALOE SOCOTORINA [*Lond. Ed.*]

Socotorine aloes.

This article is brought from the island Socotora in the Indian ocean, wrapt in skins; it is obtained from the *variety* ϒ *of Aloe perfoliata Lin.* This sort 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 between the fingers. Its taste is bitter, accompanied with an aromatic flavour, but insufficient to prevent its being disagreeable; the smell is not very unpleasant, and somewhat resembles that of myrrh.

(2)

(2.) ALOE BARBADENSIS [*Lond.*] HEPATICA [*Ed.*]
Barbadoes, or hepatic aloes.

Hepatic aloes is not ſo clear and bright as the foregoing ſort: 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 come from Barbadoes in large gourd ſhells; an inferior ſort of it (which is generally ſoft and clammy) is brought over in caſks.

(3.) ALOE CABALLINA.
Fetid, caballine, or horſe aloes.

This ſort is eaſily diſtinguiſhed from both the foregoing, by its ſtrong rank ſmell; although, in other reſpects, it agrees pretty much with the hepatic and is not unfrequently ſold in its ſtead. Sometimes the caballine aloes is prepared ſo pure and bright, as not to be diſtinguiſhable by the eye even from the Socotorine; but its offenſive ſmell, of which it cannot be diveſted, readily betrays it. It has not now a place in the liſt of almoſt any modern pharmacopœia, and is employed chiefly by farriers.

All the ſorts 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 aſſiſtance of heat in water alone; but as the liquor cools, the reſinous part ſubſides, the gummy remaining united with the water. The hepatic aloes is found to contain more reſin and leſs gum than the Socotorine, and this than the caballine. The reſins of all the ſorts, purified by ſpirit of wine, have little ſmell: That obtained from the Socotorine has ſcarce any perceptible taſte; that of the hepatic, a ſlight bitteriſh reliſh; and the reſin of the caballine, a little more of the aloetic flavour. The gummy extracts of all the ſorts are leſs diſagreeable than the crude aloes: The extract of Socotorine aloes has very little ſmell, and is in taſte not unpleaſant; that of the hepatic has a ſomewhat ſtronger ſmell, but is rather more agreeable in taſte than the extract of the Socotorine; the gum of the caballine retains a conſiderable ſhare of the peculiar rank ſmell of this ſort of aloes, but its taſte is not much more unpleaſant than that of the extracts made from the two other ſorts.

Aloes is a ſtimulating bitter cathartic; if given in ſo large a doſe as to purge effectually, it often occaſions an irritation about the anus and ſometimes a diſcharge of blood. Small doſes of it frequently repeated, not only cleanſe the primæ viæ, but likewiſe warm the habit, quicken the circulation, and promote the uterine and hæmorrhoidal fluxes. This medicine is particularly ſerviceable in habitual coſtiveneſs, to perſons 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 body, and inflaming the bowels.

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

The antients gave aloes in much larger doſes than is cuſtomary at preſent.

preſent. Dioſcorides orders half a drachm or a drachm for gently looſening the belly; and three drachms when intended to have the full effect of a cathartic. But modern practice rarely exceeds a ſcruple, and limits the greateſt doſes to two ſcruples. For the common purpoſes of this medicine, ten or twelve grains ſuffice: Taken in theſe or leſs quantities, it acts as a general ſtimulating eccoprotic, capable of removing, if duly continued, very obſtinate obſtructions.

Aloes are much leſs frequently uſed to operate as a purgative than merely to obviate coſtiveneſs; and indeed their purgative effect is not increaſed in proportion to the quantity that is taken. Perhaps the chief objection to aloes, in caſes of habitual coſtiveneſs, is the tendency which they have to induce and augment hæmorrhoidal affections. And with thoſe, liable to ſuch complaints, they can ſeldom be employed. Their purgative effect ſeems chiefly to depend on their proving a ſtimulus to the rectum.

Some authors are of opinion, that the purgative virtue of aloes reſides entirely in its reſin: But experience has ſhewn, that the pure reſin has little or no purgative quality; and that the gummy part ſeparated from the reſinous, acts more powerfully than the crude aloes. If the aloes indeed be made to undergo long coction in the preparation of the gummy extracts, its cathartic power will be conſiderably leſſened, not from the ſeparation of the reſin, 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 ſeparation of their parts.

Socotorine aloes, as already obſerved, contain more gummy matter than the hepatic; and hence are likewiſe found to purge more, and with greater irritation. The firſt ſort, 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 balſamic virtues of this juice reſide chiefly in the reſin; and hence that the hepatic aloes, which is moſt reſinous, is moſt ſerviceable in external applications.

Aloes enter many of the officinal preparations and compoſitions, eſpecially different pills and tinctures. And according to the peculiar purpoſes for which theſe are intended, ſometimes the Barbadoes, ſometimes the Socotorine aloes, are the moſt proper.

ALTHÆA [*Lond. Ed.*] *Radix, folium.*

Althæa officinalis Lin.

Marſh mallows. The leaf and root.

Though this plant grows ſpontaneouſly in marſhes, and other moiſt places, in ſeveral parts of England, it is frequently cultivated for medicinal uſe. 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 uſed in preference to the others.

This plant has the general virtues of an emollient medicine; and proves ſerviceable where the natural mucus of the inteſtines is abraded. It is chiefly recommended in ſharp defluxions upon the lungs, hoarſeneſs, dyſenteries, and likewiſe in nephritic and calculous complaints; not, as has been ſuppoſed, that

this

this medicine has any peculiar power of diſſolving or expelling the calculus; but as by lubricating and relaxing the veſſels it procures a more free and eaſy paſſage. Althæa root is ſometimes employed externally for ſoftening and maturating hard tumors: Chewed it is ſaid to give eaſe in difficult dentition of children.

ALUMEN [*Lond. Ed.*]
Alum.

Alum is a ſalt 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 ſalt is of a white or pale red colour, of an auſtere ſtyptic taſte, accompanied with a nauſeous ſweetiſhneſs. It diſſolves in about twelve times its weight of water; and concretes again, upon duly evaporating the ſolution, into ſemitranſparent cryſtals, of an octagonal figure. Expoſed to the fire, it eaſily melts, bubbles up in bliſters, emits a copious phlegm, and then turns into a light ſpongy white maſs, conſiderably more acrid than the alum was at firſt; this urged with a ſtronger fire, yields vitriolic acid; the part which remains, if the heat has been ſufficiently intenſe and long continued, is an inſipid white earth.

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 ſalts to theſe ſolutions, the earth of the alum is precipitated with the colouring matter of the vegetable, and its acid uniting to the fixt alkali forms a neutral ſalt.

Alum is a powerful aſtringent: It is reckoned particularly ſerviceable for reſtraining hæmorrhagies, and immoderate ſecretions from the blood; but leſs proper in inteſtinal fluxes. In violent hæmorrhagies, 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 lotions and collyria. Burnt alum taken internally has been highly extolled in caſes of colic. In ſuch inſtances, when taken to the extent of a ſcruple for a doſe, it has been ſaid gently to move the belly, and give very great relief from the ſevere pain.

AMBRAGRISEA [*Dan.*]
Ambra ambroſiaca Lin.
Ambergris.

Ambergris is a bituminous ſubſtance of a greyiſh or aſh colour, intermixed with yellowiſh and blackiſh ſpecks or veins: It is uſually met with in little opaque 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 ſhell, bones of fiſhes, and other like matters. This concrete is found floating on the ſurface of the ſea, or thrown on the ſhores; the greateſt quantities are met with in the Indian ocean; pieces have likewiſe been now and then diſcovered in our own and other northern ſeas. It is ſuppoſed to be an animal product, from its being ſo frequently found in the belly of the *phyſeter macrocephalus Lin.*

Pure ambergris ſoftens between the

the fingers; 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 smell; set on fire it smells like burning amber. It dissolves, though difficultly, in spirit of wine and essential oils; but not in expressed oils or in water.

Ambergris is in general the most agreeable of the perfumes, and rarely accompanied with the inconveniences which other substances of this class frequently occasion. It has been considered as an high cordial, and esteemed of great service in all disorders of the head and in nervous complaints; a solution 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 aphrodisiac virtues of this concrete; they likewise suppose that the frequent use of it conduces to long life: But it is now very little employed in practice, and has no place either in the London or Edinburgh Pharmacopœias; yet its sensible qualities give reason for believing that it may be a more active medicine than some articles which are retained; although credit is by no means to be paid to all that has been said with regard to it.

AMMONIA. See, Sal Ammoniacus, Sal Cornu Cervi.

AMMONIACUM, GUMMI RESINA [*Lond. Ed.*]

Ammoniacum, the gum resin.

Ammoniacum is a concrete gummy resinous juice, brought from the Eastindies, usually in large masses, composed of little lumps or tears of a milky colour, but soon changing, by being exposed to the air, of a yellowish hue. We have no certain account of the plant which affords this juice: The seeds usually found among the tears resemble those of the umbelliferous class. It has however, been alleged, and not without some degree of probability, that it is an exudation from a species of the ferula, another species of which produces the asafœtida. The plant producing it is said to grow in Nubia, Abyssinia, and the interior parts of Egypt. Such tears as are large, dry, free from little stones, seeds or other impurities, should be picked out and preferred for internal use; the coarser kind is purified by solution, colature, and inspissation; unless this be artfully managed, the gum will lose a considerable portion of its more volatile parts. There is often vended in the shops, under the name of strained gum ammoniacum, a composition 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 white colour by being chewed. Thrown on live coals, it burns away in flame: It is in some degree soluble in water and in vinegar, with which it assumes the appearance of milk; but the resinous parts amounting to about one half, subside on standing.

Ammoniacum is an useful deobstruent; and it is frequently prescribed for opening obstructions of the abdominal viscera, and in hysterical disorders occasioned by a deficiency of the menstrual evacuations. It is likewise supposed to act on the pulmonary vessels; and to prove of considerable service in

in ſome kinds of aſthmas, where the lungs are oppreſſed by viſcid phlegm: With this intention, a ſolution of gum ammoniacum in vinegar of ſquills though not a little unpleaſant, proves a medicine of great efficacy. In long and obſtinate colics this gummy reſin 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 is ſuppoſed to ſoften and ripen hard tumours: A ſolution of it in vinegar ſtands recommended for reſolving even ſcirrhous ſwellings. A plaſter made of it and ſquill vinegar, is recommended in white ſwellings. A dilute mixture of it is likewiſe rubbed on the parts, which are alſo fumigated with ſmoke of juniper berries.

AMYGDALA AMARA, DULCIS [*Lond. Ed.*] *Nucleus.*
Amygdalus communis Lin.

Bitter and ſweet almond. The kernel.

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.

They are the produce of a ſpecies of peach tree; and the eye diſtinguiſhes no difference between the trees which produce the ſweet and bitter, or between the kernels themſelves; it is ſaid that the ſame tree has, by a difference in culture, afforded both.

Both ſorts of almonds yield, on expreſſion, a large quantity of oil, which has no ſmell or any particular taſte: This oil ſeparates likewiſe on 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 obtund acrimonious juices in the primæ viæ: Peeled ſweet almonds, eaten ſix or eight at a time, ſometimes give ſpeedy 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 the ſame effects. Nevertheleſs, when eaten, they appear innocent to men, and have been frequently uſed as medicines. Boerhaave recommends them in ſubſtance, as diuretics which heat but moderately, and which may, therefore be ventured on in acute diſeaſes.

The oils obtained by expreſſion from both ſorts 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 inflammations; and externally,

in

in tenſion and rigidity of particular parts.

The milky ſolutions of almonds in watery liquors, commonly called emulſions, contain the oil of the ſubject, and participate in ſome degree of its emolient virtue; 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 ſometimes produce; ſince emulſions do not turn rancid or acrimonious by heat as all the oils of this kind in a little time do. Several unctuous and reſinous ſubſtances, of themſelves not miſcible with water, may by tituration with almonds be eaſily mixed with it into the form of an emulſion; and are thus excellently fitted for medicinal uſe. In this form camphor and the reſinous purgatives may be commodiouſly taken. The only officinal preparations of almonds are, the expreſſed oil and emulſion. The oil is chiefly expreſſed from the bitter almond as being cheaper, but the emulſion is made with the ſweet almond. An emulſion formed entirely of bitter almonds, taken to the quantity of a pint or two daily, is ſaid to have been given in obſtinate intermittents with ſucceſs.

AMYLUM [*Edin.*] *Ex tritico præparatum.*

Starch a preparation from wheat. See, TRITICUM.

ANCHUSA [*Ed.*] *Radix.*

Anchuſa tinctoria Lin.

Alkanet root.

Alkanet is a rough hairy plant, much reſembling the vipers bugloſs: Its chief difference from the common bugloſſes conſiſts in the colour of its roots: The cortical part of which is of a duſky red, and imparts an elegant deep red to oils, wax, and all unctuous ſubſtances, but not to watery liquors. This plant is a native of Europe: It is ſometimes cultivated in our gardens; but the greateſt quantities are raiſed in Germany or France, particularly about Montpelier, from 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: And it has been ſuſpected, but without ſufficient foundation, that the foreign roots owe part of their colour to art.

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

ANETHUM [*Lond. Ed.*] *Semen.*

Anethum graveolens Lin.

Dill, the ſeed.

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 and flat 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 flatulent cholics. The moſt efficacious preparations of them are, the diſtilled oil, and a tincture or extract made with rectified ſpirit. A ſimple diſtilled water

water prepared from theſe ſeeds has a place both in the London and Edinburgh Pharmacopœias.

ANGELICA [*Lond. Ed.*] *Radix, cauliſ, folium, ſemen.*

Angelica Archangelica Lin.

Angelica, the root, ſtalk, leaf, and ſeed.

It is a large umbeliferous plant, growing ſpontaneouſly in the northern climates: For the uſe of the ſhops, it is cultivated in gardens in different parts of Europe. Angelica roots are apt to grow mouldy, and to be preyed on by inſects, 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 have been chewed. The flavour of the ſeeds and leaves is very periſhable; particularly that of the latter, which, on being barely dried, looſe the greateſt part of their taſte and ſmell: The roots are more tenacious of their flavour, though they loſe part of it with keeping. The freſh root wounded early in the ſpring yields an odorous, yellow juice; which, ſlowly exſiccated, proves an elegant gummy reſin, 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 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 uſed in the aromatic tincture. The ſtalks make an agreeable ſweetmeat.

Beſides the angelica archangelica, or garden angelica, as it is commonly called, the Edinburgh college ſtill alſo give a place to the root of the angelica ſylveſtris, or wild angelica. But it ſeems to differ only from the former in being much weaker, and might with propriety be rejected.

ANGUSTURA [*Edin.*] *Cortex.*

Anguſtura Bark.

The natural hiſtory of this bark is hitherto unknown. The firſt parcel of it that was imported came from Dominica in July 1788, with an account "that it had been "found ſuperior to the Peruvian "bark in the cure of fevers." Subſequent importations from the Spaniſh Weſtindies either immediately or through the medium of Spain, give reaſon to ſuppoſe that it is the produce of South America. Angoſtura is the Spaniſh term for a narrow paſs between two mountains. This alſo corroborates the ſuppoſition.

Its appearance is various, owing to its having being taken from larger or ſmaller branches. The outer ſurface of it is more or leſs wrinkled, and covered with a greyiſh coat below which it is of a yelloviſh brown: The inner ſurface is of dull brown. It breaks ſhort and reſinous. The taſte is intenſely bitter and ſlightly aromatic, leaving a ſtrong ſenſe of heat and pungency in the throat and fauces. The odour is ſingular.

Water either cold or warm, extracts

tracts the bitter quality; and ſpirit, the aromatic and acrid part of this bark; and the bark when triturated with quicklime or with fixed alkali gives out an odour of volatile alkali; an infuſion of the bark is not changed by vitriolated iron.

As being an aromatic bitter it has been found to be a ſtrengthener and a ſtimulant of the organs of digeſtion. It increaſes the appetite for food; removes flatulencies and acidity in conſequence of dyſpepſia. It is found to have no aſtringent power, but by its ſtrengthening quality it is very effectual in diarrhœa from weakneſs of the bowels and in dyſenteries. It is found ineffectual in the cure of intermittents. Future obſervations and farther trials of this new Bark, may, we hope, lead to a more perfect knowledge of its medicinal powers.

ANISUM [*Lond. Ed.*] *Semen. Pimpinella Aniſum Lin.*

Aniſe, the ſeed.

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 ſeeds brought from Spain, which are ſmaller than the other, are preferred.

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

The principal uſe of theſe ſeeds is in flatulent diſorders, and in the gripes to which young children are ſubject. Frederick Hoffman ſtrongly recommends them in weakneſs of the ſtomach, diarrhœas, and for ſtrengthening the tone of the viſcera in general; and thinks they well deſerve the appellation given them by Helmont, *inteſtinorum ſolamen.*

There were formerly ſeveral officinal preparations of theſe ſeeds, but the only one now retained is an eſſential oil.

ANTIMONIUM [*Lond. Ed.*] *Stibium, ſive Antimonium ſulphuratum.*

Antimony.

Antimony is a ponderous brittle mineral compoſed of long ſhining ſtreaks like needles, mixed with a dark lead coloured ſubſtance; of no manifeſt taſte or ſmell. There are ſeveral mines of it in Germany, Hungary, and France: And ſome likewiſe in England. The Engliſh ſeems to be of all theſe the leaſt proper for medicinal uſe, as frequently containing a portion of lead. The ſubſtances found mixed with the foreign ſorts are generally of the inſuſible ſtony kind, from which the antimony is melted out in veſſels whoſe bottom is perforated with ſmall holes, and received in conical moulds: In theſe, the lighter and more droſſy matter ariſes to the ſurface; while the more pure and ponderous ſubſides to the bottom; hence the upper broad part of the loaves is conſiderably leſs 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 antients in collyria againſt inflammations of the eyes; and for ſtaining the eye brows black. Its internal uſe does not ſeem to have been eſtabliſhed till towards the end of the fifteenth century; and even then many practitioners thought it poiſonous. But experience has

now

now fully evinced, that antimony, in its crude ſtate, has no noxious quality, being often uſed, particularly in chronic eruptions; that ſome 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 ſlight alteration or addition, loſe their virulence, and become mild in their operation.

This mineral conſiſts of a metal, united with common ſulphur, and ſeparable in its metallic form by the ſame means by which 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 powers reſtrained.

Antimony is at preſent the baſis of many officinal preparations, to be afterwards mentioned. But beſides thoſe ſtill retained, many others have been formerly in uſe, and are ſtill employed by different practitioners. We ſhall here therefore ſubjoin a table drawn up by Dr. Black, exhibiting a diſtinct view of the whole.

Dr. Black's TABLE of the PREPARATIONS of ANTIMONY.

Medicines are prepared either from crude Antimony, or from the pure metallic part of it called regulus.

From CRUDE ANTIMONY.

I. By trituration.
- Antimonium præparatum. Ed. et Lond.

II. By the action of heat and air.
- Flores Antimonii ſine addito.
- Vitrum Antimonii. Ed.
- *Antimonium vitrificatum.* Lond.
- Vitrum Antimonii ceratum. Ed.
- Antimonium Calcareo phoſphoratum, ſive Pulvis antimonialis. Ed.
- *Pulvis Antimonialis.* Lond.

III. By the action of alkalies.
- Hepar Antimonii muriſſi num.
- *Regulus Antimonii medicinalis.*
- Hepar ad Kermes minerale *Geoffroii.*
- Hepar ad Tinct. Antimonii.
- Kermes minerale.
- Sulphur Antimonii praecipitatum. Ed. et Lond.

IV. By the action of nitre.
- Crocus Antimonii muriſſimus.
- *Vulgo, Regulus Antimonii medicinalis.*
- Crocus Antimonii. Ed. et Lond.
- Antimonii emeticum mitius. *Boerh.*
- Antimonium uſtum cum Nitro, *vulgo,*
- Calx Antimonii nitrata. Ed.
- Antimonium calcinatum. Lond. *vulgo, diaphoret.*

V. By the action of acids.
- Antim. vitriolat. *Klaunig.*
- Antim. cathartic. *Willon.*
- Antimonium muriatum, vulgo Butyrum Antim. Ed.
- *Antimonium muriatum* Lond.
- Pulvis Algerothi, ſive *Mercurii Vitae.*
- Bezoardicum minerale.
- Antimonium tartariſatum, *vulgo,*
- Tartarus emeticus. Ed.
- *Antimonium Tartariſatum.* Lond.
- Vinum Antimonii tartariſati. Ed.
- et Lond.
- Vinum Antimonii. Lond.

FROM THE REGULUS.

This metal ſeparated from the ſulphur by different proceſſes, is called *Regulus antimonii ſimplex, Regulus martialis, Regulus jovialis,* &c. From it were prepared,

I. By the action of heat and air,
- Flores argentei, ſive nixantim.

II. By the action of nitre,
- Ceruſſa antimonii.
- Stomachium Poterii.
- Antihecticum Poterii.
- Cardiacum Poterii.

Preparations which have their name from antimony, but ſcarcely contain any of it.
- Cinnabaris antimonii.
- Tinctura antimonii.

In

In the various preparations of antimony, the reguline part is either combined with an acrid, or in a condition to be acted upon by acids in the ſtomach; and the general effects of antimonials are, diaphoreſis, naufea, full vomiting and purging which perhaps may be beſt obtained by the forms of prepared antimony and emetic tartar. Some allege that antimonials are of moſt uſe in fevers when they do not produce any ſenſible evacuation, as is ſaid to be the caſe ſometimes with Jame's powder. Some therefore prefer it in typhus, and emetic tartar in ſynochus, in which there is the appearance at firſt of more activity in the ſyſtem, and more apparent cauſe for evacuation.

APIUM [*Gen.*] *Rad. fol. ſemen. Apium graveolens L.n.*

Smallage; the root, leaves, and ſeeds.

This plant is larger than the garden parſley, of a darker green colour, and of a ſtronger and more unpleaſant flavour. The roots have been ſometimes preſcribed as an ingredient in aperient apozems and diet drinks: But are at preſent diſregarded. The ſeeds of the plant are moderately aromatic, and were formerly uſed as carminatives; with which intention they are, doubtleſs, capable of doing ſervice, though the other warm ſeeds with which the ſhops are furniſhed render theſe unneceſſary.

ARABICUM GUMMI [*Lond. Ed.*]

Mimoſa nilotica Lin.

Gum arabic.

Gum arabic is a concrete gum, exuding from a tree growing in great abundance in Egypt and Arabia, which has accordingly given name to this gum. It is brought to us from Turkey, in ſmall irregular maſſes 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 ſold for it. This greatly reſembles 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 between the two; although the former is held to be the purer gum, and therefore preferred for medicine; and the latter the ſtrongeſt, moſt ſubſtantial, and cheapeſt, and conſequently more employed for mechanic uſes. The virtues of this gum are the ſame with thoſe of gummy and mucilaginous ſubſtances in general: It is given from a ſcruple to two drachms in hoarſeneſſes, a thin acrimonious ſtate of the fluids, and where the natural mucus of the inteſtines is abraded. It is an ingredient in the white decoction, chalk julep, the common emulſion, and ſome of the troches.

ARGENTUM [*Lond.*]

Silver.

Silver is intitled to a place in the materia medica, only as being the baſis of different preparations; and of theſe, although ſeveral were formerly in uſe, yet only one now retains a place either in the London or Edinburgh pharmacopœias.

Abundance of virtues have been attributed to crude ſilver 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 on

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the body: Combined with a ſmall quantity of the nitrous acid, it proves a powerful, though not always a ſafe, hydragogue; with a larger, a ſtrong cauſtic. The nitrous acid is the only one that perfectly diſſolves this metal: On adding to this ſolution a minute portion of marine acid, or ſubſtances containing it, the liquor turns milky, and the ſilver falls to the bottom in form of a white calx: Hence we are furniſhed with a method of diſcovering muriatic acid in waters.

ARISTOLOCHIA [*Ed.*]
Birthwort; the root.

Three roots of this name were formerly directed for medicinal uſe, and have ſtill a place in ſome pharmacopœias.

(1) ARISTOLOCHIA LONGA *Lin.*
Long Birthwort.

This is a tuberous root, ſometimes about the ſize of the finger, ſometimes 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 outſide is of a browniſh colour; the inſide yellowiſh.

(2) ARISTOLOCHIA ROTUNDA *Lin.*
Round Birthwort.

This has ſcarce any other viſible difference from the foregoing than its roundiſh ſhape.

(3) ARISTOLOCHIA TENUIS.
Ariſtolochia Clematis Lin.
Slender birthwort.

This is a long and ſlender root, rarely exceeding the thickneſs of a gooſe quill.

Theſe roots are the produce of Spain, Italy, and the ſouthern parts of France. Their ſmell is ſomewhat aromatic; their taſte warm and bitteriſh. Authors in general repreſent them as extremely hot and pungent; ſome ſay they are the hotteſt of all the aromatic plants; but as uſually met with in the ſhops they have no great pungency. The long and round ſorts, on being firſt chewed ſcarcely diſcover any taſte, but in a little time prove naufeouſly bitteriſh; the long ſomewhat the leaſt ſo. The other ſort, inſtantly fills the mouth with an aromatic bitterneſs which is not ungrateful. Their medical virtues are, to heat, ſtimulate, and promote the fluid ſecretions in general; but they are principally celebrated in ſuppreſſions of female evacuations. The doſe in ſubſtance is from a ſcruple to two drams. The long ſort is recommended externally for cleanſing and drying wounds and ulcers, and in cutaneous diſeaſes. None of them, however, are now in ſo much eſteem as formerly: And while all of them are baniſhed from the pharmacopœia of the London college, the *ariſtolochia tenuis* is the only one retained in that of Edinburgh.

ARNICA [*Lond. Ed.*] *Herba, flos, radix.*
Arnica montana Lin.

German leopard's bane; the herb, flowers, and roots.

This article had formerly a place in our pharmacopœias, under the title of *Doronicum Germanicum*. Then, however, it was little known or uſed; and being juſtly conſidered as one of the deleterious vegetables, it was rejected: But it has been again introduced into the liſt both of the London and Edinburgh colleges, on the authority of freſh obſervations, particularly of thoſe of

of Dr. Collins of Vienna, who has lately publiſhed a Diſſertation on the Medical Virtues of the Arnica.

This plant grows in different parts of Europe, particularly in Germany. It has an acrid bitter taſte, and when bruiſed, emits a pungent odour, which excites ſneezing. On this account, the country people in ſome parts of Germany uſe it in ſnuff, and ſmoke it like tobacco. It was formerly repreſented as a remedy of great efficacy againſt effuſions and ſuffuſions of blood, from falls, bruiſes, or the like; and it was then alſo mentioned as a remedy in jaundice, gout, nephrites, &c. but in theſe affections it is now very little, if at all, employed.

Of late it has been principally recommended in paralytic affections, and in caſes where a loſs or diminution of ſenſe ariſes from an affection of the nerves, as in inſtances of amauroſis. In theſe, it has chiefly been employed under the form of infuſion. From a drachm to half an ounce of the flowers has been directed to be infuſed in a pint of boiling water, and taken in different doſes in the courſe of the day: Sometimes it produces vomiting, ſometimes ſweating, and ſometimes diureſis; but its uſe is frequently attended with no ſenſible operation, except that in ſome caſes of paralyſis, the cure is ſaid to be preceded by a peculiar prickling, and by ſhooting pains in the affected parts.

Beſides being employed in paralytic affections, it has alſo been of late recommended as a very powerful antiſpaſmodic; and been ſucceſsfully employed in fevers, particularly thoſe of the intermittent kind, and likewiſe in caſes of gangrene. In theſe diſeaſes it has proved as efficacious as the Peruvian bark, when employed under the form of a pretty ſtrong decoction, taken in ſmall doſes frequently repeated, or under the form of an electuary with honey.

Theſe alleged virtues of the arnica have not been confirmed, as far as we know, by any trials made in Britain; and we are of opinion, that its virtues ſtill remain to be determined by future obſervations. It is, however, one of thoſe active ſubſtances which may be expected to be uſeful.

ARSENICUM. [*Ed.*]

Arſenic.

Arſenic is contained, in greater or leſs quantity, in moſt kinds of ores, particularly in thoſe of tin and biſmuth, in the white pyrites, and in *cobalt*. Greateſt part of the arſenic brought to us is extracted from this laſt named mineral by a kind of ſublimation: The arſenic ariſes at firſt in the form of greyiſh meal; which, more carefully reſublimed, concretes into tranſparent maſſes, the *white* arſenic of the ſhops.

Arſenic ſublimed with one tenth its weight of ſulphur, unites therewith into a bright yellow maſs, in ſome degree tranſparent; the common *yellow* arſenic. On doubling the quantity of ſulphur, the compound proves more opaque and compact, is of a deep red colour, like cinnabar; but with this difference, that it loſes its beauty on being reduced into powder, while cinnabar is improved by this means; this is the common *red* arſenic. By varying the proportions of arſenic and ſulphur, ſublimates may be obtained of a great variety of ſhades of yellow and red.

Natural mixtures of arſenic and ſulphur,

ſulphur, reſembling the foregoing preparations, are not unfrequently met with in the earth. The foſſil red arſenic is the *ſandaracha* of the Greeks, the *realgar* and *reſignal* of the Arabians. Both the red and yellow, when of a ſmooth 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 *arſenikon*. That the zarnichs and orpiments really contain arſenic (contrary to the opinion of ſome late writers) is evident from experiments, by which a perfect arſenic, and in conſiderable quantity, is obtainable from them.

The pure or white arſenic has a penetrating corroſive taſte; and taken into the body to the extent even of only a few grains, proves a moſt violent poiſon. Beſides the effects which it has in common with other corroſives, it remarkably inflames the coats of the ſtomach, occaſions a ſwelling and ſphacelation of the whole body, and a ſudden putrefaction after death, particularly, as is ſaid, in the genitals of men. Where the quantity is ſo very ſmall as not to prove fatal, tremors, palſies, and lingering hectics ſucceed. The remedies recommended for counteracting the effects of this poiſon are, milk and oily liquors immediately and liberally drank.

Some authors recommend acids, particularly vinegar, as antidotes againſt this poiſon. Others recommend a watery ſolution of calcareous or alkaline hepar ſulphuris, which is found to combine with arſenic, and deſtroys moſt of its properties. A little iron in the ſolution is ſaid to improve it. The dry hepar may alſo be made into pills, and warm water drank after taking them.

Notwithſtanding, however, the very violent effects of arſenic, it has been employed in the cure of diſeaſes, both externally and internally. Externally, white arſenic has been chiefly employed in caſes of cancer; and its good effects were ſuppoſed to depend on its acting as a peculiar corroſive. It is imagined that arſenic is the baſis of a remedy long celebrated in cancer, that is kept a ſecret by the Plunket family in Ireland. According to the beſt conjectures, their application conſiſts of the powder of ſome vegetables, particularly the ranunculus flammens and cotula fœtida, with a conſiderable proportion of arſenic and flower of ſulphur intimately mixed together. This powder, made into a paſte with the white of an egg, is applied to the cancerous part which is intended to be corroded, and being covered with a piece of thin bladder, ſmeared alſo with the white of an egg; the paſte is ſuffered to lie on from twenty four to forty eight hours; and afterwards the eſchar is to be treated with ſoftening digeſtives, as in other caſes. This application, whether it be preciſely the ſame with Plunket's remedy or not, and likewiſe arſenic in mere ſimple form, have in ſome inſtances been productive of good effects. It is indeed a powerful eſcharotic, occaſioning acute pain; but it has the peculiar excellence of not extending its operation laterally. If in ſome caſes it has been beneficial, we muſt however allow that in others it does harm. While it has occaſioned very conſiderable pain it has given the parts no diſpoſition

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to heal, the progreſs of the ulceration being even more rapid than before.

White arſenic has alſo been recommended as a remedy for cancer when taken internally. With this intention, five grains of arſenic, of a clear white ſhining appearance, and in ſmall cryſtals, are directed to be diſſolved in forty eight Troy ounces or four pound of diſtilled water; and of this ſolution the patient is to take a table ſpoonful, with an equal quantity of milk and a little ſyrup of white poppies, every morning faſting taking nothing for an hour after it. After this has been continued for about eight days, the quantity is to be increaſed, and the doſes more frequently repeated, till the ſolution be taken by an adult to the extent of ſix table ſpoonfuls in the courſe of a day. Mr. Le Febure, who is, we believe, the introducer of this practice, affirms that he uſed it in more than two hundred inſtances without any bad effect, and with evident proofs of its efficacy. But when employed by others, it has by no means been found equally efficacious.

Arſenic, in ſubſtance, to the extent of an eighth of a grain for a doſe, combined with a little of the flowers of ſulphur, has been ſaid to be employed internally in ſome very obſtinate caſes of cutaneous diſeaſes, and with the beſt effects; but of this we have no experience.

Of all the diſeaſes in which white arſenic has been uſed internally, there is no one in which it has been ſo frequently and ſo ſucceſsfully employed as in the cure of intermittent fevers. It has been long uſed in Lincolnſhire, and other fenny countries under the name of the *arſenic drop*, prepared in different ways: And it is probable that an article, which has had a very extenſive ſale, under the title of the *taſteleſs ague drop*, is nothing elſe but a ſolution of arſenic. Whether this be the caſe or not, we have now the moſt ſatisfactory information, in a late volume of the Medical Reports, of the effects of Arſenic in the cure of Agues, Remitting Fevers, and Periodic Headachs, by Dr. Fowler of Stafford. He directs, ſixty four grains of arſenic, reduced to a very fine powder, and mixed with as much fixed vegetable alkaline ſalt, to be added to half a pound of diſtilled water, in a florence flaſk; that it ſhould then be placed in a ſand heat, and gently boiled till the arſenic be completely diſſolved; when the ſolution is cold, half an ounce of compound ſpirit of lavender is to be added to it, and as much diſtilled water as to make the whole ſolution amount to a pound. This ſolution is taken in doſes, regulated according to the age, ſtrength, and other circumſtances of the patient, from two to twelve drops, once, twice, or oftener in the courſe of the day. And in the diſeaſes above mentioned, particularly in intermittents, it has been found to be a ſafe and very efficacious remedy, both by Dr. Fowler and other practitioners: But in ſome inſtances even when given in very ſmall doſes, we have found it excite violent vomiting. But beſides this, it has alſo been alleged, that perſons cured of intermittents by arſenic, are very liable to become phthiſical.

If arſenic be ever extenſively employed internally it will probably be moſt certain and moſt ſafe in its operation when brought to the ſtate of a ſalt readily ſoluble in water. Mr. Morveau tells us, that

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it may be brought to the ſtate of a true neutral ſalt by the following proceſs. Mix well together equal quantities of nitre and of pure white arſenic; put them into a retort, and diſtill at firſt with a gentle heat, but afterwards with ſo ſtrong a heat as to redden the bottom of the retort. By this means the a kaline baſis of the nitre will unite with the acid of the arſenic, and will be found in the bottom of the retort in the form of a neutral ſalt, from which cryſtals of a priſmatic figure, may be obtained by ſolution, and ſubſequent cryſtallization. This ſal arſenici has been employed with great ſucceſs by ſeveral practitioners.

The red and yellow arſenics, 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 antimony, 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 them being productive of any apparent bad conſequences.

ARTEMISIA [*Ed.*] *Folia.*
Artemiſia vulgaris Lin.
Mugwort; the leaves.

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 were formerly 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 evacuation. 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 now, however, very little employed in medicine; and it is probably with propriety that the London College have rejected it from their pharmacopœia.

ARTHANITA, *Radix.*
Cyclamen europæum Lin.
Sowbread; the root.

This plant is met with in the gardens of the curious. The root has, when freſh, an extremely acrimonious burning taſte, which it almoſt entirely loſes on being dried. It is recommended as an errhine; in cataplaſms for ſcirrhous and ſcrophulous tumours; and internally as a cathartic, detergent, and aperient: It operates very ſlowly, but with great virulence, inflaming the fauces and inteſtines.

ARUM [*Lond. Ed.*] *Radix.*
Arum maculatum Lin.
Wake robin; the root.

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 ſpots, and in others

others not ſpotted at all: The black ſpotted ſort is ſuppoſed to be the moſt efficacious.

All the parts of arum, particularly the root, have an extremely pungent, acrimonious taſte; if the root be but ſlightly 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 buttermilk or oily liquors. Dried and kept for ſometime, it loſes much of its acrimony, and becomes at length an almoſt inſipid farinaceous ſubſtance.

The root is a powerful ſtimulant. It is reckoned a medicine of great efficacy in ſome cachetic and chlorotic caſes, in weakneſs of the ſtomach occaſioned by a load of viſcid phlegm. Great benefit has been obtained from it in rheumatic pains, particularly thoſe of the fixt kind, and which were deep ſeated. In theſe caſes from ten grains to a ſcruple of the freſh root may be given twice or thrice a day, made into a bolus or emulſion with unctuous and mucilaginous ſubſtances, which cover its pungency, and prevent its making any painful impreſſion on the tongue. It generally excites a ſlight tingling ſenſation through the whole habit, and, when the patient is kept warm in bed, produces a copious ſweat.

The arum was formerly an ingredient in an officinal preparation, called the compound powder of arum; but in that form its virtues are very precarious. Some recommend a tincture of it drawn with wine; but neither wine, water, nor ſpirits extract its virtues.

ASAFŒTIDA [*Lond. Ed.*]

Gummi reſina.

Ferula Aſafœtida Lin.

Aſafœtida; the gum reſin.

This is the concrete juice of a large umbelliferous plant, a native of Perſia. Till very lately it was not to be met with in our hothouſes; but, by the induſtry of the late Dr. Hope, it is now growing in the botanical garden at Edinburgh, and in ſome other places: And it is found, that it not only bears the viciſſitudes of our climate, even in the open air, but that the plant is here ſtrongly impregnated with its peculiar juice.

This juice exudes liquid, and whitelike milk, from wounds made in the root of the plant: 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 garlic; and a bitter, acrid, biting taſte. It loſes ſome of its ſmell and ſtrength by keeping, 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 other in water. Proof ſpirit diſſolves almoſt the whole into a turbid liquor; the tincture in rectified ſpirit is tranſparent.

Aſafœtida is the ſtrongeſt of the fetid gums, and of frequent uſe in hyſteric and different kinds of nervous complaints. It is likewiſe of conſiderable efficacy in flatulent colics,

colics ; and for promoting all the fluid ſecretions in either ſex. The antients attributed to this medicine many other virtues, which are at preſent not expected from it.

This gummy reſin is an ingredient in the officinal gum pills, fetid tincture, and fetid volatile ſpirit.

ASARUM [*Lond. Ed.*] *Folium.*
Aſarum europæum Lin.
Aſarabacca ; the leaves.

Aſarum is a very low plant, growing naturally in France, Italy, and other warm countries. It grows readily in our gardens ; and although the dried roots have been generally brought from the Levant, thoſe of our own growth do not ſeem to be weaker.

Both the roots and leaves have a nauſeous, bitter, acrimonious, hot taſte ; their ſmell is ſtrong, and not very diſagreeable. Given in ſubſtance from half a drachm to a drachm, they evacuate powerfully both upwards and downwards. It is ſaid, that tinctures made in ſpirituous menſtrua, poſſeſs both the emetic and cathartic virtues of the plant ; that the extract obtained by inſpiſſating theſe tinctures, acts only by vomiting, and with great mildneſs : That an infuſion in water proves cathartic, rarely emetic : That aqueous decoctions made by long boiling, and the watery extract, have no purgative or emetic quality, but prove good 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. Snuffed 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 five grains. Geoffroy relates that after ſnuffing 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 ſoporific diſtempers. The leaves are the principal ingredient in the *pulvis ſternutatorius* or *pulvis aſari compoſitus*, as it is now termed, of the ſhops.

ASPARAGUS [*Ros.*] *Radix, turiones.*
Aſparagus officinalis Lin.
Aſparagus ; the root and ſhoots.

This plant is cultivated in gardens for culinary uſe. The roots have a bitteriſh mucilaginous taſte, inclining to ſweetneſs, the fruit has much the ſame kind of taſte ; the young ſhoots are more agreeable than either. Aſparagus promotes appetite, but affords little nouriſhment. It gives a ſtrong ſmell to the urine in a little time after eating it, and for this reaſon chiefly it is ſuppoſed to be diuretic : It is likewiſe eſteemed aperient and deobſtruent. Some ſuppoſe the ſhoots to be moſt efficacious ; others the root ; and others the bark of the root. Aſparagus appears from experience to contribute very little either to the exciting of urine when ſuppreſſed, or increaſing its diſcharge ; and in caſes where aperient medicines generally

generally do service, this has little or no effect.

ATRIPLEX FŒTIDA [*Ed.*] *Herba.*

Chenopodium Vulvaria Lin.

Stinking orach ; the leaves.

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 slight touch, becomes so impregnated as not to be easily freed from it. Its smell 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 conserve of the leaves, as of wonderful efficacy in uterine disorders ; but in the present practice it is little employed.

AVENA [*Lond. Edin.*] *Semen.*

Avena sativa L n.

The oat ; its seed.

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. They are by no means an unpleasant, and at the same time a gently nutritive drink, in febrile diseases in general.

AURANTIUM HISPALENSE [*Lond.*] *Folium, flos, fructus, succus, et cortex exterior.* [*Ed.*] *Folia, floris aqua stillatitia et oleum essentiale, fructus, succus, et cortex exterior.*

Citrus Aurantium Lin.

Sevile orange ; the leaf, flower, juice of the fruit, and its outer rind.

The orange is a beautiful evergreen tree or rather shrub ; it is a native of the warmer climates, and does not easily bear the winters of Greatbritain.

The flowers are highly odoriferous, and have been, for sometime past, in great esteem as a perfume : Their taste is somewhat warm, accompanied with a degree of bitterness. They yield their flavour by infusion to rectified spirit, and in distillation both to spirit and water : The bitter matter is dissolved by water, and on evaporating the decoction, remains entire in the extract. An oil distilled from these flowers is brought from Italy under the name of *oleum* or *essentia Neroli.*

Orange flowers were at one time said to be an useful remedy in convulsive and epileptic cases ; but experience has not confirmed the virtues attributed to them. The leaves of the orange have also been recommended for the same purpose, but have by no means answered the expectations entertained by some.

The outer yellow rind of the fruit is a grateful aromatic bitter ; and proves an excellent stomachic and carminative, promoting appetite, warming the habit, and strengthening the tone of the viscera Orange peel appears to be very considerably warmer than that of lemons, and to abound more with essential oil ; to this circumstance therefore due regard ought to be had in the use of these medicines. The flavour of the first is likewise supposed to be less perishable than that of the other : Hence the London college employ orange peel in the spirituous bitter tincture, which

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is deſigned for keeping; while in the bitter watery infuſion, lemon-peel is preferred. A ſyrup and diſtilled water are, for the ſame reaſon, prepared from the rind of oranges in preference to that of lemons.

The outer rind of the orange is the baſis of a conſerve both in the Edinburgh and London pharmacopœias; and this is perhaps one of the moſt elegant and convenient forms for exhibiting it.

The juice of oranges is a grateful acid liquor, of conſiderable uſe in febrile or inflammatory diſtempers, for allaying heat, quenching thirſt, and promoting the ſalutary excretions: It is likewiſe of uſe in genuine ſcorbutus, or ſea ſcurvy. Although the Seville, or *bitter orange* as it is called, has alone a place in our pharmacopœias, yet the juice of the China orange, is much more employed. It is milder, and leſs acid; and is employed in its moſt ſimple ſtate with great advantage, both as a cooling medicine, and as an uſeful antiſeptic in fevers of the worſt kinds, and many other acute diſeaſes.

AURANTIA CURASLAVENSIA.

Curaſſao oranges.

Theſe are the ſmall young fruit of the Seville orange dried. They are moderately warm bitteriſh aromatics, of a flavour ſufficiently agreeable.

AURUM [*Brun.*]

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 pharmacopœias it is ſtill retained, and even mixed with the ingredients from which ſimple waters are to be diſtilled. But no one, it is preſumed, at this time, expects any ſingular virtues from it, ſince it certainly is not alterable in the human body. Mr. Geoffroy, though unwilling to reject it from the cordial preparations, honeſtly acknowledges, that he has no other reaſon for retaining it, than complaiſance to the Arabian ſchools. The chemiſts have endeavoured, by many elaborate proceſſes, to extract what they call a ſulphur or anima of gold: But no method is as yet known of making this metal an uſeful medicine; all the tinctures of it, and aurum potabile, which have hitherto appeared, are real ſolutions of it in aqua regia, diluted with ſpirit of wine or other liquors, and prove injurious to the body rather than beneficial. A place, however, is now given in ſome of the foreign pharmacopœias to the aurum fulminans; and it has of late been recommended as a remedy in ſome convulſive diſeaſes, and particularly in the chorea ſancti Viti.

AXUNGIA PORCINA. See Sus.

BALSAMITA [*Gen.*] *Folia. Tanacetum Balſamita Lin.*

Coſtmary; the leaves.

This was formerly a very common garden plant, and of frequent uſe both for culinary and medicinal purpoſes: But it 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 pleaſant ſmell, 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. It has been recommended in hyſterical affections; and has been ſuppoſed to be very powerful in correcting the influence of opium. The leaves ſhould be collected in the month of July or Auguſt.

BALSAMUM CANADENSE
[*Lond. Ed.*]
Pinus balſamea Lin.
Canada balſam.

The Canada balſam is a tranſparent reſinous juice, of a light amber colour, and pretty firm conſiſtence, brought to this country from Canada in North America. It is a very pure turpentine, being the product of a ſpecies of fir. It has an agreeable ſmell, and a warm pungent taſte. Hitherto it has been but little employed in medicine; but is thought capable of anſwering every purpoſe for which the next article is employed.

BALSAMUM COPAIVA.
[*Lond.*] COPAIBÆ [*Ed.*]
Copaifera Balſamum Lin.
Balſam of Copaiva.

The tree which produces this balſam is a native of the Spaniſh Weſtindia iſlands, and of ſome parts of the continent of South America. It grows to a large ſize, and the balſamum Copaiva flows, under the form of a reſinous juice, from inciſions made in the trunk.

The juice is clear and tranſparent, of a whitiſh or pale yellowiſh colour, an agreeable ſmell, and a bitteriſh pungent taſte. It is uſually about the conſiſtence of oil, or a little thicker: When 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 ſort of balſam of Copaiva, which is not at all tranſparent, or much leſs ſo than the foregoing, and generally, has a portion of turbid watery liquor at the bottom. This ſort is probably either adulterated by the mixture of other ſubſtances, or has been extracted by coction from the bark and branches of the tree: Its ſmell and taſte are much leſs pleaſant than thoſe of the genuine balſam.

Pure balſam of Copaiva diſſolves entirely in rectified ſpirit, eſpecially if the menſtruum be previouſly alkalized: The ſolution has a very fragrant ſmell. Diſtilled with water, it yields a large quantity of a limpid eſſential oil; and in a ſtrong heat, without addition, a blue oil.

The balſam of Copaiva 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 paſſages, which it is ſuppoſed to perform more effectually than any of the other balſams. Fuller obſerves, that it gives the urine an intenſely bitter taſte, but not a violet ſmell as the turpentines do.

This balſam has been principally celebrated in gleets and the fluor albus, and externally as a vulnerary. The author above mentioned, recommends it likewiſe in dyſenteries, in ſcorbutic cachexies, in diſeaſes of the breaſt and lungs, and in an acrimonious

or

or putrefcent ſtate of the juices: He ſays, he has known very dangerous coughs, which manifeſtly threatened a conſumption, cured by the uſe of this balſam alone; and that notwithſtanding its being hot and bitter, it has good effects even in hectic caſes. Moſt phyſicians ſeem now, however, to conſider balſams and reſins too ſtimulant in phthiſical affections.

The doſe of this medicine rarely exceeds twenty or thirty drops, though ſome authors direct ſixty or upwards. It may be conveniently taken in the form of an oleoſaccharum, or in that of an emulſion, into which it may be reduced, by triturating it with almonds, with a thick mucilage of gum arabic, or with the yolk of eggs, till they are well incorporated, and then gradually adding a proper quantity of water.

BALSAMUM GILEADENSE [*Ed.*]

Amyris Gileadenſis Lin.

Balſam of Gilead.

This article, which has alſo had the name of Balſamum Judaicum, Syriacum, e Mecca, Opobalſamum, &c. is a reſinous juice, obtained from an evergreen tree, growing ſpontaneouſly, near Mecca, on the Aſiatic ſide of the Red Sea. The beſt ſort of it is a ſpontaneous exudation from the tree; and is held in ſo high eſteem by the Turks, who are in poſſeſſion of the country where it is produced, that it is rarely, if ever, to be met with genuine among us. From the high price ſet upon it, many adulterations are practiſed. The true opobalſamum, according to Alpinus, is at firſt turbid and white, of a very ſtrong pungent ſmell, like that of turpentine, but much ſweeter; and of a bitter, acrid, aſtringent taſte: By being kept for ſome time, it becomes thin, limpid, of a greeniſh hue, then of a gold yellow, and at length of the colour of honey. According to Dr. Alſton, the ſureſt mark of its being pure and unadulterated is its ſpreading quickly on the ſurface of water when dropt into it. He tells us, that if a ſingle drop be let fall into a large ſaucer full of water, it will immediately ſpread over its ſurface, and ſeem in a ſhort time to diſſolve or diſappear; but in about the ſpace of half an hour it becomes a tranſparent pellicle, covering the whole ſurface, and may be taken up with a pin. In this ſtate it has loſt both its fluidity and colour; it has become white and cohering, and has communicated its ſmell and taſte to the water. It is, however, he obſerves, rare to get it in a condition that bears this teſt.

This balſam is in high eſteem among the eaſtern nations, both as a medicine and as an odoriferous unguent and coſmetic. It has been recommended in a variety of complaints; but its great ſcarcity has prevented it from coming into uſe among us; and it is now in general believed that the Canada and Copaiva balſams will anſwer every purpoſe for which it can be employed.

BALSAMUM PERUVIANUM [*Lond. Ed.*]

Myroxylon peruiferum Lin.

Balſam of Peru.

The common Peruvian balſam is ſaid to be extracted by coction in water, from an odoriferous ſhrub growing in Peru, and the warmer parts of America. This balſam, as brought to us, is nearly of

of the conſiſtence 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.

Balſam of Peru is a very warm aromatic medicine, conſiderably hotter and more acrid than Copaiva. Its principal effects are to warm the habit, and to ſtrengthen the nervous ſyſtem. Hence its uſe in ſome kinds of aſthmas, gonorrhœas, dyſenteries, ſuppreſſions of the uterine diſcharges, and other diſorders proceeding from a debility of the ſolids. It is alſo employed externally, for cleanſing and healing wounds and ulcers; and ſometimes againſt palſies and rheumatic pains.

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

It is an ingredient in ſeveral officinal compoſitions; in ſome of which, as we ſhall afterwards endeavour to ſhew, it has rather a bad than a good effect.

There is another ſort of balſam of Peru, of a *white* colour, and conſiderably more fragrant than the former. This is very rarely brought to us. It is ſaid to be the produce of the ſame plant which yields the common or *black* balſam; and to exude from inciſions made in the trunk; while the former is obtained by boiling. There is alſo a third kind, commonly called the *red* or dry. This is ſuppoſed to obtain a different ſtate from the white, merely in conſequence of the treatment to which it is ſubjected after it is got from the tree. It is almoſt as fragrant as the balſam of Gilead, held in ſo high eſteem among the eaſtern nations. It is very rarely uſed in Britain, and almoſt never to be met with in our ſhops.

BALSAMUM RAKASIRI [*Brun.*]

We are leſs acquainted with the hiſtory of this balſam than any other. It is the product of an American tree unknown to us; and is ſuppoſed to be a ſpontaneous exudation. If the accounts given of it by ſeveral writers, particularly by Mr. Fermin in his Hiſtory of Surinam, are to be depended on, it is one of the moſt powerful and uſeful balſams yet diſcovered. It is ſaid to poſſeſs all the virtues of balſamum Copaiva, but in a much higher degree. It is repreſented as a moſt uſeful application, both in caſes of recent wounds and old ulcers; and it is held forth as an infallible remedy, both for the gonorrhœa in men, and fluor albus in women. Theſe accounts, however, are ſolely founded on the repreſentation of the Indians, who are alone in the habit of uſing it; for hitherto it has been very little employed in Europe, and is very rarely to be met with.

BALSAMUM TOLUTANUM [*Lond. Ed.*]

Toluifera Balſamum Lin.

Balſam of Tolu.

This flows from a tree growing in

in Tolu, in the Spaniſh Weſtindies; from whence the balſam is brought to us in little gourd ſhells. It is of a yellowiſh brown colour, inclining to red; in conſiſtence thick and tenacious: By age it grows hard and brittle, without ſuffering any great loſs of its more valuable parts. The ſmell of this balſam is extremely fragrant, ſomewhat reſembling that of lemons; its taſte warm and ſweetiſh, with little of the pungency, and nothing of the nauſeous reliſh, which accompany the other balſams. It has the ſame general virtues with the Peruvian; 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 *ſyrupus tolutanus*, and *tinctura tolutana*.

BARDANA [*Lond. Ed.*] *Radix.*

Arctium Lappa Lin.

Burdock; the root.

This is a common plant about way ſides, ſufficiently known from its ſcaly heads, or burs, which ſtick to the clothes. The ſeeds have a bitteriſh ſubacrid taſte: They are recommended as very efficacious diuretics, given either in the form of emulſion, or in powder, to the quantity of a drachm. The roots taſte ſweetiſh, with a ſlight auſterity and bitteriſhneſs: They are eſteemed aperient, diuretic, and ſudorific; and are ſaid to act without irritation, ſo as to be ſafely uſed in acute diſorders. Decoctions of them have of late been uſed in rheumatic, gouty, venereal, and other diſorders: And are preferred ſometimes to thoſe of ſarſaparilla.

BARILLA *Natrum impurum* [*Lond.*] *Kali Spinoſi cineres* [*Ed.*] *Natrum antiquorum Lin.*

Barilla, or impure foſſil alkali.

Barilla is a ſaline ſubſtance in a very impure ſtate, chiefly imported into Britain from the Mediterranean. Its great conſtituent is the foſſil alkali; and it is under that form alone that it is now employed in medicine, either by itſelf, or combined with other articles. Its medical virtues will therefore more properly be mentioned under the title of Natron præparatum of the London, and Soda purificata of the Edinburgh, college.

The barilla, or natron of the antients, has ſometimes been found native in the earth, particularly near Smyrna, and in different places of Aſia; it has alſo been found in ſome parts of Barbary, Hungary, and Ruſſia: But it is chiefly obtained by artificially ſeparating it from thoſe ſubſtances which contain it. Our barilla is chiefly imported from Spain, where it is obtained by the calcination of vegetables, particularly the kali, growing on the ſea ſhore. In Britain, much of it is obtained in a very impure ſtate, by the calcination of the different fuci, or ſea weeds, growing on the rocks, and covered by the ſea water every tide. It is probable that all theſe different vegetables derive it entirely from the ſea ſalt. It is to be hoped, however, that a proceſs will be diſcovered for obtaining it from ſea ſalt in an eaſy manner, and at a cheaper rate, than it is at preſent imported or obtained at home.

BARYTES [*Ed.*]

Terra Ponderoſa, or heavy earth.

This earth is one of thoſe of the alkaline or abſorbent kind, and differs from the reſt in many reſpects, but chiefly in weight, being nearly twice as heavy as lime

lime, magnesia, or clay in weight.

It is found in most metallic veins, especially those of lead, differently combined, but chiefly with fixed air or with vitriolic acid. The first or aerated barytes, is called by the workmen, when crystallized, coxcombspar: It is however seldom found crystallized but more commonly filling up the whole cavity of the vein; it is then compact and breaks with a glassy surface; and appears to be composed of rays converging to a centre. It effervesces with all the acids properly diluted, and is soluble in the nitrous and muriatic. The vitriolated barytes is heavier, and much more transparent than the aerated, has a rhomboidal texture and a bright surface, and is called, by many writers on mineralogy, Marmor metalicum. It does not effervesce with the acids, nor is it soluble in any of them.

The aerated barytes in powder has been long employed by the miners as a poison for rats and other vermin. We do not know that it was ever administered as a medicine. Dr. Crawford first proposed barytes as a remedy for scrophula, and the form he recommended was, the solution of it in muriatic acid. Subsequent trials have in some measure confirmed this opinion; but farther experiments seem requisite for establishing it. The muriated barytes is made by dissolving the aerated barytes in a very dilute muriatic acid (namely the ordinary acid diluted with 10 or 12 times its weight of water;) when the solution is saturated and filtered it must be evaporated slowly and set to crystallize.

The best manner of ascertaining the dose, and of exhibiting this active medicine, is by means of a solution of the crystallized salt in water. The solution which some of the best practitioners here prefer, is one fully saturated with the salt: Of this they give to an adult 10 drops three times a day; and increase the dose by adding one drop to each, every second day. Some constitutions bear 40 drops or more for a dose, while a much less quantity sickens others.

Its effects are to increase all the excretions, and to dispose ichorous sores to heal. It has been used, in this place, by several practitioners of eminence; who all agree in thinking it a medicine of great utility, and a valuable acquisition to the materia medica.

BDELLIUM [*Succ.*]

Bdellium: *Gummi resina.*

Bdellium is a gummy resinous concrete juice brought from Arabia and the Eastindies, in masses of different figures and magnitudes. It is of a dark reddish brown colour, and in appearance somewhat resembles myrrh; it is semi transparent, and, as Geoffroy justly observes, looks 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, diuretic, and uterine; and in external applications for maturating tumours, &c. In the present practice, it is scarcely used. And accordingly it has now no place either in the London or Edinburgh Pharmacopœias; but it is still retained in several of the latest foreign ones, and enters some of their plasters.

BECCABUNGA [*Lond.*] *Herba.*

Veronica Beccabunga Lin.

Brooklime; the herb.

This is a low plant, common in little

little rivulets and ditches of ſtanding water. The leaves remain all the winter, but are in greateſt perfection in the ſpring. Their prevailing taſte is an herbaceous one, accompanied with a very ſlight bitterneſs.

Beccabunga has been ſuppoſed to have a ſaponaceous detergent virtue, without pungency or irritation: Hence it has been directed in thoſe ſpecies of ſcurvy where the *cochlearia* and other acrid antiſcorbutics, were ſuppoſed to be leſs proper. If any virtue is expected from beccabunga, it ſhould be uſed as food.

BELLADONNA [*Ed.*] *Folia.*

Atropa Belladonna Lin.

Deadly nightſhade.

The deadly nightſhade is a native of Britain, growing in many different places, and in conſiderable abundance. It has long been conſidered, which indeed may be inferred from the name, as one of the moſt deleterious of the vegetable narcotic poiſons. It has, however, for a conſiderable number of years been employed in the practice of medicine, both externally and internally; and it has accordingly got a place in ſucceſſive editions of the Edinburgh pharmacopœia. It is an article of great activity, and under prudent management may be uſed with ſafety.

The belladonna taken internally, has been highly recommended in cancer by ſeveral writers, particularly by Dr. Lambergen and Dr. Munch, in treatiſes profeſſedly publiſhed with the intention of recommending it. Beſides a very remarkable narcotic power, this vegetable poſſeſſes conſiderable influence in promoting all the excretions, particularly ſweat, urine, and ſaliva. It has been employed under the form of infuſion, made of the dried leaves, to the extent of a ſcruple in a conſiderable quantity of water, and taken in the courſe of a day. It is thought to be much injured by heat, and therefore ſome practitioners prefer the dry powder to the decoction or infuſion; and thus employed, the doſe is limited to a few grains.

Beſides cancer, ſcirrhus, and other obſtinate tumours, it has been employed with ſucceſs in ſome caſes of melancholia, mania, and epilepſia.

Externally, it has been applied to open cancers under the form of an infuſion of the dried leaves; and to occult ones, the recent leaves have been applied in ſubſtance. And there are well authenticated caſes on record of good effects being obtained from it in both theſe ways.

BENZOE [*Lond.*] BENZOINUM [*Ed.*] *Reſina.*

Styrax Benzoe.

Benzoine, the reſin.

Benzoine is a concrete reſinous juice. It is brought from the Eaſt-indies only; in large maſſes compoſed of white and light brown pieces, or yellowiſh ſpecks, breaking very eaſily between the hands: Such as is whiteſt, and free from impurities, is moſt eſteemed.

In moſt of the new foreign pharmacopœias benzoin is ſaid to be obtained from the Croton benzoe of Linné. But Dr. Dryander of London has, in the Philoſophical Tranſactions, deſcribed the tree producing it, to which he gives the name of *ſtyrax benzoe*. It grows chiefly in the iſland of Sumatra.

This reſin has a very little taſte, impreſſing only a ſlight ſweetneſs

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on the tongue: Its ſmell is extremely fragrant and agreeable, eſpecially when heated. Committed to the fire in proper veſſels, it yields a conſiderable quantity of a white ſaline concrete called *flowers*, of an acidulous taſte and grateful odour, ſoluble in rectified ſpirit; and, by the aſſiſtance of heat, in water.—We ſhall have occaſion to treat of theſe afterwards.

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 *balſamum traumaticum*, or *tinctura benzoes compoſita*, as it is now more properly ſtyled by the London college. It ſeems to have no ill title to the virtues of ſtorax and balſam of Tolu, at leaſt in a ſubordinate degree. The flowers are recommended in diſorders of the breaſt; and with this intention they are made an ingredient in the *paregoric elixir*, or camphorated tincture of opium.

BERBERIS [*Suec.*] *Cortex baccarum ſuccus.*

Berberis vulgaris Lin.

Barberry, the bark of the tree and the juice of the berries.

The barberry is a ſmall 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, have an aſtringent acrid taſte; the inner yellow bark, a bitter one; this laſt is ſaid to be ſervicable in the jaundice; and to be an uſeful purgative.

The berries, which to the taſte are gratefully acid, and moderately reſtringent, have been given with good ſucceſs in bilious fluxes, and diſeaſes proceeding from acrimony. Among the Egyptians, barberries are employed in fluxes and in malignant fevers, for abating heat, quenching thirſt, raiſing 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 ſeed, or the like, to prevent offence to the ſtomach; the liquor ſtrained off, and ſweetened with ſugar, or ſyrup of citrons, is liberally given the patient to drink. Proſper Alpinus (from whoſe treatiſe *De medicina Egyptiorum* this account is extracted) informs us, that he took this medicine himſelf, with happy ſucceſs, in a peſtilential fever accompanied with an immoderate bilious diarrhœa.

The barberry, however, is now ſo little uſed for medical purpoſes in Britain, that it is rejected from the liſt both of the London and Edinburgh colleges.

BETA [*Gen.*] *Folium, radix.*

Beta vulgaris Lin.

The white and red beet; the root and leaves.

Theſe plants are cultivated in gardens chiefly for culinary uſe.

BETONICA [*Brun.*] *Folia et flores.*

Betonica officinalis Lin.

Betony; the leaves and flowers.

Betony is a low plant, growing in woods and ſhady places, in ſeveral parts of England; the flowers come forth in June and July; they are of a purpliſh colour, and

ſtand

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 ſuch an infuſion or light decoction of it may be drank as tea, or a ſaturated tincture in rectified ſpirit given in ſuitable doſes, in laxity and debility. The powder of the leaves, ſnuffed up the noſe, provokes ſneezing; and hence betony is ſometimes made an ingredient in ſternutatory powders: This effect does not ſeem 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 taſte is bitter and very nauſeous: Taken in a ſmall doſe, they vomit and purge violently, and are ſuppoſed to have ſomewhat in common with the roots of hellebore. It is pretty ſingular, if true, that betony affects thoſe who gather any conſiderable quantity of it, with a diſorder reſembling drunkenneſs; as affirmed by Simon Paulli and Bartholinus.

From theſe ſenſible qualities and operative effects, although it has now no place in our pharmacopœias, it certainly deſerves attention.

BETULA [*Gen.*] *Cortex, ſuccus.*

Betula alba Lin.

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

On 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 a 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 ſcorbutic diſorders; its moſt ſenſible effect is to promote the urinary diſcharge.

BEZOAR [*Brun.*]

Calculus capræ bezoardicæ.

Bezoar ſtone.

The bezoar ſtone is a calculous concretion found in the ſtomach 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 ſome ſimilar ſubſtance.

Bezoar was not known to the antient Greeks; and is firſt taken notice of by the Arabians, who extol it in a great variety of diſorders, particularly againſt poiſons. Later writers alſo beſtow extraordinary commendations on it as a ſudoriſic and alexipharmic; virtues, to which it certainly has no pretence. It is a morbid concretion, of no ſmell or taſte, not digeſtible in the ſtomach of the animal in which it is found, and

ſcarcely

ſcarcely capable of being acted on by any of the juices of the human body. It cannot be conſidered in any other light than as an abſorbent; and is much the weakeſt of all the common ſubſtances of that claſs. It has been given to half a drachm, and ſometimes a whole drachm, without any ſenſible effect; though the general doſe is only a few grains, from which nothing can be expected.

BISMUTHUM [*Brun.*]
Viſmuthum nativum.
Biſmuth.

A calx and flowers of this ſemimetal have been recommended as ſimilar in virtue to certain antimonial preparations; but are at preſent of no other uſe than as a pigment or coſmetic; and it is now rejected from the Britiſh pharmacopœias.

BISTORTA [*Lond. Ed.*] *Radix.*
Polygonum Biſtorta Lin.
Biſtort, or ſnakeweed; the root.

This plant grows wild in moiſt meadows in ſeveral parts of England. The root is about the thickneſs of the little finger, of a blackiſh brown colour on the outſide, and reddiſh within: It is writhed or bent vermicularly (whence the name of the plant) with a joint at each bending, and full of buſhy fibres; the root of the ſpecies here mentioned has, for the moſt part, only one or two bendings; others have three or more.

All the parts of biſtort have a rough auſtere taſte, particularly the root, which is one of the ſtrongeſt of the vegetable aſtringents. It is employed in all kinds of immoderate hæmorrhagies and other fluxes, both internally and externally, where aſtringency is the only indication. It is certainly a very powerful ſtyptic, and is to be looked on ſimply as ſuch; to the ſudorific, antipeſtilential, and other virtues attributed to it, it has no other claim than in conſequence of its aſtringency and of the antiſeptic power which it has in common with other vegetable ſtyptics. The largeſt doſe of the root in powder is one drachm.

BOLI.

Boles are viſcid clayey earths, leſs coherent and more friable than clay ſtrictly ſo called. They are ſoft and unctuous to the touch, adhere to the tongue and by degrees melt in the mouth, impreſſing a ſlight ſenſe of aſtringency. A great variety of theſe kinds of earths were formerly uſed in medicine; the principal of which are the following.

(1) Bolus Armena [*Suec.*] Armenian bole, or bole armenic.

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 ſmooth or gloſſy like the others, but generally of a rough duſty ſurface. It raiſes no effervescence with acids.

(2) Bolus Gallicus [*Lond.*] French bole.

The common French bole is of a pale red colour, variegated with irregular ſpecks or veins of white and yellow. It is much ſofter than the foregoing; and ſlightly effervesces with acids.

(3) Bolus Blesensis. Bole of Blois.

This is a yellow bole, remarka-

bly

bly 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 flaky texture. It is not acted on by acids.

(5) Terra Lemnia. Lemnian earth.

This is a pale red earth; ſlightly effervesing with acids.

(6) Terra Silesiaca. Sileſian earth.

This is of a browniſh yellow colour: Acids have no ſenſible effect on 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 deepened, in the fire: While the counterfeit ſorts burn red.

Theſe earths have been recommended as aſtringent, ſudorific, and alexipharmic; and they have been uſed in diarrhœas, dyſenteries, hæmorrhagies, 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.

BORRAGO [*Gen.*] *Herba.*
Borrago officinalis Lin.
Borage; the herb.

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, but they appear to have very little claim to any virtue of this kind, and ſeem to be altogether inſignificant.

BORAX [*Lond. Ed.*]
Natron boracicatum.
BORAX, or tincal.

This is a ſaline ſubſtance, brought from the Eaſtindies in great maſſes, compoſed of a few large cryſtals, but chiefly of ſmaller ones, partly white and partly green, joined together as it were by a greaſy yellow ſubſtance, intermixed with ſand, ſmall ſtones, and other impurities: The purer cryſtals, expoſed to the fire, melt into a kind of glaſs, which is nevertheleſs ſoluble in water.

This ſalt, diſſolved and cryſtallized, forms ſmall tranſparent maſſes: The refiners have a method of ſhooting it into large cryſtals; but theſe differ in ſeveral reſpects from the genuine ſalt, inſomuch that Cramer calls them not a purified, but adulterated borax. Experiments have clearly ſhewn, that it conſiſts of foſſil alkali in ſome degree neutraliſed by a peculiar acid.

The medical virtues of borax have not been ſufficiently aſcertained by experience: It is ſuppoſed to be, in doſes of half a drachm or two ſcruples, diuretic, emmenagogue, and a promoter of delivery. Mr. Biſſet, in an eſſay on the

the medical conſtitution of Great-britain, recommends a ſolution of this ſalt in water, as the moſt powerful diſſolvent yet known, of aphthous cruſts in the mouth and fauces of children. And for the ſame purpoſe alſo a ſmall quantity of it is often applied in the form of powder mixed up with ſugar. There are ſtrong reaſons to believe that the virtues of borax are much greater than they are in general ſuppoſed to be; and that it may be more extenſively uſed with advantage.

BOTRYS [*Succ.*] *Herba, ſemen.*

Chenopodium Botrys Lin.

Jeruſalem oak; the leaves and ſeed.

This plant is cultivated in gardens. It has a ſtrong not diſagreeable ſmell, and a warm ſomewhat pungent taſte. It is recommended as a carminative pectoral; and it has alſo been highly extolled as an emmenagogue. Infuſions of it may be drank as tea: And in this form it has been recommended in caſes of chronic catarrh. But the proper menſtruum for the active matter, both of the leaves and ſeed, is rectified ſpirit.

BRASSICA [*Gen.*] *Herba, ſemina.*

Braſſica oleracea Lin.

White and red cabbages Cauliflower, Brocoli, &c.

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 procuce 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 putrid, their ſmell is likewiſe the moſt offenſive, greatly reſembling that of putrified animal ſubſtances. Hence it ſeems reaſonable to conclude, that few of the oleraceous herbs are more eaſily ſoluble in the ſtomach, more nutritious or leſs remote from the nature of animal food. It is undeniable, that in general at leaſt they are not unwholeſome; that they do not induce or promote a putrid diſpoſition in the body; but on the contrary prove a ſalubrious aliment; that when taken freely, they tend to looſen the belly; and that their laxative matter is extracted by long boiling in water. Of all theſe plants, cauliflower is reckoned the eaſieſt of digeſtion. The white cabbage is the moſt fetid; and the red the moſt emolient or laxative: A decoction of this laſt is recommended in ſome diſorders of the breaſt and in hoarſneſs.

Sliced cabbage, caſked up with ſalt, &c. becomes ſour, and is uſed in Germany at table under the name of ſour crout; and it has lately been introduced as an article of diet with the Britiſh forces, either in garriſons beſieged, or on long voyages. It is now clearly demonſtrated, that in theſe ſituations it operates as a moſt powerful preventive of the ſcurvy; and that it has even had very great influence in curing the diſeaſe after it has taken place.

Cabbage has alſo been uſed externally applied. The leaves gently bruiſed are often applied to parts previouſly bliſtered, with the effect of promoting a diſcharge. They excite a conſiderable watery diſcharge through the ſkin in caſes of anaſarca, particularly when applied to the ancles: And they have ſometimes even the effect of inducing veſications. As thus externally applied, they have in ſome inſtances

inſtances produced a complete diſcharge of the water in caſes of anaſarca.

BRASSICA MARINA [*Brun.*]

Convolvulus Soldanella Lin.

Sea coleworts, Scots ſcurvygraſs, or ſoldanella; the leaves.

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

Soldanella is a ſtrong violent cathartic, and hence deſervedly rejected from practice. Thoſe who recommend its uſe differ conſiderably with regard to the doſe; ſome direct half a drachm; others three drachms, and others a whole handful.

BRITANNICA, See HYDROLAPATHUM.

BRYONIA [*Ed.*] *Radix.*

Bryonia alba Lin.

White bryony, or wild vine; the roots.

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

Bryony root is a ſtrong irritating cathartic; and as ſuch has ſometimes been ſucceſsfully exhibited in maniacal caſes, in ſome kinds of dropſies, and in ſeveral chronical diſorders, where a ſudden ſtimulus is required. An extract prepared by water, acts more mildly and with greater ſafety than the root in ſubſtance; given from half a drachm to a drachm, it is ſaid to prove a gentle purgative, and likewiſe to operate powerfully by urine.

Bryony root, applied externally, is ſaid to be a powerful diſcutient. Hence, although this as well as many other draſtic and active articles are now rejected by the London college, yet it ought to be retained, and a place ſhould alſo be given in our pharmacopœias to the extract.

BUGLOSSUM [*Gen.*] *Radix, folia.*

Anchuſa officinalis Lin.

Garden buglois; the root and leaves.

This is a rough, hairy plant, reſembling borage, but leſs prickly: A wild ſort is commonly met with in hedges and among corn, which differs from the garden one in being ſmaller. Buglois has a ſlimy ſweetiſh taſte, accompanied with a kind of coolneſs: The roots are the moſt glutinous, and the flowers the leaſt ſo. The flowers were ſuppoſed to be cordial: The only quality they have that can intitle them to this appellation, is that they moderately cool and ſoften without offending the palate or ſtomach; and thus, in warm climates, or in hot diſeaſes, may in ſome meaſure refreſh the patient; but at preſent they are very rarely employed.

BURSA PASTORIS [*Brun.*] *Folia.*

Thlaſpi Burſa paſtoris Lin.

Shepherd's purſe; the leaves.

This plant is common in waſte places, and is found in flower all the ſummer. Shepherd's purſe has long been celebrated as an aſtringent, and ſtrongly recommended in diarrhœas,

diarrhœas, dyſenteries, uterine fluors, and in general in all diſeaſes where aſtringents of any kind can avail. Some have eſteemed it ſo powerful a ſtyptic, as ſcarcely to be ſafely exhibited internally. Others have thought it to be of a hot fiery nature, and ſuppoſed it to ſtop fluxes and hæmorrhagies, by coagulating the juices like alkohol, and burning or ſearing the orifices of the veſſels. The ſenſible qualities of ſhepherd's purſe diſcover little foundation for either of theſe opinions; it has no perceptible heat, acrimony, or pungency, and ſcarcely any aſtringency; the taſte is almoſt merely herbaceous, ſo as ſufficiently to warrant the epithet given this plant by Mr. Ray, *Fatuum*.

BUXUS [*Brun.*] *Folia, Lignum.*
Buxus ſempervirens Lin.
Box tree; the leaves and wood.

The box is a ſmall tree, growing wild in ſome places of Kent and Surry. The wood is of a yellow colour, more ſolid, compact, and ponderous than any other of the European woods. The leaves have a ſtrong nauſeous taſte, and, when freſh, a fetid ſmell: They are ſaid to purge violently, in the doſe of a drachm. A decoction of the wood is recommended as powerfully ſudorific, preferable even to guaiacum: But the taſte readily diſcovers that it wants the qualities of that wood. Neither the wood nor leaves are at preſent employed for any medicinal purpoſe in Britain; and they are now rejected by our colleges: But from their active qualities, particularly that of the leaves, they deſerve ſome attention, and may perhaps be advantageouſly ſubſtituted for expenſive articles imported from abroad.

CACOA [*Succ.*] *Nuclei.*
Theobroma Cacoa Lin.
Chocolate nuts.

Theſe are the fruit of an American tree reſembling the almond. The tree, though ſmall, bears a large fruit, ſhaped like a cucumber, which contains thirty or more of the nuts. Theſe, by preſſure, yield a conſiderable quantity of a fluid oil. Boiled in water, they give out a large portion of a ſebaceous matter, which congeals on the ſurface of the liquor as it cools. The principal uſe of theſe nuts is for the preparation of chocolate, which is a mild, unctuous, nutritious fluid, of great ſervice in conſumptive diſorders; eſpecially if made with milk, and with only a ſmall proportion of aromatics.

CAJEPUT [*Edin.*] *Oleum.*
Melaleuca leucadendron Lin.
Cajeput oil.

This article is mentioned by ſeveral writers on the materia medica as being in very high eſteem among the eaſtern nations: Though it had been long in ſome of the foreign phamacopœias, it never entered the liſt of the Britiſh till the laſt Edition but one of the Edinburgh pharmacopœia. It is ſaid to be obtained by diſtillation, from the fruit of the melaleuca leucadendron. When brought into this country it is a liquid of a greeniſh colour, of a fragrant, but at the ſame time a very peculiar odour, and of a warm pungent taſte. Some authors, however, repreſent this oil as being, when of the beſt quality, a white or colourleſs fluid; and it has been ſaid by the authors of the diſpenſatorium Brunſvicenſe, when prepared in Europe from the ſeeds ſent from India, to be entirely of this appearance.

Hitherto

Hitherto the oleum cajeput has been but little employed, either in Britain or on the continent of Europe; but in India it is used both internally, and externally, and is highly extolled for its medical properties. It is applied externally where a warm and peculiar stimulus is requisite; it is employed for restoring vigour after luxations and sprains, and for easing violent pain in gouty and rheumatic cases, in tooth ach, and similar affections; but it has been chiefly celebrated as taken internally, and it is particularly said to operate as a very powerful remedy against tympanitic affections.

CALAMINARIS LAPIS.

[*Lond. Ed.*]

Zincum calaminaris.

Calamy, or calamine stone.

This mineral is found plentifully in England, Germany, and other countries, either in distinct mines, or intermixed 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. Calamine is generally roasted or calcined before it comes into the shops, in order to separate some sulphureous or arsenical matter, which the crude mineral is supposed 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 moist. running ulcers; and healing excoriation. It is the basis of the *Ceratum lapidis calaminaris.*

CALAMUS AROMATICUS

[*Lond.*] *Radix.*

ACORUS [*Ed.*] *Radix.*

Acorus Calamus Lin.

Sweet flag; the roots.

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 size 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, somewhat flatted on the sides, internally of a white colour, and loose spongy texture; its smell is strong; the taste warm, acrid, bitterish, and aromatic; both the smell and taste are improved by exsiccation. This root is generally considered as a carminative and stomachic medicine, and as such is sometimes used in practice. It is said by some to be superior in aromatic flavour to any other vegetable that is produced in these nothern climates: But this assertion is by no means strictly true. It is, nevertheless, a sufficiently elegant aromatic. It was formerly an ingredient in the mithridate and theriaca of the London pharmacopœia and in the aromatic and stomachic tinctures, and compound arum powder, of the Edinburgh; but it is now rejected from these, and it does not at present enter any officinal preparation. The fresh root, candied after the manner directed for

candying

candying eryngo root, is said to be used 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; but they have no place either in the British or foreign pharmacopœias.

CALENDULA [*Brun.*] *Flos. Calendula officinalis Lin.*

Garden marigold; the flower.

This herb is common in gardens, where it is found in flower greatest part of the summer. Marigold flowers were supposed to be aperient and attenuating; and also cardiac, alexipharmac, and sudorific: They have been principally celebrated in uterine obstructions, in the jaundice, and for throwing out the small pox. Their sensible qualities give little foundation for these virtues: They have scarcely any taste, and no considerable smell. The leaves of the plant discover a viscid sweetishness, accompanied with a more durable saponaceous pungency and warmth: These seem capable of answering some useful purposes, but at present they are so little employed in Britain, that they have now no place in our pharmacopœias, and they are also rejected from several of the latest and best foreign ones.

CALX [*Lond.*]

Lapis calcarea purus recens ustus.

CALX VIVA [*Edin.*] *Ex lapide calcareo & Ex testis conchyliorum.*

Quicklime.

Quicklime is usually prepared among us by calcining certain stones of the chalky kind. All chalks and marbles burn into quicklime; with this difference, that the more compact the stone, the stronger is the lime. In maritime countries, in defect of the proper stones, sea shells are used, which afford a calx agreeing in most respects with the stone limes.

All these limes are, when fresh burnt, highly acrimonious and corrosive, being thus freed from fixt air. In this state they are employed in some external applications as a depilatory; for rendering sulphur soluble in water, and for depriving alkalies of their fixt air, thus increasing their power, either for the purposes of a caustic, or to enable them more readily to dissolve oils for making sope. If the lime be exposed for a length of time to the air, it absorbs water; falls by degrees into a powder; and, by attracting fixt air, loses its acrimony.

Water poured directly upon quicklime, takes up a portion of it: The solution has a strong taste, somewhat styptic, drying the mouth, and accompanied with a kind of sweetness. This liquor does not effervesce with acids, but is rendered by fixt air turbid and milky: As preventing the coagulation of milk, it is sometimes used along with milk diet; agitated with expressed oils, it unites with them into a thick compound, recommended and much used against burns and inflammations. Both the simple solution of the lime, and the solution impregnated with other materials, are directed as officinal, under the title of lime water.

Lime water, drank to the quantity of of a quarter of a pint three or four times a day, and long continued, has been found serviceable in scrophulous cases, and other obstinate chronic disorders. It frequently promotes urine, and perspiration:

ſpiration: For the moſt part it binds the belly, and ſometimes produces troubleſome coſtiveneſs, unleſs this effect be occaſionally provided againſt, by the interpoſition of proper medicines. It does good ſervice in debility and laxity of the viſcera in general; in thoſe of the uterine and ſeminal veſſels, fluor albus, chronic menorrhagia, and gleets, it is particularly recommended. It has been uſed as a lithontriptic; and although incapable of diſſolving calculi in the urinary organs, yet under its uſe calculous patients have experienced great relief. In the form of injection it is very effectual in killing and bringing off aſcarides.

CAMPHORA [*Lond. Ed.*]
Laurus Camphora Lin.
Camphor.

Camphor is a very peculiar ſubſtance, obtained in the form of a ſolid concrete, chiefly extracted from the wood and roots of a tree growing in Sumatra and Japan. The former is by much the beſt. As it firſt ſublimes from the wood, it appears browniſh, compoſed of ſempellucid grains mixed with dirt: In this ſtate it is exported by the Dutch, and purified by a ſecond ſublimation; after which, it is reduced into loaves (in which it is brought to us) probably by fuſion in cloſe veſſels; for it does not aſſume this form in ſublimation. Camphor is procurable in ſmall quantities from various other vegetables by diſtillation. It may be conſidered as a peculiar, concrete, very volatile eſſential oil.

Pure camphor is very white, pellucid, ſomewhat unctuous to the touch; of a bitteriſh, aromatic, acrid taſte, yet accompanied with a ſenſe of coolneſs; of a ſmell ſomewhat like that of roſemary, but much ſtronger. It is totally volatile, and inflammable; ſoluble 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 efficacious diaphoretics; and has long been celebrated in malignant fevers, and epidemical diſtempers. In delirium, where opiates fail of procuring ſleep, and aggravate the ſymptoms, this medicine frequently ſucceeds.

Dr. Alexander, ſome time ago a practitioner in Edinburgh, made many experiments on this article, particularly by taking it himſelf in large doſes. On taking a ſcruple of camphor, he found his pulſe ſomewhat leſs frequent: On taking two, his pulſe fell from 77 to 70, but returned to 77 in leſs than half an hour; at which time vertigo and a gradual abolition of conſciouſneſs came on, ſucceeded by violent retchings, convulſions, and mania, the pulſe riſing to 100. He then began to recover his recollection, felt extremely hot, with tremors of the whole body. By uſing warm water he threw up the camphor, the effects of which gradually wore off, only he felt his body for two days very ſore and rigid.

Frederick Hoffman has written an expreſs diſſertation *De Camphoræ uſu interno ſecuriſſimo et præſtantiſſimo*. The ſubſtance of his obſervations is, that camphor ſeems to penetrate very quickly through the whole body, and increaſe perſpiration: That though given to the quantity of half a dram, diſſolved in ſpirit of wine and duly diluted, it does not raiſe the pulſe

or

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 ſenſibly more fluid, and the quantity of watery ſerum, which the habit before abounded with, was conſiderably diminiſhed: That in malignant fevers, and all diſorders, whether acute or chronical, proceeding from an acrid or putreſcent ſtate 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 hæmorrhagies happening in acute fevers, and promotes critical and periodical evacuations; that it expels even the venereal virus; that he has known examples of the lues being cured by camphor alone, a purgative only being premiſed; 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, ſmall doſes of camphor joined with nitre produced happy effects, almoſt immediately relieving the ſymptoms, occaſioning a calm ſleep and plentiful ſweat, without fatiguing the patient. He farther obſerves, that this ſimple, by its antiphlogiſtic quality, prevents the ill effects of the more irritating medicines; that cantharides and acrid ſtimulating cathartics, and diuretics, by the admixture of a ſmall proportion of camphor, become much more mild and ſafe in their operation.

The common doſe of camphor is from one grain to ten. It enters ſeveral officinal preparations, both for external and internal uſe particularly the *Linimentum camphoræ*, *Linimentum ſaponis*, *Linimentum opiatum*, *Oleum camphoratum*, *Spt. vinoſus camphoratus*, *Miſtura camphorata Tinctura opii camphorata*, *&c.*

In modern practice, it is externally employed chiefly to diminiſh inflammation, to diſcuſs tumors, to obviate gangrene, to ſtimulate in local palſy, and to allay rheumatic and paralytic pains. Internally, it is given in nervous affections, with a view of exciting the vis vitæ, and alleviating ſpaſmodic complaints: With the ſame view to the vis vitæ, to obviate putreſcence and to procure ſleep, it is uſed in fevers of the typhous kind. Some recommend it as ſingularly uſeful in caſes of ardor uriræ; and others find it efficacious in what are called nervous headachs.

CANCER, *Chelæ* [*Lond.*] *Chelæ, Lapilli vulgo* oculi *dicti* [*Ed.*]

Cancer Pagurus & Aſtacus Lin.

Crab claws are the black tips of the common crab (*Cancer Pagurus*) After being broken down and well waſhed in boiling water, they are reduced to powder, and employed as an abſorbent. They conſiſt of a calcareous earth, and of courſe neutralize thoſe acids with which they come in contact in the primæ viæ. But beſides an earth, they contain alſo a glutinous animal matter, which gives them a tendency to concrete in the ſtomach and bowels. They enter ſome officinal preparations, as the *Pulvis chelarum cancrorum compoſitus*.

Crab eyes, as they have been very improperly called, are concre-

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tions formed in the inside of the thorax of the Craw fish [*Cancer Astacus*] there is one on each side adhering to the shell of the animal: They are generally about the size of peas, or larger; of a spherical shape, but a little flatted on one side. They are of a white colour, but sometimes with a reddish or blueish cast, and internally of a laminated structure. The greatest part of them are the produce of Muscovy, particularly of the river Don, where the dead crabs are laid upon the banks in heaps, to putrefy, after which the stones are picked out.

Crabs claws and stones are employed as absorbents, especially where acidity is superabundant in the stomach, as in heartburn: They are also very useful in diarrhœas proceeding from acidity, as they do not, like other absorbent earths form, with the acids they meet with in the bowels purgative salts.

Crabs stones are said by most writers on the materia medica to be frequently counterfeited with tobacco pipe clay, or compositions of chalk with mucilaginous substances. This piece of fraud if really practised, may be very easily discovered; the counterfeits wanting the leafy texture which is observed on 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; while the true crabs' stones digested in these liquors, become soft and transparent, their original form remaining the same: This change is owing to the earthy part, on which depended their opacity and hardness, being dissolved by the gentle action of the acid, which leaves the conglutinating matter entire.

CANELLA ALBA [*Lond. Ed.*] *Cortex.*

Winterania Canella Lin.

Canella alba.

This bark is brought to us 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 Westindia islands. Infusions of it in water are of a yellowish colour, and smell of the canella; but they are rather bitter than aromatic. Tinctures in rectified spirit have the warmth of the bark but little of its smell. Proof spirit dissolves the aromatic as well as the bitter matter of the canella, and is therefore the best menstruum.

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 each other in the length and thickness of the quills: They are both the bark of the same 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.

Canella alba is often employed where a warm stimulant to the stomach is necessary, and as a corrigent of other articles. It is now, however, little used in composition by the London college; the only official formula which it enters being the *pulvis aloeticus*; but with the Edinburgh college it is an ingredient in the *tinctura amara*,

cmara, vinum Amarum, vinum rhei, &c. It is uſeful as covering the taſte of ſome other articles.

CANNABIS [*Brun.*] *Semen.*
Cannabis ſativa Lin.
Hemp; the ſeed.

This plant, when freſh, has a rank narcotic ſmell: The water in which the ſtalks are ſoaked, in order to facilitate the ſeparation of the tough rind for mechanic uſes, is ſaid to be violently poiſonous, and to produce its effects almoſt as ſoon as drank. The ſeeds alſo have ſome ſmell of the herb; their taſte is unctuous and ſweetiſh; on expreſſion they yield a conſiderable quantity of inſipid oil; hence they are recommended (boiled in milk, or triturated with water into an emulſion) 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. Although the ſeeds only have hitherto been principally in uſe, yet other parts of the plant ſeem to be more active, and may be conſidered as deſerving farther attention.

CANTHARIS [*Lond. Ed.*]
Meloe veſicatorius Lin.
The Spaniſh fly.

Theſe inſects are of a ſhining green colour, intermixed with more or leſs of a blue and a gold yellow. They are found in Spain, Italy, and France; the largeſt come from Italy, but the ſmaller kind from Spain are preferred.

Cantharides are extremely acrimonious; applied to the ſkin, they firſt inflame, and afterwards excoriate the part, raiſing a more perfect bliſter than any of the vegetable acrids, and occaſioning a more plentiful diſcharge of ſerum. Even the external application of cantharides is often followed by a ſtranguary, accompanied with thirſt and feveriſh heat: This inconvenience may be remedied by ſoft unctuous or mucilaginous liquors liberally drank. The ſtranguary is probably owing to the action of the abſorbed active parts on the neck of the bladder.

Cantharides taken internally, often occaſion a diſcharge of bloody urine, with exquiſite pain: If the doſe be 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 ſafe, but of ſingular efficacy for the cure of diſeaſes that yield little to medicines of a milder claſs. In phlegmatic habits, where the viſcera are overloaded, and the kidneys and ureters obſtructed with mucous matter, cantharides have excellent effects: Here the abounding mucus defends the ſolids from the acrimony of the fly, till it is itſelf expelled; when the medicine ought to be diſcontinued. Groenvelt employed cantharides with great ſucceſs in dropſies, obſtinate ſuppreſſions of urine, and ulcerations, of the bladder; giving very conſiderable doſes made into boluſes with camphor; and interpoſing large draughts of emulſions, milk,

milk, or other emollient liquids; by this means the exceſſive irritation which they would otherwiſe have occaſioned, was in a great meaſure prevented. The camphor did not perhaps contribute ſo much to this effect, as is generally imagined; ſince it has no ſenſible quality that promiſes any conſiderable abatement of the acrimony of cantharides: Nitre would anſwer all that the camphor is ſuppoſed to do: This, with milk, or emollient mucilaginous liquors, drank in large quantity, are the beſt correctors. Cantharides, in very ſmall doſes, may be given with ſafety alſo in other caſes. Dr. Mead obſerves, that the obſtinate gleets which frequently remain after the cure of venereal maladies, and which rarely yield to balſamic medicines, are effectually remedied by cantharides, and that no one remedy is more efficacious in leprous diſorders; 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; and indeed in all caſes the tincture is preferable, for internal uſe, to the fly in ſubſtance.

On the idea of the ſtimulus, accumulated about the genital organs, being propagated to parts in the neighbourhood, the internal uſe of that tincture has alſo been recommended in diabetes, leucorrhœa, amenorrhœa, &c. but from the dangerous effects ſometimes obſerved from ſeemingly inconſiderable doſes cantharides are now almoſt entirely confined to external application.

They are ſometimes uſed as merely rubefacient, as in friction, with the tincture, on indolent ſwellings, or in form of weak plaſter; but moſt commonly in order to bliſter, chiefly with a view of relieving torpor, or determining the impetus of the blood from the part affected to the part of application, of diſcharging ſerum, and of relieving ſpaſms in certain internal parts.

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 fly in ſubſtance; while the fly remaining after the ſeveral menſtrua have performed their office, is to the taſte inſipid, and does not in the leaſt bliſter, or inflame the ſkin; hence the *Unguentum inſuſi cantharidum*: But beſides this, cantharides are the active baſis of ſeveral other officinal preparations, as the *Tinctura cantharidis, Emplaſtrum cantharidis, Unguentum cantharidis*, &c.

CAPPARIS [*Brun.*] *Radicis cortex et florum gemmæ.*

Capparis ſpinoſa Lin.

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 between 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, are uſed at table. They are ſuppoſed to excite appetite, and promote digeſtion.

CARDAMINE

CARDAMINE [*Lond. Ed.*] *Flos.*

Cardamine pratenſis Lin.

Ladies Smock ; the flower.

The cardamine is a perennial plant, which grows in meadow grounds, ſends forth purpliſh flowers in the ſpring; and in its ſenſible qualities reſembles the *naſturtium aquaticum*. Long ago it was employed as a diuretic ; and of late it has been introduced in nervous diſeaſes, as epilepſy, hyſteria, chorea, aſthma, &c. A drachm or two of the powder is given twice or thrice a day. It has little ſenſible operation, except that it ſometimes promotes ſweat.

CARDAMOMUM MINUS [*Lond. Ed.*] *Semen.*

Amomum repens, Sonerati.

Leſſer cardamom.

Formerly a place was given in our pharmacopœias to different kinds of cardamom ſeeds, and particularly to the large as well as the ſmall, but the latter, though ſcarcely half the ſize of the former, are conſiderably ſtronger both in ſmell and taſte. Hence this ſort has long ſupplied the place of the other in the ſhops, and is the only one now directed.

Cardamom ſeeds are a very warm, grateful, pungent, aromatic, and are frequently employed as ſuch in practice : They are ſaid 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 diſtilled water : The watery infuſion appears turbid and mucilaginous ; the tincture made in ſpirit, limpid and tranſparent. The huſks of the ſeeds, which have very little ſmell or taſte, may be commodiouſly ſeparated, by committing the whole to the mortar, when the ſeed 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 ſpoil by loſing their flavour. The officinal preparations of theſe ſeeds are ſpirituous tinctures, ſimple and compound ; they are employed alſo as a ſpicy ingredient in ſeveral of the officinal compoſitions.

CARDUUS BENEDICTUS [*Lond. Ed.*] *Herba.*

Centaurea benedicta Lin.

Bleſſed thiſtle ; the plant.

This is an annual plant, cultivated in gardens : It flowers, in June and July, and perfects its ſeeds in the autumn. The herb ſhould be gathered when in flower, ſuddenly dried and kept in a very dry place to prevent its rotting or growing mouldy, which it is very apt to do. The leaves have a penetrating bitter taſte, not very ſtrong or very durable, accompanied with an ungrateful flavour, which they are in great meaſure freed from by keeping. Water extracts, in a little time, even without heat, the lighter and more 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 ſeem to be little known in the preſent practice. The nauſeous decoction is ſometimes uſed to provoke vomiting ;

miting; and a ſtrong infuſion to promote the operation of the other emetics. But this elegant bitter, when freed from the offenſive parts of the herb, may be advantageouſly applied to other purpoſes. We 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 drank freely, and the patient kept warm, occaſions a plentiful ſweat, and promotes the ſecretions in general.

The ſeeds of this plant are alſo conſiderably bitter, and have been ſometimes uſed with the ſame intention as the leaves.

CARICA [*Lond. Ed.*] *Fructus Ficus Carica Lin.*

The fig; the dried fruit.

The principal uſe of theſe is as a ſoft, emolient ſweet; with this intention they enter the *Decoctum hordei compoſitum* and *Electuarium ſennæ*. They are alſo eſteemed by ſome as ſuppuratives, and hence have a place in maturating cataplaſms; and they are ſometimes applied by themſelves, as warm as they can eaſily be borne, to promote the ſuppuration of a phlegmon, particularly when ſo ſituated that other cataplaſms cannot eaſily be kept applied.

CARLINA [*Gen. Radix*]
Carlina acaulis Lin.

Carline thiſtle, the root.

This is a very prickly ſort of thiſtle, growing ſpontaneouſly in the ſouthern parts of France, Spain, Italy, and the mountains of Swiſſerland; from whence the dried roots are brought to us. This root is about an inch thick, externally of a pale ruſty brown colour, corroded as it were on the ſurface, and perforated with numerous ſmall holes, appearing when cut as if worm eaten. It has a ſtrong ſmell, and a ſubacrid, bitteriſh, weakly aromatic taſte. Carlina is conſidered as a warm diaphoretic and alexipharmac; and has been for ſome time greatly eſteemed by foreign phyſicians, but never came much into uſe among us: The preſent practice has entirely rejected it; nor is it often to be met with in the ſhops. Hoffman relates, that he has obſerved a decoction of it in broth to occaſion vomiting.

CARPOBALSAMUM [*Brun.*] *Fructus.*

Amyris Gileadenſis Lin.

Carpobalſam; the fruit.

This is the fruit of the tree that yields the opobalſam or balſam 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 fragrant ſmell, reſembling that of the opobalſamum itſelf. It is very rarely found in the ſhops; and ſuch as we meet with, has almoſt loſt all its ſmell and taſte. It had formerly a place in the mithridate and theriaca formulæ, now baniſhed from our pharmacopœias; but even then the college permitted cubebs to be employed as a ſubſtitute for the carpobalſamum, which could ſeldom be procured; and it is probably on this account that it has now no place in our liſts.

CARTHAMUS [*Brun.*] *Semen.*

Carthamus tinctorius Lin.

Baſtard ſaffron; the ſeeds.

The baſtard ſaffron is a kind of

of thiſtle, with only a few prickles about the edges of the leaves. It is cultivated in large quantity in ſome places of Germany; from whence the other parts of Europe are ſupplied with the flowers as a colouring drug, and the ſeeds as a medicinal one. The flowers, well cured, are not eaſily diſtinguiſhable by the eye from ſaffron; but their want of ſmell readily diſcovers them. The ſeeds are about a quarter of an inch long, white, ſmooth, of an oblong roundiſh ſhape, yet with four ſenſible corners, and are ſo heavy as to ſink in water; of a viſcid ſweetiſh taſte, which in a little time becomes acrid and naufeous. They have been celebrated as a cathartic: They operate very ſlowly, and for the moſt part diſorder the bowels, eſpecially when given in ſubſtance; triturated with aromatic diſtilled waters, they form an emulſion leſs offenſive, yet inferior in efficacy, to more common purgatives.

CARUON [*Lond.*]
CARVI [*Ed.*] *Semen.*
Carum Carvi Lin.
Caraway; the ſeeds.

Caraway is an umbelliferous plant, cultivated with us in gardens both for culinary and medicinal uſe. The ſeeds have an aromatic ſmell, and a warm pungent taſte. They are frequently employed, as a ſtomachic and carminative, in flatulent colics, and the like.

They were formerly the baſis of ſeveral officinal preparations, and entered many compoſitions by way of a corrigent. But although they be now leſs frequently employed than before, yet a place is ſtill given to their eſſential oil and diſtilled ſpirit; and they enter the compound ſpirit of juniper, the tincture of ſenna, and ſome other compoſitions.

CARYOPHYLLUS AROMATICUS [*Lond.*] *pericarpium immaturum et ejus oleum eſſentiale.*
CARYOPHYLLA AROMATICA [*Edin.*] *Fructus & oleum ejus eſſentiale.*
Caryophyllus aromaticus Lin.
Cloves.

Cloves are the fruit of a tree growing in the Eaſtindies. In ſhape, they ſomewhat reſemble a ſhort thick nail.

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 flavour and lighter colour. Cloves, conſidered as medicines, are very hot ſtimulating aromatics, and poſſeſs 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 naſeous, and ſomewhat ſtyptic. The only officinal preparation of them is the eſſential oil. Both the cloves themſelves and their oil are ingredients in many officinal compoſitions.

CARYOPHYLLUM RUBRUM [*Lond.*] *Flos.*
CARYOPHYLLA RUBRA [*Edin.*] *Flores.*
Dianthus Caryophyllus Lin.
Clove July flower.

A great variety of theſe flowers are

are met with in our gardens: Thoſe uſed in medicine ought to be of a deep crimſon colour, and a pleaſant aromatic ſmell, ſomewhat like that of cloves: Many ſorts have ſcarcely any ſmell at all.

They are ſaid to be cardiac and alexipharmac. Simon Paulli relates, that he has cured many malignant fevers by the uſe of a decoction of them; which he ſays powerfully promotes ſweat and urine, without greatly irritating nature, and alſo raiſes the ſpirits and quenches thirſt. At preſent the flowers are chiefly valued for their pleaſant flavour, which is entirely loſt even by light coction; hence the college direct the ſyrup which is the only officinal preparation of them, to be made by infuſion.

CARYOPHYLLATA [*Brun.*] *Radix.*

Geum urbanum Lin.

Avens; 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 in the ſpring, and when produced in dry warm ſoils. It has been employed as a ſtomachic, and for ſtrengthening the tone of the viſcera in general: It is ſtill in ſome eſteem in foreign countries, though not taken notice of among us. It yields on diſtillation an elegant odoriferous eſſential oil, which concretes into a flaky form.

Beſides the geum rivale, another ſpecies of the ſame genus has a place in ſome pharmacopœias, under the title of *Caryophyllata aquatica*. The root of this ſpecies, which is larger than the other, is ſaid to be employed by the Indians in South America for the cure of intermittents, and to be equally ſucceſsful with the Peruvian bark. Dr. Withering mentions, that the powder of the root is uſed for this purpoſe by the Canadians.

CASCARILLA [*Lond. Ed.*] *Cortex.*

Croton Eleutheria Lin.

Caſcarilla; the bark.

This bark is imported into Europe from the Bahama iſlands, and particularly from one of them of the name of Eleuthera: From which circumſtance it was long known by the title of Eleutheria. The caſcarilla is in general brought to us either in curled pieces, or rolled up into ſhort quills, about an inch in width, ſomewhat reſembling in appearance the Peruvian bark. It is covered on the outſide with a rough whitiſh matter; and in the inſide it is of a browniſh caſt. When broken, it exhibits a ſmooth cloſe dark brown ſurface.

This bark, when freed from the outer whitiſh coat, which is inſipid and inodorous, has a light agreeable ſmell, and a moderately bitter taſte, accompanied with a conſiderable aromatic warmth. It is eaſily inflammable, and yields when burning a very fragrant ſmell reſembling that of muſk; a property which diſtinguiſhes the caſcarilla from all other barks. It was introduced into Europe about the end of the laſt century, and ſeems firſt to have been uſed in Germany, where it is ſtill in very high eſteem. There it is frequently employed againſt common intermittent fevers, in preference to the Peruvian bark, as being leſs ſubject to produce ſome inconveniences, which the latter

on

on account of its great aſtringency is apt to occaſion. It is alſo ſaid to have been employed with great ſucceſs in ſome very dangerous epidemic fevers attended with petechiæ: And it is frequently employed with advantage in flatulent colics, internal Hæmorrhagies, dyſenteries, diarrhœas, and ſimilar diſorders. In Britain it has been uſed by ſome practitioners, particularly by the late Dr. Keir of London, who thinks that it is by no means ſo generally employed as it deſerves to be.

Its virtues are partially extracted by water, and totally by rectified ſpirit, but it is moſt effectual when given in ſubſtance.

CASSIA FISTULARIS

[*Lond. Ed.*] *Fructus.*

Caſſia fiſtula Lin.

Caſſia; the fruit.

This is the fruit of an oriental tree and is a cylindrical pod, about an inch in diameter and a foot or more long: The outſide of it is a hard brown bark; the inſide is divided by thin tranſverſe woody plates, covered with a ſoft black pulp of a ſweetiſh taſte, with ſome degree of acrimony. There are two ſorts of this drug in the ſhops; one brought from the Eaſtindies, 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 ſort is preferred to the other. Such pods ſhould be choſen as are weighty, new, and do not make a rattling noiſe (from the ſeeds being looſe within them) when ſhaken. The pulp ſhould be of a bright ſhining black colour, and of a ſweet taſte, not harſh, which happens from the fruit being gathered before it has grown fully ripe: nor ſouriſh, which it is apt to turn upon keeping: It ſhould neither be very dry nor very moiſt, nor at all mouldy; which, from its being kept in damp cellars, or moiſtened in order to increaſe its weight, it is very ſubject to be. Greateſt part of the pulp diſſolves both in water and in rectified ſpirit; and may be extracted from the cane by either. The ſhops employ water, boiling the bruiſed pod therein, and afterwards evaporating the ſolution to a due conſiſtence.

The pulp of caſſia is a gentle laxative, and is frequently given, in a doſe of ſome drachms, 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 ſometimes gripings, eſpecially if the caſſia be not of a very good kind: Theſe effects may be prevented by the addition of aromatics, and exhibiting it in a liquid form. Geoffroy ſays, it does excellent ſervice in the painful tenſion of the belly, which ſometimes 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 drachms of caſſia and two of manna, purges as much as twelve drachms of caſſia or thirty two of manna alone. Senertus obſerves, that the urine is apt to be turned of a green colour by the uſe of caſſia: And ſometimes,

where

where a large quantity has been taken, blackish. This drug gives name to an officinal electuary, and is an ingredient also in another.

CASSIA LIGNEA [*Ed.*]
Cortex, flores nondum explicati.
Laurus Cassia Lin.
Cassia; the bark and buds.

This bark, which is imported from different parts of the East-indies and from China, has a very exact resemblance to the cinnamon, and is obtained from a species of the same genus of tree. It is distinguishable from the cinnamon by being of a thicker and coarser appearance, and by its breaking short and smooth, while the cinnamon breaks fibrous and shivery.

This bark resembles cinnamon still more exactly in its aromatic flavour than in its external appearance, and seems only to differ from it in being somewhat weaker, in abounding more with a viscous mucilaginous matter, and in being less astringent. Accordingly, it has not only a place in the Edinburgh pharmacopœia but is also the basis of a distilled water. It is perhaps surprising that the London college have not given it a place in their list. But although it does not enter their pharmacopœia, yet we may venture to assert that it will not be neglected by the apothecaries. At present it is very common with many of them to substitute the cassia in every case for the more expensive article cinnamon: And indeed almost the whole of what is at present sold under the title either of simple or spirituous cinnamon water, is entirely prepared from cassia, and not even entirely from the bark, but from a mixture of the bark and buds.

CASTOREUM [*Lond. Ed.*]
Castor Fiber Lin.
Castor.

Castor appears to be a peculiar fatty deposition, found in cells or bags situated near the rectum in 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 pods, which appear when cut full of a brittle red liver coloured substance, interspersed with membranes and fibres exquisitely interwoven. An inferior sort is brought from Dantzick; this is generally fat and moist. The worst of all is that of Newengland, which is in longish thin pods. But of late, some apparently not inferior to the Russian castor, has been brought from Hudson's bay.

Castor has a strong disagreeable smell, and an acrid, biting, bitterish, nauseous taste. Water extracts the nauseous part, with little of the finer bitter; rectified spirit extracts this last without much of the nauseous: Proof spirit both: Water elevates the whole of its flavour in distillation; rectified spirit brings over nothing.

Castor is considered as one of the capital nervine and antihysteric medicines: Some celebrated practitioners have nevertheless doubted its virtues; Newmann and Stahl declare it insignificant. Experience, however, has shewn 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 simple and compound spirituous tincture. It is an ingredient in some other compositions, as the compound powder of myrrh.

CASUMUNAR [*Brun.*]

This is a tuberous root, an inch or more thick, marked on the ſurface with circles or joints like galangal, of a browniſh or aſh colour on the outſide, and a duſky yellowiſh within; it is brought from the Eaſtindies, 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, palſies, 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 deſerves to be.

CATECHU, *Vulgo, Terra Japonica* [*Lond. Ed.*]

Mimoſa Catechu Lin.

Catechu; the extract.

This vegetable extract, which has long had, but very improperly, the name of *Terra Japonica*, is the product of a plant growing in the Eaſtindies. A particular account of the vegetable from whence it is obtained, as well as the method of preparation, was ſome time ago publiſhed by Dr. Keir in the London Medical Obſervations. The only earth which it contains, conſiſts entirely of adhering impurities from the furnaces or kilns in which it is prepared. Hence it is with great propriety, that in ſome of the foreign pharmacopœias a *ſuccus japonicus depuratus* is introduced, although not adopted either by the London or Edinburgh colleges.

The extract of catechu in its pureſt ſtate is a dry and pulverizable ſubſtance. Outwardly it is of a reddiſh colour, internally of a ſhining dark brown, with a ſlight caſt of red. It is a mild, but at the ſame time a powerful aſtringent. It is more agreeable in taſte than moſt other ſubſtances of that claſs. It leaves in the mouth a kind of ſweetneſs and mucilaginous feeling. It may be uſefully employed for moſt purpoſes where an aſtringent is indicated, provided the moſt powerful be not requiſite. But it is particularly uſeful in alvine fluxes; and where theſe require the uſe of aſtringents, we are acquainted with no one equally beneficial. Beſides this it is employed alſo in uterine profluvia, in laxity and debility of the viſcera in general, in catarrhal affections, and various other diſeaſes where aſtringents are indicated. It is often ſuffered to diſſolve leiſurely in the mouth, as a topical aſtringent for laxities and exulcerations of the gums, for aphthous ulcers in the mouth, and ſimilar affections: And it is in ſome other caſes applied externally both under the form of ſolution and of ointment.

Catechu diſſolves almoſt entirely in water excepting its impurities. But theſe are in general ſo conſiderable in point of quantity, that Dr. Lewis computes them to conſtitute one eighth part of the maſs. Of the pure matter, rectified ſpirit diſſolves about ſeven eighths into a deep red liquor; the part which it leaves undiſſolved is an almoſt inſipid mucilaginous ſubſtance.

Catechu is the baſis of ſeveral fixed formulæ in our pharmacopœias, particularly of a tincture and an electuary: But the beſt form under which it can be exhibited is that of ſimple infuſion in warm water, with a proportion of cinnamon or caſſia; for by this means it is at once freed from its impurities, and improved by the addition of the aromatic.

CENTAURIUM

CENTAURIUM MAJOR
Radix.
Cent taurea Centaurium 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 with any intention.

CENTAURIUM MINUS
[*Lond. Ed.*] *Cacumen.*
Gentiana Centaurium Lin.
Lesser centaury; the top.

This grows wild in many parts of England, in dry pasture grounds, and among corn. The tops are an useful aperient bitter.

CEPA [*Suec.*] *Radix.*
Allium Cepa Lin.
Onion; the root.

These roots are considered rather as articles of food than of medicine: They are supposed to afford little or no nourishment, and when eaten liberally produce flatulencies, occasion 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 and promote sweat: By some they are strongly recommended in suppression 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.

CERA FLAVA [*Lond. Ed.*]
Yellow bees wax.

This is a solid concrete, obtained from the honeycombs after the honey is got out, by heating and pressing them between iron plates. The best sort 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 [*Lond. Ed.*]
White wax.

White wax is prepared from the yellow, by reducing it into thin flakes, and exposing it for a length of time to the action of the sun, air, and water; when sufficiently bleached, it is melted, and cast into cakes. The best sort 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 emolient 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 diarrhœas and dysenteries, when mixed with oily substances.

CERASUS [*Suec.*] *Folia, fructus, gummi.*
Prunus Cerasus Lin.
The cherry; the leaves, fruit, and gum.

Of this fruit a considerable number of varieties are cultivated in our gardens; particularly the sweet cherry with a black juice; the pleasantly sourish cherry, with a colourless juice; and the very same cherry with a blood red juice; commonly called black, red, and morello cherries.

These fruits, especially the acid sorts, are very useful and agreeable coolers, and quenchers of thirst; and

and are ſometimes directed with this intention, in bilious, or febrile diſtempers. Boerhaave was extremely fond of theſe and the other fruits called *horæi*, 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. They are rather, however, uſed as an article of diet or luxury, than in the way of medicine; and accordingly have no place in the London or Edinburgh pharmacopœias.

The gum of the cherry is a pretty pure vegetable mucilage, nearly the ſame with gum arabic.

CEREFOLIUM [*Succ.*] *Herba.*

Sandix Cerefolium Lin.

Chervil: The plant.

This is a low annual plant commonly cultivated in gardens for culinary purpoſes. It is grateful both to the palate and ſtomach, gently aperient, and diuretic. Geoffroy aſſures us, that he has found it from experience to be of excellent ſervice in dropſies; that, in this diſorder, 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 ſo far as to ſay, that dropſies which do not yield to this medicine, are ſcarcely capable of being cured by any other. He directs the juice to be given in the doſe of three or four ounces every fourth hour, and continued for ſome time, either alone, or in conjunction with nitre and ſyrup of the five opening roots.

CERVUS CORNU [*Lond.*]

Stag's or Hart's horn.

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 longevity. 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. They are of the ſame nature with bones; and their products by heat are thoſe of the ſolid animal ſubſtances in general. As ſuch they were at one time ſo much employed for yielding the volatile alkali, that they even gave a name to that article.

The horns boiled in water, give out an emollient nutritious jelly. Burnt to whiteneſs, they yield an earth, which is employed in the officinal white decoction, or as it is now more properly ſtyled, the *Decoctum cornu cervi*.

CHALYBS, See FERRUM.

CHAMÆDRYS [*Succ.*] *Herba.*

Teucrium Chamædrys Lin.

Germander; the herb.

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 flavour. They are recommended as ſudorific, diuretic, and emmenagogue, and for ſtrengthening the ſtomach and viſcera in general. With ſome they have been in great eſteem in intermittent fevers, and alſo in ſcrophulous and other chronic diſorders; but at the

the preſent they are very little uſed, and have now no place either in the London or Edinburgh pharmacopœias.

CHAMÆMELUM [*Lond.*] *Flos ſimplex.* [*Ed.*] *Herba et Flores. Anthemis nobilis Lin.*

Chamomile; the herb and flowers.

Theſe have a ſtrong not ungrateful aromatic ſmell, and a very bitter nauſeous taſte. They are accounted carminative, aperient, emollient, and in ſome degree anodyne; and ſtand recommended in flatulent colics, for promoting the uterine purgations, in ſpaſmodic pains, and the pains of women in child bed: Sometimes they have been employed in intermittent fevers, and in nephritis. Theſe flowers are frequently alſo uſed externally in diſcutient and antiſeptic fomentations, and in emollient glyſters: They enter the *Decoctum pro enemate* and *Decoctum pro fomento* of the London, and the *Decoctum chamæmeli* of the Edinburgh pharmacopœia. An eſſential oil was formerly directed to be prepared from them, but it is now omitted. A ſimple watery infuſion of them taken in a tepid ſtate is at preſent frequently employed to promote the operation of emetics.

CAMÆPITHYS [*Succ.*] *Herba.*

Teucrium Chamæpithys Lin.

Ground pine; the herb.

This is a low hairy plant, clammy to the touch, of a ſtrong aromatic reſinous ſmell, and a bitter roughiſh taſte. It is recommended as an aperient and vulnerary, and alſo in gouty and rheumatic pains.

CHELIDONIUM MAJUS [*Brun.*] *Herba, Radix.*

Chelidonium majus Lin.

Celandine; the leaves and root.

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 yellowiſh gold coloured juice; their ſmell is diſagreeable; the taſte ſomewhat bitteriſh, very acrid, biting and burning the mouth; the root is the moſt acrid. The juice of celandine has long been celebrated in diſorders of the eyes; but it is too ſharp, unleſs well diluted, to be applied with ſafety to that tender organ. It has been ſometimes uſed, and it is ſaid with good ſucceſs, for extirpating warts, cleanſing 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 ſudorific: It is particularly recommended in jaundices where there are no ſymptoms of inflammation, and in dropſies. Some ſuppoſe the root to have been Helmont's ſpecific in the hydrops aſcites. Half a drachm or a drachm of the dry root is directed for a doſe: Or an infuſion of an ounce of the freſh root in wine.

CHELIDONIUM MINUS [*Brun.*] *Radix.*

Ranunculus Ficaria Lin.

Pilewort; the root.

This is a very ſmall plant, found in moiſt meadows and by hedgeſides: The roots conſiſt of ſlender fibres, with ſome little tubercles among them, which are ſuppoſed to reſemble the hæmorrhoids; hence it has been concluded, that this root muſt needs be of wonderful efficacy for the cure of that diſeaſe: To the taſte, it is little other

other than mucilaginous: And although ſtill retained in ſeveral of the foreign pharmacopœias, it is never uſed in this country.

CHINA [*Succ.*] *Radix.*
Smilax China Lin.
China root.

This root is brought from the Eaſtindies. But beſides the oriental china root, there is alſo a root under the ſame name brought from the Weſtindies, obtained from a different ſpecies of the ſame genus. They are both longiſh, full of joints, of a pale reddiſh colour, of no ſmell, and very little taſte: The oriental, which is the moſt eſteemed, is conſiderably 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 diſregarded by the antient phyſicians. It was firſt introduced into Europe about the year 1535, with the character of being a ſpecific againſt venereal and cutaneous diſorders; and as ſuch was uſed for ſome time, but at length gave place to medicines of a more powerful kind. It is generally ſuppoſed to promote inſenſible perſpiration and the urinary diſcharge.

CICHOREUM [*Succ.*] *Radix, herba.*
Cichorium Intybus Lin.
Wild ſuccory; the roots and herb.

The root has a moderately bitter taſte, with ſome degree of roughneſs; the leaves are ſomewhat leſs bitter: The roots, ſtalks, and leaves yield, on being wounded, a milky lyponaceous juice. By culture this plant loſes its green colour and its bitterneſs, and in this ſtate is employed in ſalads: The darker coloured and more deeply jagged the leaves, the bitterer is their taſte. Wild ſuccory acts without much irritation, tending to cool the body, and at the ſame time corroborate the tone of the inteſtines. The juice taken in large quantities, ſo as to keep up a gentle diarrhœa, and continued for ſome weeks, has been found to produce excellent effects in cutaneous affections and other chronical diſeaſes.

CICUTA [*Lond.*] *Herba, flos, ſemen.* [*Edin.*] *Folia, ſemen.*
Conium maculatum Lin.
Hemlock; the leaves, flower, and ſeed.

This is a large umbelliferous plant, common about the ſides of fields, under hedges, and in moiſt 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 ſpots. Hemlock is ſometimes applied externally in the form of decoction, infuſion, or poultice, as a diſcutient. Theſe are apt to excoriate, and their vapour is ſometimes particularly diſagreeable and hurtful. The ſtalks are inſignificant, and the roots very virulent. 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. Stoerk has found, that in certain ſmall doſes, it may be taken with great ſafety; and that, without at all diſordering the conſtitution, or even producing

ducing any ſenſible operation, it ſometimes proves a powerful reſolvent in many obſtinate diſorders. In ſcirrhus, the internal and external uſe of hemlock has been found uſeful, but then mercury has been generally uſed at the ſame time. In open cancer, it often abates the pains, and is free from the conſtipating effects of opium. It is likewiſe uſed in ſcrophulous tumours and ulcers, and other ill conditioned ſores. It is alſo recommended by ſome in chincough, and various other diſeaſes. Its common, and perhaps beſt form, is that of the powdered leaves, in the doſe, at firſt, of two or three grains a day, which in ſome caſes has been gradually increaſed to upwards of two ounces a day, without producing giddineſs. Both the London and Edinburgh colleges have given a place to the *Succus ſpiſſatus cicutæ*

CINARA [*Lond. Ed.*] *Folium.*
Cynara Scolymus Lin.
Artichoke ; the leaves.

The artichoke is a large rough plant, with greyiſh leaves, which is well known in our gardens, being very commonly cultivated for culinary purpoſes. The leaves are bitter ; and on being preſſed give out their bitterneſs along with their juice. This expreſſed juice is given in dropſies, and in ſome inſtances has proved ſucceſsful after other medicines have failed. For this purpoſe, the expreſſed juice paſſed only through a coarſe ſtrainer, is mixed with an equal quantity of white wine, and of this mixture two or three table ſpoonfuls are taken every morning and evening. It operates by promoting diureſis. For this purpoſe, an infuſion of the leaf is alſo uſed ; and both the leaves and ſtalks enter into many of the diuretic decoctions uſed by the country people.

CINNABARIS NATIVA [*Brun.*]
Native cinnabar.

This is a ponderous mineral of a red colour, found in Spain, Hungary, and ſeveral other parts of the world. The fineſt ſort is in pretty large maſſes, both externally and internally of an elegant deep red colour, which is much improved by grinding the maſs into fine powder ; There is another ſort of a good colour, in roundiſh drops, ſmooth without and ſtriated within.

This mineral is generally compoſed of ſix parts of mercury and one of ſulphur ; the finer 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 : The native has ſometimes been obſerved to occaſion nauſea, vomiting, and anxiety : Theſe probably proceeded from an admixture of ſome arſenical particles which it could not be freed from by repeated ablution. When pure, it has no quality or medical virtue diſtinct from thoſe of the artificial cinnabar, now ſtiled *Hydrargyrus ſulphuratus ruber*, and afterwards to be mentioned among the mercurial preparations.

CINCHONA [*Lond.*] *Cortex.*
CORTEX PERUVIANUS [*Edin.*]
Cinchona officinalis Lin.
Peruvian bark.

The tree which furniſhes this bark is deſcribed as being in general about fifteen feet high and ſix inches thick. It ſomewhat reſembles our cherry tree, grows promiſcuouſly in foreſts, particularly

larly in the hilly parts of Quito in Peru, and is ſpontaneouſly propagated from its ſeeds.

The bark has ſome odour, to moſt people not unpleaſant, and very perceptible in the diſtilled water in which floating globules, like eſſential oil, have been obſerved. Its taſte is bitter and aſtringent, accompanied with a degree of pungency, and leaving a conſiderably laſting impreſſion on the tongue.

Two ſpecies are mentioned, viz. the coloured and the white. The coloured includes the pale, the red, the yellow, and the knotty; their barks being coloured. The white includes four varieties, their barks being of a whitiſh colour.

The proper red bark and one of the white kind have been found in the province of Santa Fé.

A ſpecies of cinchona has alſo been diſcovered in the Weſtindia iſlands, particularly in Jamaica: It is accurately deſcribed by Dr. Wright, under the title of *Cinchona Jamaicenſis*, in a paper publiſhed in the Philoſophical Tranſactions. In Jamaica it is called the ſea ſide beech, and grows from twenty to forty feet high. The white, furrowed, thick outer bark is not uſed; the dark brown inner bark has the common flavour, with a mixed kind of taſte, at firſt of horſe radiſh and ginger, becoming at laſt bitter and aſtringent. It ſeems to give out more extractive matter than the cinchona officinalis. Some of it was imported from St. Lucia, in conſequence of its having been uſed with advantage in the army and navy during the laſt war. The bark is found to be conſiderably emetic and cathartic, which properties it is ſaid to loſe on drying.

The pale and the red are chiefly in uſe in Britain. The pale is brought to us in pieces of different ſizes, either flat or quilled and the powder is rather of a lighter colour than that of cinnamon. The red is generally in much larger, thicker, flattiſh pieces, but ſometimes alſo in the form of quills, and its powder is reddiſh like that of Armenian bole. It is much more reſinous, and poſſeſſes the ſenſible qualities of the cinchona in a much higher degree than the other ſorts; and the more nearly the other kinds reſemble the red bark, the better they are now conſidered. The red bark is heavy, firm, ſound, and dry; friable between the teeth; does not ſeparate into fibres; and breaks, not ſhivery, but ſhort, cloſe, and ſmooth. It has three layers: The outer is thin, rugged, of a reddiſh brown colour, but frequently covered with moſſy matter: The middle is thicker, more compact, darker coloured, very reſinous, brittle, and yields firſt to the peſtle. The inmoſt is more woody, fibrous and of a brighter red.

The Peruvian bark yields its virtues both to cold and boiling water; but the decoction is thicker, gives out its taſte more readily, and forms an ink with a chalybeate more ſuddenly than the freſh cold infuſion. This infuſion, however, contains at leaſt as much extractive matter, but more in a ſtate of ſolution; and its colour on ſtanding ſome time with the chalybeate, becomes darker; while that of the decoction, becomes more faint. When infuſions are of certain age, the addition

addition of a chalybeate renders them green; and when this is the caſe, they are found to be in a ſtate of fermentation, and ſpoilt. Mild or cauſtic alkalies, or lime, precipitate the extractive matter, which, in the caſe of the cauſtic alkali, is rediſſolved by a farther addition of the alkali. Lime water precipitates leſs from a freſh infuſion than from a freſh decoction; and in the precipitate of this laſt ſome mild earth is perceptible. The infuſion is reduced by age to the ſame ſtate with the freſh decoction, and then they depoſite nearly an equal quantity of mild earth and extractive matter; ſo that lime water, as well as a chalybeate, may be uſed as a teſt of the relative ſtrength and periſhable nature of the different preparations, and of different barks. Accordingly cold infuſions are found by experiments to be leſs periſhable than decoctions; infuſions and decoctions of the red bark, than thoſe of the pale; thoſe of the red bark however, are found by length of time to ſeparate more mild earth with the lime water, and more extractive matter. Lime water, as precipitating the extractive matter, appears an equally improper and diſagreeable menſtruum.

Water is found to ſuſpend the reſin by means of much leſs gum than has been ſuppoſed. Rectified ſpirit of wine extracts a bitterneſs, but no aſtringency, from a reſiduum of twenty affuſions of cold water; and water extracts aſtringency, but no bitterneſs, from the reſiduum of as many affuſions of rectified ſpirit. The reſidua in both are inſipid.

From many ingenious experiments made on the Peruvian bark by Dr. Irving, which are now publiſhed in a diſſertation that gained the prize medal given by the Harveian ſociety of Edinburgh for 1783, the power of different menſtrua on the Peruvian bark, is aſcertained with greater accuracy than had before been done: And it appears, that with reſpect to their comparative power, the fluids after mentioned act in the order in which they are placed.

Dulcified ſpirit of vitriol.
Cauſtic ley.
French brandy.
Rheniſh wine.
Soft water.
Vinegar and water.
Dulcified ſpirit of nitre.
Mild volatile alkali.
Rectified ſpirit of wine.
Mild vegetable alkali.
Lime water.

The antiſeptic powers of vinegar and bark united are double the ſum of thoſe taken ſeparately. The aſtringent power of the bark is increaſed by vitriolic acid; the bitter taſte is deſtroyed by it.

The officinal preparations of the bark are,

1. The powder: Of this, the firſt parcel that paſſes the ſieve being the moſt reſinous and brittle part, is the ſtrongeſt.

2. The extract: The watery and ſpirituous extracts conjoined form the moſt proper preparations of this kind.

3. The reſin: This cannot perhaps be obtained ſeparate from the gummy part, nor would it be deſirable.

4. Spirituous tincture: This is beſt made with proof ſpirit.

5. The decoction: This preparation, though frequently employed, is yet in many reſpects inferior even to a ſimple watery infuſion.

The beſt form is that of powder;

der; in which the conſtituent parts are in the moſt effectual proportion. The cold infuſion which can be made in a few minutes by agitation, the ſpirituous tincture, and the extract, are likewiſe proper in this reſpect. For covering the taſte, different patients require different vehicles; liquorice, aromatics, acids, port wine, ſmall-beer, porter, milk, butter milk, &c. are frequently employed; and thoſe who diſlike the taſte of the bark itſelf, vary in their accounts to which the preference is due; or it may be given in form of electuary with currant jelly, or with brandy or rum.

According to ſome, the Peruvians learned the uſe of this bark by obſerving certain animals affected with intermittents inſtinctively led to it; while others ſay, that a Peruvian having an ague was cured by happening to drink of a pool into which, ſome trees of cinchona had accidentally fallen; and its uſe in gangrene is ſaid to have originated from its curing one in an aguiſh patient. About the year 1640, the lady of the Spaniſh viceroy, the Comitiſſa del Cinchon, was cured of an ague by the bark, which has therefore been called Cortex or Pulvis Comitiſſæ, Cinchona, Chinachina or Chinchina, Kinakina, or Kinkina, Quinaquina or Quinquina; and from the intereſt which the Cardinal de Lugo and the Jeſuit fathers took in its diſtribution, it has been called Cortex or Pulvis Cardinalis de Lugo, pulvis Jeſuiticus, Patrum, &c.

On its firſt introduction into Europe, it was reprobated by many eminent phyſicians; and at different periods long after, it was conſidered a dangerous remedy; but its character, in proceſs of time became very univerſally eſtabliſhed.

Practitioners have differed much with regard to the mode of operation of the Peruvian bark. Some have aſcribed its virtues entirely to a ſtimulant power; but while the ſtrongeſt and moſt permanent ſtimuli have by no means the ſame effect with bark in the cure of diſeaſes, the bark itſelf ſhews ſcarcely any ſtimulant power; either from its action on the ſtomach or on other ſenſible parts to which it is applied. From its action on dead animal fibres, there can be no doubt of its being a powerful aſtringent; and from its good effects in certain diſeaſes there is reaſon to preſume that it is a ſtill more powerful tonic. To this tonic power ſome think that its action as an antiſceptic is to be entirely attributed: But that, it has a powerful effect in reſiſting the ſceptic proceſs to which animal ſubſtances are naturally ſubjected, appears to be independent of tonic power, becauſe it reſiſts putrefaction in dead animal matter when entirely detached from the living body.

Although it be admitted that the Peruvian bark acts powerfully as an aſtringent, as a tonic, and as an antiſceptic, yet theſe principles will by no means explain all the effects derived from it in the cure of diſeaſes. And Accordingly, from no artificial combination in which theſe powers are combined, or in which they exiſt even to a higher degree, can the good conſequences reſulting from Peruvian bark be obtained. Many practitioners, therefore, are diſpoſed to view it as a ſpecific. If by a ſpecific we mean an infallible remedy, it cannot indeed be conſidered as intitled to that appellation; but in as far

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as it is a very powerful remedy, of the operation of which no satisfactory explanation has yet been given, it may with great propriety be denominated a specific.

It was first introduced, as has already been said, for the cure of intermittent fevers; and in these, when properly exhibited, it rarely fails of success. Practitioners, however, have differed with regard to the best mode of exhibition; some prefer giving it just before the fit, some during the fit, others immediately after it. Some, order it in the quantity of an ounce, between the fits; the dose being the larger and more frequent according to the frequency of the fits; and we think this mode of exhibition, although it may perhaps sometimes lead to the employment of more bark than is necessary, preferable, from being best suited to most stomachs. The requisite quantity is very different in different cases: And in many vernal intermittents it seems even scarcely necessary.

It often vomits or purges, and sometimes oppresses the stomach. These, or any other effects that may take place, are to be counteracted by remedies particularly appropriated to them. Thus, vomiting is often restrained by exhibiting it in wine; loosenes by combining it with opium; and oppression at stomach, by the addition of an aromatic. But unless for obviating particular occurrences, it is more successful when exhibited in its simple state than with any addition; and there seems to be little ground for believing that its powers are increased by crude sal ammoniac, or any other additions which have frequently been made.

It is now given, from the very commencement of the disease, without previous evacuations, which, with the delay of the bark, or under doses of it, by retarding the cure, often seem to induce abdominal inflammation, scirrhus jaundice, hectic, dropsy, &c. symptoms formerly imputed to the premature or intemperate use of the bark, but which are best obviated by its early and large use. Its use is to be continued not only till the paroxisms cease, but till the appetite, strength, and complexion return. Its use is then to be gradually left off, repeated at proper intervals to secure against a relapse; to which, however unaccountable, independently of the recovery of vigour, there often seems to be a peculiar disposition; and especially when the wind blows from the east. Although, however, most evacuants conjoined with the Peruvian bark in intermittents are rather prejudicial than otherwise, yet it is of advantage, previous to its use, to empty the stomach; and on this account good effects are often obtained from premising an emetic.

It is a medicine which seems not only suited both to formed and latent intermittents, but to that state of fibre on which all rigidly periodical diseases seem to depend; as periodical pain, inflammation, hæmorrhagy, spasm, cough, loss of external sense, &c.

Bark is now used by some in all continued fevers: At the same time attention is paid to keep the bowels clean, and to promote when necessary the evacuation of redundant bile; always, however, so as to weaken the patient as little as possible.

In confluent small pox, it promotes languid eruption and suppuration, diminishes the fever through the whole course of it, and prevents

vents or corrects putrefcence and gangrene.

In gangrenous fore thoats it is much ufed. as it is externally and internally in every fpecies of gangrene.

In contagious dyfentery, after due evacuation, it has been ufed taken internally and by injection, with and without opium.

In all thefe hæmorrhagies called paffive, and which it is allowed all hæmorrhagies are very apt to become, and likewife in other increafed difcharges, it is much ufed; and in certain undefined cafes of hæmoptyfis, fome allege that it is remarkably effectual when joined with an abforbent.

It is ufed for obviating the difpofition to nervous and convulfive diſeales; and fome have great confidence in it joined with the acid of vitriol, in cafes of phthifis, fcrophula, ill conditioned ulcers, rickets, fcurvy, and in ſtates of convaleſcence.

In theſe cafes notwithſtanding the uſe of the acid, it is proper to conjoin it with a milk diet.

In dropſy, not depending on any particular local affection, it is often alternated or conjoined with diuretics, or other evacuants; and by its early exhibition after the water is once drawn off, or even begins to be freely diſcharged, a freſh accumulation is prevented, and a radical cure obtained. In obſtinate venereal cafes, particularly thoſe which appear under the form of pains in the bones, the Peruvian bark is often ſucceſsfully ſubjoined to mercury, or even given in conjunction with it.

CINERES CLAVELLATI [*Lond.*] *Kal. impurum.*

LIXIVA [*Edin.*] *Alkali fixum vegetabile.*

Potaſh, pearl aſh, Lixive.

Potaſh is an impure alkaline ſalt, produced from moiſt land plants by burning them with a cloſe ſmothering heat. In this ſtate they are called weed aſhes, which contain beſides alkali, ſome charcoal, ſulphur and a little vitriolated tartar. Theſe foreign matters are partly ſeparated, by mixing the aſhes with water, and paſſing it through a veſſel with holes at the bottom covered with ſtraw. It is then evaporated to the conſiſtence of honey, and afterwards burnt in an oven, from which it acquires a little ſtony matter. In this ſtate, from its colour, it is called pearl aſhes. If quick lime be mixed with the aſhes, and paſſed through the veſſel as before, the alkali is conſiderably deprived of its fixed air, is conſequently cauſtic, has a darker colour, and gives a reddiſh ſolution, having diſſolved ſome of the iron of the pot it is prepared in, and from which it is called potaſh. Large quantities of it are brought to us from America, Ruſſia, and other places. Other kinds of impure vegetable alkali appear in commerce, under the names of caſhub, marcoſt aſhes, &c.

CINNAMOMUM [*Lond. Ed.*] *Cortex et ejus oleum eſſentiale.*

Laurus Cinnamomum Lin.

Cinnamon; the bark and its eſſential oil.

This is a light thin bark, of a reddiſh colour, rolled up in long quills or canes; of a fragrant delightful ſmell, and an aromatic, ſweet, pungent taſte, with ſome degree of aſtringency. It is generally mixed with the caſſia bark: This laſt is eaſily diſtinguiſhable by its breaking ſmooth, while cinnamon ſplinters; and by its ſlimy mucilaginous taſte, without the roughneſs

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 ſervice in ſeveral kinds of alvine fluxes, and immoderate diſcharges from the uterus. An eſſential oil, a diſtilled water, a diſtilled ſpirit, and a tincture of it, are directed to be kept in the ſhops; but theſe are much more frequently prepared from caſſia than from cinnamon; and in thoſe formulæ, in which diſtillation is employed, the difference is perhaps not very material but whether it be exhibited under the form of powder or infuſion, aſtringency is only to be looked for from the genuine cinnamon; and this is often required where it is employed as a ſpicy ingredient in a great number of compoſitions.

CITRUS [*Suec.*] *Cortex flavedo, oleum, ſuccus.*

Citrus medica Lin.

Citron; the yellow rind, oil, and juice.

The citron is an evergreen tree, or ſhrub, and is only a variety of the Lemon tree: 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; they grow alſo in our Weſtindia Iſlands. Citrons are rarely uſed among us: They are of the ſame quality with lemons, except that their juice is ſomewhat leſs acid. They enter, however, a conſiderable number of formulæ in ſeveral of the foreign pharmacopœias, and with us are frequently employed as a condiment.

COCCINELLA [*Lond. Ed.*]

Coccus cacti Lin.

Cochineal.

This is a ſmall, irregular, roundiſh body, of a dark red colour on the outſide, and a deep bright red within: It is brought from Mexico and New Spain. This ſubſtance was long ſuppoſed to be the ſeed of a plant: But it is an inſect of the Coccus kind, which breeds on the American prickly pear tree, and adheres to the plant without changing its place. Cochineal has been ſtrongly recommended as a ſudorific, cardiac, and alexipharmac; but practitioners have never obſerved any conſiderable effects from it. Its greateſt conſumption is among the ſcarlet dyers; and in medicine its principal uſe is as a colouring drug: Both watery and ſpirituous liquors extract its colour. In the London and Edinburgh pharmacopœias, ſome of the tinctures receive from this drug a fine red colour.

COCHLEARIA HORTENSIS [*Lond. Ed.*] *Folia.*

Cochlearia officinalis Lin.

Garden ſcurvy graſs; the leaves.

COCHLEARIA MARINA, *Folia.*

Cochlearia anglica Lin.

Sea ſcurvy graſs; the leaves.

Theſe plants have little other difference than that expreſſed in their titles; in taſte and medical virtue, the firſt is conſiderably the ſtrongeſt; and hence is alone retained both by the London and Edinburgh colleges.

Scurvy graſs is a pungent ſtimulating medicine; capable of promoting

moting the fluid ſecretions; it is particularly celebrated in ſcurvies, and is the principal herb employed in theſe kinds of diſorders in the nothern countries.

COFFEA [*Brun.*] *Semen.*
Coffea arabica Lin.
Coffee; the fruit.

Coffee is the fruit of an oriental ſhrub, now cultivated in the Weſt-indies. This fruit is employed rather as food than as a medicine. The medical effects expected from it are to aſſiſt digeſtion, promote the natural ſecretions, and prevent or remove a diſpoſition toſleepineſs. It has been recommended in ſpaſmodic aſthma; and in ſome caſes it is found highly uſeful in alleviating ſevere head ach.

COLCHICUM [*Lond. Ed.*] *Radix.*
Colchicum autumnale Lin.
Meadow ſaffron; the root.

This plant grows wild in meadows, in the more temperate parts of Europe. The roots, freed from the outer blackiſh coat and ſmall fibres, are white, and full of a white juice. In drying they become wrinkled and dark coloured. Applied to the ſkin, this root ſhews ſome kind of acrimony. When taken internally, it is ſaid to excite a ſenſe of burning heat, bloody ſtools, and other violent ſymptoms. In the form of ſyrup, however, it has been given to the extent of two ounces a day without any bad conſequence. It is ſometimes employed as a diuretic in dropſy.

From its great activity it was long ranked among the poiſonous vegetables: but from this circumſtance it claimed the attention of Dr. Stoerk of Vienna, who made it the ſubject of many experiments. According to his account, the recent root taken in ſubſtance, even to a very ſmall extent, produces alarming effects; but he found that an oxymel prepared from it might be uſed with ſafety, and proved a powerful diuretic. Since his publication it has been uſed by other practitioners; but it has by no means ſupported the character which he gave of it, even when employed in much larger doſes than Dr. Stoerk ſeems to have exhibited. On ſome occaſions, however, it operates as a powerful diuretic; and accordingly it is not only introduced into moſt of the modern pharmacopœias, but is alſo the baſis of different formulæ. The London college, in imitation of the original preſcription of Dr. Stoerk, have introduced into their pharmacopœia an *oxymel colchici*; but the Edinburgh college, from an objection to honey, which, with ſome people, is apt to excite violent colic pains, have ſubſtituied a *ſyrupus colchici*; in which, however, nearly the ſame proportions are retained, ſugar being merely employed in place of honey. This ſyrup, in place of two or three drachms merely, has been given to the extent of two or three ounces in a day, in general without any inconvenience, and ſometimes with good effects: But like the other diuretics, it cannot be depended on.

COLOCYNTHIS [*Lond.*] *Fructus medulla* [*Ed.*] *Fructus cortice ſeminibuſque abjectis.*
Cucumis Colocynthis Lin.
Coloquintida, or bitter apple; the medullary part of the fruit.

This is the produce of a plant of the gourd kind, growing in Turkey. The fruit is about the ſize of an orange; its medullary part, freed from the rind and ſeeds,

ſeeds, is alone uſed in medicine: This is very light, white, ſpongy, compoſed of membranaceous leaves; of an extremely bitter, nauſeous, acrimonious taſte. 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 likewiſe as an alterative in obſtinate chronical diſorders; in the doſe of a few grains, it acts with great vehemence, diſorders the body, and ſometimes occaſions a diſcharge of blood. Many attempts have been made to correct its virulence by the addition of acids, aſtringents, and the like; theſe may leſſen the force of the colocynth, but no otherwiſe than might be equally done by a reduction of the doſe. The beſt method of abating its virulence, without diminiſhing its purgative virtue, ſeems to be by triturating it with gummy farinaceous ſubſtances, or the oily ſeeds, which, without making any alteration in the colocynth itſelf, prevent its reſinous particles from cohering, and ſticking upon the inteſtines, ſo as to irritate, inflame, or corrode them. It is an ingredient in ſome of the purgative pills, and the cathartic extracts of the ſhops, particularly of the *Extractum colocynthidis compoſitum*, and *Pilulæ colocynthidis cum aloe*.

COLOMBA [*Lond. Ed.*] *Radix.*

Colomba: The root.

The botanical characters of the vegetable from whence this root is obtained are not yet aſcertained. It is brought from Colombo in Ceylon in the form of knobs, having a rough ſurface, and conſiſting of a cortical, woody, and medullary lamina. It has a diſagreeably bitter taſte, an aromatic flavour; is conſiderably antiſeptic, and particularly effectual in correcting and preventing the putridity of bile. Abroad it is much uſed in diſeaſes attended with bilious ſymptoms, particularly in cholera; and is ſaid to be ſometimes very effectual in other caſes of vomiting. Some conſider it as very uſeful in dyſpepſia. Half a drachm of the powder is given repeatedly in the day. Water is not ſo complete a menſtruum as ſpirits, but to their united action it yields a flavoured extract in very conſiderable quantity. Its uſe in medicine has been particularly recommended to the attention of practitioners by Dr. Percival of Mancheſter in his Experimental Eſſays; and it has in general been found to anſwer expectation: But it is not ſo regularly imported as to admit of our ſhops being ſupplied with it of good quality; and we frequently find it in a very decayed ſtate.

CONSOLIDA [*Suec.*] *Radix Symphytum officinale Lin.*

Comfrey; the root.

This is a rough hairy plant, growing wild by river ſides and in watery places. The roots are large, black on the outſide, white within, full of a viſcid glutinous juice, and of no particular taſte. They agree in quality with the roots of althea; with this difference, that mucilage of *conſolida* is ſomewhat ſtronger bodied. Many ridiculous hiſtories of the conſolidating virtues of this plant are related by authors. At preſent it is ſo little employed in practice in

Britain, as to have no place in our pharmacopœias.

CONTRAYERVA [*Lond. Ed.*] *Radix.*

Dorstenia contrayerva Lin.

Contrayerva; the root.

This is a knotty root, an inch or two long, and about half an inch thick, of a reddish brown colour externally, and pale within: Long, rough, slender fibres shoot out from all sides of it; these are generally loaded with small round knots. This root is of a peculiar kind of aromatic smell, and a somewhat astringent warm, bitterish taste, with a light and sweetish kind of acrimony when long chewed: The fibres have little taste or smell; the tuberous part therefore should be alone chosen. Contrayerva is one of the mildest of those substances called alexipharmacs: It is indisputably a good and useful diaphoretic, and may be safely given in much larger doses than the common practice is accustomed to exhibit it in. Its virtues are extracted both by water and rectified spirit, and do not arise in evaporation with either; The spirituous tincture and extract taste stronger of the root than the aqueous ones.

CONVALLARIA [*Ed.*] *Radix.*

Convallaria Polygonatum Lin.

Solomon's seal; the roots.

The root of this common plant contains a sweetish mucilage, and has been used in form of a poultice in inflammations; but whether this or any other is better than the common poultice of bread and milk is doubtful. A decoction of this root in milk has also been mentioned in certain cases of hæmorrhagy. The flowers, berries, and leaves, are said to be poisonous.

COPAL [*Brun.*] *Resina. Rhus copallinum Lin.*

Copal.

Copal, supposed by some a mineral substance, appears to be a resin obtained from large trees growing in New Spain. This resin is brought to us in irregular lumps, some of which are transparent, of a yellowish or brown colour, others semitransparent and whitish. It has never come into use as a medicine; and is rarely met with in the shops, but it is introduced into some of the foreign pharmacopœias, and may be considered as an article well deserving attention.

CORALLINA [*Brun.*]

Corallina officinalis Lin.

Coraline, or sea mois.

This is a branched cretaceous substance of a white colour: It is the habitation and production of polypi, and grows on rocks, and sometimes on the shells of fishes. It is celebrated as a vermifuge, but on what foundation is very doubtful: To the taste it is entirely insipid, and probably operates only as an absorbent earth.

CORALLIUM RUBRUM [*Lond.*]

Isis nobilis Lin.

Red coral.

This is also a marine production, of the same nature with the foregoing. It cannot reasonably be considered in any other light than as a mere absorbent; as such it enters the officinal crabs claw powder, and is sometimes in practice directed by itself; but it is so little employed, and of so little activity, that the Edin-

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burgh college have with propriety rejected it from their list.

CORIANDRUM [*Lond. Ed.*] *Semen.*

Coriandrum sativum Lin.

Coriander; the seed.

Coriander is an umbelliferous plant, differing from all the others of that class in producing *spherical* seeds. These when fresh, have a strong disagreeable smell, which improves by drying, and becomes sufficiently grateful; they are recommended as carminative and stomachic. They were formerly an ingredient in the officinal compound lime water and electuary of bay berries; but both these formulæ are now rejected.

CORNU CERVI. See CERVUS.

CORTEX PERUVIANUS. See CINCHONA.

COTULA FŒTIDA [*Brun.*] *Folia.*

Anthemis Cotula Lin.

Mayweed, or wild chamomile.

This plant is common among corn, and in waste places. In appearance it resembles some of the garden chamomiles, but is easily distinguishable from them by its strong fetid scent. It is rarely or never used in the present practice.

CRETA [*Lond. Ed.*]

Chalk.

This is an earth soluble in vinegar and the lighter acids, so as to destroy every sensible mark of their acidity. It is one of the most useful of the absorbents, and is to be considered simply as such: The astringent virtues which some attribute to it have no foundation, unless in so far as the earth is saturated with acid, with which it composes a saline concrete manifestly subastringent. It gives name to an officinal mixture, a powder, and potion, and is an ingredient in the chalk troches. It is employed also for extricating the volatile salt of sal ammoniac.

CROCUS [*Lond. Ed.*] *Floris stigma.*

Crocus sativus Lin.

Saffron; the stigmata.

These stigmata, or fleshy capillaments growing at the end of the pistil of the flower, are carefully picked and pressed together into cakes.

There are three sorts of saffron met with in the shops, two of which are brought from abroad, the other is the produce of our own country; this last is much superior to the two former, 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 moist, tough and firm in tearing, of the same colour within as without, and of a strong 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 has been alleged that it remarkably exhilirates, raises the spirits, and is deservedly accounted one of the highest cordials; taken in large doses, it is said to occasion immoderate mirth, involuntary laughter, and the ill effects which follow from the abuse of spirituous liquors. This medicine is said to be particularly serviceable in hysteric depressions, or obstruction of the uterine secretions, where other aromatics, even those of the

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, loſes its colour in keeping: The watery and vinous tinctures are apt to grow ſour, and then loſe their colour alſo: That made in pure ſpirits keeps in perfection for many years. Its officinal preparations are, a ſpirituous tincture and ſyrup. It is an ingredient in ſeveral compoſitions; but of late years, the eſtimation in which it was held as a medicine, has been rather on the decline. Some experiments made by Dr. Alexander ſhew that it is much leſs powerful than was once imagined; and it was lately given in the Edinburgh Infirmary by Dr. Henry Cullen, even to the extent of half an ounce a day, in ſeveral hyſterical caſes, without any ſenſible effect whatever.

CUBEBA [*Lond. Ed.*]
Piper Cubeba Lin.
Cubebs.

Cubebs are a fruit brought from the Eaſtindies. 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 were formerly an ingredient in mithridate and theriaca; but they do not enter any of the fixed formulæ of our pharmacopœias.

CUCUMIS AGRESTIS [*L.*]
Fructus recens.
Momordica Elaterium Lin.
Wild cucumber; the fruit.

This plant, found wild in foreign countries, is with us cultivated in gardens. Its principal botanic difference from the common cucumber is the ſmallneſs of its fruit, which is no bigger than a Spaniſh olive, when ripe, it burſts on a ſlight touch, and ſheds its ſeeds with violence, and hence was named by the Greeks *elaterium*. This name is applied likewiſe to the fecula of the juice of the fruit, the only preparation of the plant uſed in medicine. The juice, on ſtanding, ſeparates into the fecula, which falls to the bottom, and a watery fluid which ſwims above. The clear part may be decanted off, and the reſt of the liquid drained off, by cotton threads hung over the ſides of the veſſel acting like ſyphons. The fecula may be farther dried by the ſun, or a ſlow heat; and in this dry ſtate it has the name of *elaterium*. Elaterium is a ſtrong cathartic, and very often operates ſo upwards. Two or three grains are accounted in moſt caſes a large doſe. Simon Paulli relates ſome inſtances of its good effects in dropſies: But cautious practitioners ought not to have recourſe to it till after milder medicines have proved ineffectual; to which caution we heartily ſubſcribe. Medicines, indeed, which act with violence in a ſmall doſe, generally require the utmoſt ſkill to manage them with any tolerable degree of ſafety: To which may be added, that the various manners of making theſe kinds of preparations, as practiſed by different hands, muſt needs vary their power. Of late, the elaterium has not been unfrequently employed in obſtinate caſes of dropſy with ſucceſs; and when exhibited in doſes of only half a grain, repeated at ſhort intervals till

till its operation commences, it is in general sufficiently moderate in its effects.

CUMINUM [*Lond. Ed.*] *Semen.*

Cuminum Cyminum Lin.

Cummin; the seed.

The cummin is an umbelliferous plant, in appearance resembling fennel, but much smaller. The seeds used in Britain are brought chiefly from Sicily and Malta. Cummin seeds have a bitterish warm taste, accompanied with an aromatic flavour, not of the most agreeable kind. An essential oil is obtained from them by distillation, in which their activity is concentrated; and they are not unfrequently used externally, giving a name both to a plaster and cataplasm.

CUPRUM [*Lond.*] *Ærugo Vitriolum cæruleum,* [*Ed.*] *Cuprum vitriolatum.*

Copper.

Copper is one of the metals often used for different purposes in arts; and is found both in Britain, and in most other countries of Europe. It has never been used as a medicine in its proper metallic form; but it is readily acted on by all saline substances, both by acids, alkalies, and neutrals; and it is even corroded by moisture.

Most of these preparations of copper are violently emetic, and therefore very rarely exhibited internally. Some have ventured on a solution of a grain or two of the metal in vegetable acids, and observe, that it acts, almost as soon as received into the stomach, so as to be of great use for occasioning poisonous substances that have been swallowed, to be immediately thrown up again. Boerhaave recommends a saturated solution of this metal in volatile alkali as a medicine of great service in disorders 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 says, aperient, attenuating, warming, and diuretic; he assures us, that by this means he cured a confirmed ascites, and that the urine run out as from an open pipe; but at the same time he acknowledges, that in other cases it failed him. He likewise recommends other preparations of copper, as of wonderful efficacy in certain kinds of ill habits, weakness of the stomach, &c. but we cannot think the internal use of this metal advisable in ordinary cases, which can be combated by other means. Physicians in general seem to be agreed, that it has really a virulent quality; and too many examples are met with, of fatal consequences ensuing from eating food, which had been dresst in copper vessels not well cleansed from the rust which they had contracted by lying in the air.

Great care ought to be taken that acid liquors, or even water, designed for internal use, be not suffered to stand long in vessels made of copper; otherwise they will dissolve so much of this metal as will give them disagreeable qualities. Hence in distillation of simple waters with copper stills, the last runnings, which are manifestly acid, have frequently proved emetic. It is remarkable, that while 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

time without boiling, they become highly 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. But although copper be thus dangerous, ſome preparations of it are in certain caſes uſed with great advantage both externally and internally.

The chief preparations of copper are, the blue vitriol, verdegris, and *cuprum ammoniacum*; but the London college have given a place only to the two former. The blue vitriol is recommended by ſome as an uſeful emetic, particularly in caſes of incipient phthiſis with a view of reſolving tubercles. It is ſometimes employed as an aſtringent and eſcharotic; and verdegris is uſed in form of ointment in certain ulcerations, in caſes of tinea capitis and the like. The *cuprum ammoniacum*, though it has no place in the pharmacopœia of the London college, is a very active and powerful medicine; and has produced a perfect cure in ſome inſtances of epilepſy.

CURCUMA [*Lond. Ed.*] *Radix.*

Curcuma longa Lin.

Tumeric; the root.

Tumeric is a root brought from the Eaſtindies, where it is uſed not only in medicine, but for colouring and ſeaſoning food, as rice. It is internally of a deep lively yellow or ſaffron 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 efficacy in the jaundice. It tinges the urine of a ſaffron colour.

CURSUTA [*Ed.*] *Radix.*

Gentiana purpurea Lin.

Curſuta; the root.

The foreign root ſold under this name was introduced into the laſt edition but one of the Edinburgh pharmacopœia. It is now believed, that what has had the name of curſuta, is the root of the purple gentian: But what is uſually ſold under that title in our ſhops cannot, either by its appearance, taſte, or other ſenſible qualities, be diſtinguiſhed from the common gentian, the root of the gentiana lutea, afterwards to be mentioned. And as far as the medical properties of the curſuta have been aſcertained, they are preciſely the ſame with thoſe of gentian. See GENTIANA.

CYDONIA MALUS [*Lond.*] *Fructus, ſemen.*

Pyrus Cydonia Lin.

The quince; its fruit and ſeeds.

Quinces have a very auſtere acid taſte: Taken in ſmall quantity they are ſuppoſed to reſtrain vomiting and alvine fluxes; and more liberally to looſen the belly. The ſeeds abound with a mucilaginous ſubſtance of no particular taſte, which they readily impart to watery liquors: An ounce will render three pints of water thick and ropy like the white of an egg. A mucilage of the ſeeds is kept in the ſhops.

CYNOGLOSSUS [*Brun.*] *Radix.*

Cynogloſſus officinalis Lin.

Hound's tongue; the root.

The leaves of this plant are thought to reſemble a dog's tongue, whence its name; they are clothed with a whitiſh down: It grows wild in ſhady lanes. The roots have a rank diſagreeable ſmell, and rough bitteriſh taſte,

covered

covered with a glutinous sweetness. The virtues of this root are very doubtful: It is generally supposed to be narcotic, and by some to be virulently so: Others declare, that it has no virtue of this kind, and consider it as a mere glutinous astringent. The present practice takes no notice of it.

CYNOSBATUS [*Lond.*]
Fructus.
Rosa canina Lin.
Dog rose; the fruit called hips.

This bush grows wild in hedges throughout England. The flowers have a pleasant smell; but so weak, that Parkinson and others have named the plant *Rosa sylvestris inodora:* A water distilled from them smells agreeably. The fruit or hips contain a sourish sweetish pulp; with a rough prickly matter inclosing the seeds, from which the pulp ought to be carefully separated before it be taken internally: The Wirtemberg college observes, that from a neglect of this caution, the pulp of hips sometimes occasions a pruritus and uneasiness about the anus; and the conserve of it has been known to excite violent vomiting. The conserve is the only officinal preparation of this fruit. As it is not supposed to possess any particular medical virtue, but is merely used to give form to other articles, the Edinburgh college have omitted it.

CYPERUS [*Brun.*] *Radix.*
Cyperus longus Lin.
Cyperus; the root.

This is a plant of the grass kind; it is sometimes found wild, in marshy places in England; the roots are generally brought to us from Italy. This root is long, slender, crooked, and full of knots; outwardly of a dark brown, or blackish colour, inwardly whitish; of an aromatic smell, and an agreeable warm taste: Both the taste and smell are improved by moderate exsiccation. Cyperus is accounted a good stomachic and carminative, but is at present very little regarded.

DACTYLUS [*Brun.*] *Fructus.*
Phœnix dactylifera Lin.
The date; the fruit.

Dates are imported into Britain in the state of a half dried fruit, about the shape of an acorn, but generally larger, consisting of a sweet pulpy part, and a hard stone. The best are brought from Tunis. They were formerly used in pectoral decoctions; and supposed, besides their emollient and incrassating virtue, to have a slight astringency.

DAUCUS CRETICUS
[*Brun.*] *Semen.*
Athamanta cretensis Lin.
Candy carrot; the seeds.

This is an umbelliferous plant, growing wild in the Levant and the warmer parts of Europe. The seeds, which are brought from Crete, have a warm biting taste, and an agreeable aromatic smell. They are carminiative, and said to be diuretic, but are at present little used.

DAUCUS SYLVESTRIS
[*Lond. Ed.*] *Semen.*
Daucus Carota Lin.
Wild carrot; the seed.

This is common in pasture grounds and fallow fields throughout England. The seeds possess the virtues of those of the *daucus creticus*, in an inferior degree; and have often supplied their place in the shops, and been themselves

supplied

ſupplied by the ſeeds of the garden carrot; theſe laſt are in warmth and flavour the weakeſt of the three.

DENS LEONIS. See TARAXACUM.

DICTAMNUS ALBUS [*Ed.*] *Radix.*

Dictamnus albus Lin.

White or baſtard dittany; the root.

This plant grows wild in the mountainous parts of France, Italy, and Germany. From thence the cortical part of the root, in a dry ſtate, rolled up in little quills, is ſometimes brought to us. It is of a white colour, of a weak not very agreeable ſmell, and of a durable bitter and ſlightly pungent taſte. It has been recommended as an alexipharmac, a tonic, and an anthelmintic; but it is very ſeldom uſed, and has no place in the London pharmacopœia.

DICTAMNUS CRETICUS [*Succ.*] *Folia.*

Origanum Dictamnus Lin.

Dittany of Crete; the leaves.

This is a kind of origanum ſaid 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 climate. The leaves, which are the only part in uſe with us, come from Italy. The beſt ſort are well covered over with a thick white down, and now and then intermixed with purpliſh flowers. In ſmell and taſte, they ſomewhat reſemble lemon thyme; but have more of an aromatic flavour, as well as a greater degree of pungency; when freſh, they yield a conſiderable quantity of an excellent eſſential oil. But they have now no place either in the London or Edinburgh pharmacopœias.

DIGITALIS [*Lond. Ed.*] *Herba.*

Digitalis purpurea Lin.

Fox glove; the plant.

This grows wild in woods, and on uncultivated heaths: The elegant appearance of its purple flowers (which hang in ſpikes along one ſide of the ſtalk) has gained it a place in ſome of our gardens. The leaves have been ſtrongly recommended, externally, againſt ſcrophulous tumours; and likewiſe internally, in epileptic diſorders: What ſervice they may be capable of doing in theſe caſes is not aſcertained by accurate experiment. Several examples are mentioned by medical writers of their occaſioning violent vomiting, hypercatharſis, and diſordering the whole conſtitution; inſomuch that Boerhaave accounts them poiſonous. The taſte of them is bitter, and very nauſeous.

Digitalis, however, has lately been employed with great ſucceſs in other diſeaſes. A treatiſe was publiſhed a few years ſince by Dr. Withering, profeſſedly on the ſubject of its uſe in medicine, which contains many important and uſeful obſervations.

An infuſion of two drachms of the leaf in a pint of water, given in half ounce doſes every two hours till it begin to puke or purge, is recommended in dropſy, particularly that of the breaſt. It is ſaid to have produced an evacuation of water ſo copious and ſudden, in aſcites, by ſtool and urine, that the compreſſion of bandages was found neceſſary. The plentiful uſe of diluents is ordered during

its

its operation. This remedy, however, is inadmiſſible in weakly patients. Beſides being given in infuſion, it has alſo been employed in ſubſtance. And when taken at bed time to the extent of one, two, or three grains of the dried powder, it often in a ſhort time operates as a very powerful diuretic, without producing any other evacuation. Even this quantity, however, will ſometimes excite very ſevere vomiting, and that too occurring unexpectedly. During its operation it has a very remarkable influence in rendering the pulſe ſlower; and it frequently excites very conſiderable vertigo, and an affection of viſion.

Beſides dropſy, the digitalis has of late alſo been employed in ſome inſtances of hæmoptyſis, of phthiſis, and of mania, with apparent good effects. But its uſe in theſe diſeaſes is much leſs common than in dropſy.

DOLICHUS [*Ed.*] *Pubes leguminis rigida.*

Dolichos pruriens Lin.

Cowhage; the rigid down of the pod.

The dolichos is a plant growing in great abundance in warm climates, particularly in the Weſt-india iſlands; and there it is very troubleſome to cattle and other domeſtic animals. For on account of the ſpiculæ of the ſeed bag, it excites, when touched, a very uneaſy itching. Theſe ſpiculæ have been long uſed in Southamerica, in caſes of worms; and have of late been frequently employed in Britain. The ſpiculæ of one pod mixed with ſyrup or molaſſes, and taken in the morning faſting, is a doſe for an adult. The worms are ſaid to appear with the ſecond or third doſe; and by means of a purge in ſome caſes the ſtools are ſaid to have conſiſted almoſt entirely of worms. Thoſe who have uſed it moſt, particularly Dr. Bancroft and Dr. Cochrane, affirm that they have never ſeen any inconvenience reſulting from the internal uſe of it, notwithſtanding the great uneaſineſs it occaſions on the ſlighteſt touch to any part of the ſurface.

DORONICUM GERMANICUM. See ARNICA.

DULCAMARA [*Ed.*] *Stipites.*

Solanum Dulcamara Lin.

Bitter ſweet, or woody nightſhade; the ſtalks.

This plant grows wild in moiſt hedges, and climbs on the buſhes with woody brittle ſtalks. The taſte 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. The dulcamara was formerly much eſteemed as as a powerful medicine. It is in general ſaid to occaſion ſome conſiderable evacuation by ſweat, urine, or ſtool, particularly the latter. It has been recommended as a diſcutient and reſolvent medicine; and it has been ſaid to be attended with good effects in obſtinate cutaneous diſeaſes of the herpetic kind. It has alſo been uſed, and ſometimes with advantage, in caſes of rheumatiſm, jaundice, and obſtructed menſtruation. It has principally been employed under the form of watery infuſion, ſometimes under that of extract.

EBULUS

EBULUS [*Suec.*] *Radix. folia, baccæ.*

Sambucus: Ebulus Lin.

Dwarf elder; the root leaves, and berries.

This plant grows wild in ſome counties of England; but about London it is rarely met with, unleſs in gardens; the eye diſtinguiſhes little difference between it and the elder tree except in the ſize; 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 ſmell: They are all ſtrong cathartics, and as ſuch are recommended in dropſies, and other caſes where medicines of that kind are indicated. The bark of the root is ſaid to be ſtrongeſt; the leaves the weakeſt. But they are both too draſtic medicines for general uſe: They ſometimes evacuate violently upwards, almoſt always nauſeate the ſtomach, and occaſion great uneaſineſs of the bowels. By boiling, they become like other draſtics, milder, and more ſafe in operation. Fernelius relates, that by long coction they entirely loſe their purgative virtue. The berries of this plant are likewiſe purgative, but leſs virulent than the other parts. A rob prepared from them may be given, even to the quantity of an ounce, as a cathartic; and in ſmaller ones as an aperient and deobſtruent in chronic diſorders: With this laſt intention, it is ſaid by Haller to be frequently uſed in Switzerland, in the doſe of a drachm.

ELATERIUM. See CUCUMIS AGRESTIS.

ELEMI [*Lond.*] *Reſina.*

Amyris elemifera Lin.

Gum elemi.

This is a reſin brought from the Spaniſh Weſtindies, and ſometimes from the Eaſtindies, in long roundiſh cakes, generally wrapped up in flag leaves. The beſt ſort is ſoftiſh, ſomewhat tranſparent, of a pale whitiſh yellow colour, inclining a little to green, of a ſtrong, not unpleaſant, ſmell. It almoſt totally diſſolves in pure ſpirit, and ſends over ſome part of its fragrance along with this menſtruum in diſtillation: Diſtilled with water, it yields a conſiderable quantity of pale coloured, thin, fragrant eſſential oil. This reſin gives name to one of the officinal ointments, and it is at preſent ſcarcely any otherwiſe uſed; though it is certainly preferable for internal purpoſes to ſome others which are held in greater eſteem.

ELEUTHERIA. See CASCARILLA.

ENDIVIA [*Brun.*] *Semen.*

Cichoreum Endivia Lin.

Endive; the ſeed.

Endive is raiſed in gardens for culinary uſe. It is a gentle cooler and aperient, nearly of the ſame quality with the *cichoreum*.

ENULA CAMPANA [*Lond.*] *Radix.*

HELENIUM [*Ed.*] *Radix.*

Inula Helenium Lin.

Elecampane; the root.

This is a very large downy plant, ſometimes 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 ſomewhat rancid; in a little time it diſcovers an aromatic bitterneſs,

terneſs, which by degrees becomes conſiderably acrid and pungent. Elecampane root is principally recommended for promoting expectoration in humoral aſthmas and coughs: Liberally taken, it is ſaid to excite urine, and looſen 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 viſcera in general. Spirituous liquors extract its virtues in greater perfection than watery ones: The former ſcarcely elevate any thing in diſtillation; with the latter an eſſential oil ariſes, which concretes into white flakes; this poſſeſſes at firſt the flavour of the elecampane, but is very apt to loſe it in keeping. An extract made with water poſſeſſes the bitterneſs and pungency of the root, but in a leſs degree than one made with ſpirit.

ERUCA [*Brun.*] *Semen.*
Braſſica Eruca Lin.
Rocket; the ſeeds.

This was formerly much cultivated in gardens for medicinal uſe, and for ſallads; 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 celebrated as aphrodiſiacs; and may, probably, have in ſome caſes a title to this virtue, in common with other acrid plants.

ERYNGIUM [*Lond.*] *Radix.*
Eryngium maritimum Lin.
Eryngo; the root.

This plant grows plentifully on ſome of our ſandy 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 aromatick warmth and acrimony. They are accounted aperient and diuretic, and have alſo been celebrated as aphrodiſiac; their virtues, however, are too weak to admit them under the head of medicines.

EUPATORIUM [*Brun.*] *Herba.*
Eupatorium cannabinum Lin.
Hemp agrimony; the plant.

This plant is found wild by the ſides of rivers and ditches. It has an acrid ſmell, and a very bitter taſte, with a conſiderable ſhare of pungency. The leaves are much recommended for ſtrengthening the tone of the viſcera, and as an aperient; and are ſaid to have excellent effects in the dropſy, jaundice, cachexies, and ſcorbutic diſorders. Boerhaave informs us, that this is the common medicine of the turf diggers 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: But it is not uſed in Britain, and has no place in our pharmacopœias.

EUPHORBIUM [*Suec.*] *Gummi reſina.*
Euphorbia officinarum Lin.
Euphorbium.

This gummi reſinous ſubſtance is a ſpontaneous exudation from a large oriental tree. It is brought to us immediately from Barbary, in drops of an irregular form; ſome of which on being broken are found to contain little thorns, ſmall twigs, flowers, and other vegetable matters; others are hollow

hollow, without any thing in their cavity: The tears in general are of a pale yellow colour externally, but somewhat white within: They break easily between the fingers. Lightly applied to the tongue, they affect it with a very sharp biting taste; and, on being held for sometime in the mouth, they 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 of this substance is so great as to render it unfit for any internal use: Several correctors have been contrived to abate its virulence; but the best of them are not to be trusted: And as there seems to be no real occasion for it, unless for some external purposes, we think, with Hoffman and others, that it ought to be expunged from the catalogue of internal medicines. And accordingly it has now no place in the London or Edinburgh pharmacopœias; but is still retained in most of the foreign ones, and is sometimes used as a sternutatory.

EUPHRASIA [*Brun.*] *Folia.*
Euphrasia officinarum Lin.
Eye bright; the leaves.

This is a very low plant, growing wild in moist fields. It was formerly celebrated as an ophthalmic, both taken internally and applied externally. Hildanus says, he has known old men of seventy, who had lost their sight, recover it again by the use of this herb: Later practitioners, however, have not been so happy as to observe any such good effects from it. At present it is totally, and not unjustly, disregarded.

FABA [*Ross.*] *Semen.*
Vicia Faba Lin.
Beans: the seed.

Beans are of greater use for culinary than medical purposes; they are a strong flatulent food, sufficiently nutritious, but not easy of digestion, especially when grown old. A water distilled from the flowers has been celebrated as a cosmetic, and still retains its character among some female artists.

FERRUM [*Lond. Edin.*]
Limatura, Squamæ, Rubigo, Limatura Saccharata vulgo *Mars Saccharatus: Ferrum vitriolatum.*
Iron.

Iron cemented with animal or vegetable coal, forms steel.

Steel is accounted less proper for medicinal use than the softer iron, as being more difficulty acted on 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 easily.

The general virtues of these metals, and several preparations of them, are, to constringe the fibres, to quicken the circulation, to promote deficient secretions, and at the same time repress inordinate discharges into the intestinal tube. By the use of them, the pulse is very sensibly raised; the colour of the face, though pale before, changes to a florid red; the alvine, urinary, and cuticular excretions, are increased. Nidorous eructions, and the fæces voided being of a black colour, are marks of the medicine 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 pro-

duce

duce 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, or a diarrhœa; while thoſe called aperient frequently ſtop theſe evacuations.

Where either preternatural diſcharge, or ſuppreſſion of natural ſecretions, proceeds from a languor, this metal will ſuppreſs the flux, or remove the ſuppreſſion; but where the circulation is already too quick, and the ſolids too tenſe and rigid, or where there is any ſtricture or ſpaſmodic contraction of the veſſels; iron, and all the preparations of it will aggravate the ſymptoms.

Though the different preparations of iron act all in the ſame 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 ſerviceable than the moſt elaborate preparation of them. On the other hand, where there is no acid in the primæ viæ, the metal ought to be diſſolved in ſome ſaline menſtruum; 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 ſcarcely 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, ſo as to leave the iron reduced to an inactive calx.

Chalybeate medicines are likewiſe ſuppoſed to differ, independently 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, it acts in the firſt paſſages as a powerful aperient; while the nitrous renders it extremely ſtyptic, and the muriatic ſtill more ſo. The different preparations of iron will be more particularly mentioned afterwards.

Iron is the only metal which ſeems naturally friendly to the animal body.

Its chief preparations are the prepared filings and ruſt, the tincture, the ſalt, and the martial flowers, or *ferrum ammoniacale*; and theſe are uſed principally in caſes of weakneſs and relaxation, whether attended with morbid diſcharges, or morbid ſuppreſſions.

FILIX [*Lond. Ed.*] *Radix.*
Polypodium Filix mas Lin.
Common male fern; the root.

Several ſpecies of the fern root had formerly a place in the materia medica, and the preſent article ſeems to have been employed at leaſt as early as the days of Dioſcorides, for the purpoſe for which it is now uſed in medicine. It was however entirely neglected, till ſome years ago, a remedy employed by Madame Nouſer of Switzerland for the cure of the tænia, claimed the attention of the practitioners of France. Her ſecret, after being tried at Paris under the direction of ſome of the moſt eminent phyſicians, was purchaſed by the French king, and afterwards publiſhed. Since that time, the filix mas has been introduced into the pharmacopœias both of the London and Edinburgh colleges.

The filix mas is a vegetable growing in great abundance in almoſt

almoſt every part of Britain where the ground is not cultivated. The greateſt part of the root lies horizontally, and has a number of appendages placed cloſe to each other in a vertical direction, while a number of ſmall fibres ſtrike downwards. The large root, together with its appendages, are to be reſerved for uſe. The two ends, however, are to be cut off, the one being too old and ſpongy, the other too new and green.

This root, under the form of powder, is found to be a very effectual cure for the tænia lata, or tape worm. It ſometimes alſo, although not with equal certainty, ſucceeds in the removal of the tænia cucurbitina, or gourd worm.

Two or three drachms of the powder are taken in the morning, no ſupper having been taken the night before. It generally creates a ſlight ſickneſs. A briſk cathartic with calomel is given a few hours after, which ſometimes brings off the tænia entire; if not, the ſame courſe muſt be followed at due intervals.

After being long kept in the ſhops, its activity is much diminiſhed. It ought therefore to be uſed as ſoon as it is taken out of the ground, being brought to a ſtate fit for reducing it to powder by drying it before the fire.

FLAMULA JOVIS [*Ed.*] *Folia, flores.*

Clematis recta Lin.

Upright virgin's bower; the leaves and flowers.

This article is introduced into but few of the modern pharmacopœias, and has never been much employed in Britain. As well as many other active articles, ſuppoſed to be of a poiſonous nature, it was ſome time ago recommended to the attention of practitioners by Dr. Stoerk of Vienna.

Its leaves and flowers are ſo acrid as to bliſter, Dr. Stoerk recommends it in venereal, cancerous and other cutaneous affections, in thoſe headachs, pains of the bones, and waſtings of the habit, the conſequences of lues venerea. Externally the powder is ſprinkled on the ulcers; the forms for internal uſe are the infuſion and extract.

FŒNICULUM DULCE [*Lond.*] *Semen* [*Ed.*] *Semen, Radix.*

Anethum Fœniculum Lin.

Sweet fennel; the ſeeds and root.

The ſeeds of fennel have an aromatic ſmell, and a moderately warm, pungent taſte, and a conſiderable degree of ſweetneſs. A ſimple water is prepared from them in the ſhops; they are ingredients in the compound ſpirit of juniper, and ſome other officinal compoſitions.

The root is far leſs warm, but has more of a ſweetiſh taſte than the ſeeds: Boerhaave ſays, that this root agrees in taſte, ſmell, and medical qualities, with the celebrated *ginſang* of the Chineſe; from which, however, it appears to be very conſiderably different.

The leaves of fennel are weaker than either the roots or ſeeds, and have very rarely been employed for any medicinal uſe.

FŒNUM GRÆCUM [*Lond. Ed.*] *Semen.*

Trigonella Fœnum græcum Lin.

Fenugreek; the ſeed.

This plant is cultivated chiefly in the ſouthern parts of France, Germany, and Italy; from whence the ſeeds are brought to us. They are of a yellowiſh colour, a rhomboidal figure, a diſagreeable ſtrong

ſmell

ſmell, and a mucilaginous taſte. Their principal uſe is in cataplaſms, fomentations, and the like, and in emollient glyſters. They entered the *oleum e mucilaginibus* of the ſhops; to which they communicate a conſiderable ſhare of their ſmell. But this formula is now rejected.

FORMICÆ CUM ACERVO [*Suec.*]

Formica rufa Lin.

Ants.

Theſe inſects are at preſent not employed by us in medicine, though formerly much celebrated for aphrodiſiac virtues. They enter the *aqua magnanimitatis*, and other compoſitions of foreign diſpenſatories. Theſe animals contain a truly acid juice, which they ſhed in ſmall drops on being irritated; by infuſing 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 ſcarcely any taſte, or at leaſt is not hot or pungent like the eſſential oils of vegetables.

In ſome of the foreign pharmacopœias, they are the baſis of an *oleum formicarum*, a *ſpiritus formicarum*, and a *ſpiritus formicarum acidus*.

FRAGA [*Suec.*] *Fructus recens, folia.*

Fragaria veſca Lin.

Strawberry; its leaves and fruit.

The leaves are ſomewhat ſtyptic and bitteriſh; and hence may be of ſervice in debility and laxity of the viſcera; and immoderate ſecretions, or a ſuppreſſion of the natural evacuations, depending thereon: They are recommended in hæmorrhagies and fluxes; and likewiſe as aperients, in ſuppreſſion 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 obſerves, that the urine of thoſe who eat liberally of this fruit, becomes impregnated with its fragrant ſmell.

FRAXINELLA, See DICTAMNUS ALBUS.

FRAXINUS [*Suec.*] *Cortex et ſemen.*

Fraxinus excelſior Lin.

The aſh tree; its bark and ſeeds.

The bark of this tree is moderately aſtringent, and as ſuch has ſometimes been uſed. It has alſo been propoſed as a ſubſtitute for the Peruvian bark in the cure of intermittents; but its efficacy is not confirmed by experience. The ſeeds, which are ſomewhat acrid, have been employed as aperients. There are ſo many other medicines more agreeable, and more efficacious for theſe intentions, that all the parts of the aſh tree have long been neglected.

FULIGO LIGNI [*Ed.*]

Wood ſoot.

This concrete is of a ſhining black colour, a diſagreeable ſmell, and an acrid, bitter, nauſeous taſte. Its chief uſe is in hyſteric and other nervous caſes, in which it is ſometimes given in conjunction with the fetid gums. Its virtues are extracted both by watery and ſpirituous liquors; each of which, if the ſoot be of a good kind, diſſolve about one ſixth. Soot is ſaid

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to differ greatly in quality according to the wood from which it is produced: The more resinous the wood, the more the soot abounds with bitter oily matter. On chemical analysis, it yields volatile and fixed alkali, empyreumatic oil, and earth.

FUMARIA [*Ed.*] *Fol.*
Fumaria officinalis Lin.
Fumitory, the leaves.

This is a common weed in shady cultivated grounds, producing spikes of purplish flowers. It is very juicy, of a bitter taste, without any remarkable smell. The medical effects of this herb are, to strengthen the tone of the bowels, gently loosen the belly and promote the urinary and other secretions. It is principally recommended in melancholic, scorbutic, and cutaneous disorders; for opening obstructions of the viscera, and promoting evacuations. Frederick Hoffman had a very high opinion of it as a purifier of the blood; and assures us, that for this purpose scarcely any plant exceeds it. Both watery and spirituous menstrua extract its virtues.

GALANGA MINOR [*Brun.*]
Radix.
Maranta Galanga Lin.
Galangal the root.

This root is brought from China, it comes to us in pieces scarcely an inch long, and not half so thick, full of joints, with several circular rings on the outside; of an aromatic smell, and a bitterish, hot, biting taste. Galangal is a warm stomachic bitter: It has been frequently prescribed in bitter infusions, but the flavour it gives is not agreeable.

GALBANUM [*Lond. Ed.*]
Gummi resina.
Bubon Galbanum Lin.
Galbanum; the gum.

This is the concrete juice of an African plant: as brought to us, it is semipellucid, soft, tenacious; of a strong, unpleasant, smell; and a bitterish warm taste: The bitter sort is in pale coloured masses, which on being opened, appear composed of clear white tears. Geoffroy relates, that a dark greenish oil is to be obtained from it by distillation, which, on repeated rectifications, becomes of an elegant sky blue colour. The purer sorts of galbanum are said to dissolve entirely in wine, vinegar, or water; but these liquors are only partial menstrua of it nor do spirit of wine or oils, prove more effectual in this respect: The best solvent is a mixture of two parts spirit of wine and one of water. Galbanum agrees in virtue with gum ammoniacum; but is generally accounted less efficacious in asthmas, and more so in hysterical complaints. It is an ingredient in the gum pills, the gum plaster, and some other officinal compositions.

GALLA [*Lond. Ed.*]
Cynipidis nidus.
Galls.

These are excrescences found upon the oak tree: They are produced by a kind of insect (the cynips) which wounds the young buds or branches, and deposites one of its eggs in the incision: Some of the juice of the tree exudes from the wound, and the callous edges of it increase to a tubercle which serves as a nest for the egg of the animal. After the egg is hatched the animal eats its way

way through; those galls which have no hole are found to have the insect remaining in them. The best galls come from Aleppo: they are not quite round and smooth like the other sorts, but have several tubercles on the surface. Galls have a very austere styptic taste without any smell: They are very strong astringents, and as such have been sometimes used both internally and externally, but are not much taken notice of by the present practice.

Some recommend an ointment of powdered galls and hogs lard as very effectual in certain painful states of hæmorrhoids; and it is alledged, that the internal use of galls has cured intermittents after Peruvian bark has failed. A mixture of galls with a bitter and aromatick has been proposed as a substitute for the bark.

GAMBOGIA [*Lond. Ed.*]

Gummi resina.

Gambog a Gutta Lin.

Gamboge; the gum resin.

Gamboge; a solid concrete juice, brought from the Eastindies in large cakes or rolls. The best sort is of a deep yellow or orange colour, breaks shining and free from dross. It has no smell, and very little taste, unless kept in the mouth for some time, when it impresses a slight sense of acrimony. It immediately communicates to spirit of wine a bright golden colour, which almost entirely dissolves it; Geoffroy says, except the sixth part. Alkaline salts enable water to act upon this substance powerfully as a menstruum: The solution made by their means is somewhat transparent of a deep blood red colour, and passes the filtre: The dulcified spirit of sal ammoniac readily and entirely dissolves it, and takes up a considerable quantity; and what is pretty remarkable, this solution mixes either with water or spirit, without growing turbid.

Gamboge evacuates powerfully both upwards and downwards; some condemn it as acting with too great violence, and occasioning dangerous hypercatharses; while others are of a contrary opinion. Geoffroy seems particularly fond of this medicine, and informs us, that he has frequently given, from two to four grains, without its proving at all emetic; that from four to eight grains, both vomits and purges without violence that its operation is soon over; and that if given in a liquid form, and sufficiently diluted, it does not need 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 along with *Calomel*. He nevertheless cautions against its use where the patients cannot easily bear vomiting.

It has been used in dropsy with cream of tartar or jalap, or both, to quicken their operation, It is also recommended by some to the extent of fifteen grains with an equal quantity of vegetable alkali in cases of the tape worm. This dose is ordered in the morning; and if the worm is not expelled in two or three hours, it is repeated even to the third time with safety and efficacy. It is asserted, that it has been given to this extent even in delicate habits.

This is said to be the remedy alluded to by Baron Van Swieten, which was employed by Dr. Herrenschward, and with him proved so successful in the removal of the tænia lata.

GENISTA [*Lond.*] *Cacumen, semen.* [*Ed.*] *Summitates.*
Spartium Scoparium Lin.
Broom: The tops and seed.

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 said to prove cathartic in decoction, and emetic in substance; though in some places, 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 drachm and a half; while the author above mentioned relates that he has given a decoction of two ounces of them as a gentle emetic.

An infusion of a drachm of well powdered and sifted broom seed for twelve hours, in a glass and a half of rich white wine, taken in the morning fasting, is recommended in an anonymous pamphlet as a sovereign remedy in dropsy. The patient is afterwards to walk or ride for an hour and an half, and then to swallow two ounces of olive oil. This method is to be repeated every second, or third day, till the cure be completed.

Broom ashes have been long recommended in dropsy, and are particularly celebrated by Dr. Sydenham. But the efficacy of this medicine depends entirely on the alkaline salt, and not in the smallest degree on the vegetable from which it is obtained by burning.

GENTIANA [*Lond. Ed.*] *Radix.*
Gentiana lutea Lin.
Gentian; the root.

This plant is found wild in some parts of England: But the dried roots are most commonly brought from Germany. 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 used in practice: In taste it is less exceptionable than most of the other substances of this class. Infusions of it, flavoured 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.

This useful bitter is not employed under the form of powder, as it loses its virtue considerably by drying, which is requisite for giving it that form.

A poisonous root was some years ago discovered among some of the gentian brought to London; the use of which occasioned violent disorders, and in some instances death. This is easily distinguishable by its being internally of a white colour, and void of bitterness. This poisonous simple seems to be the root of the aconitum; a plant with which Lobel informs us the inhabitants of some parts of the Alps used formerly to empoison darts.

GEOFFRŒA [*Ed.*] *Cortex.*
Geoffræa inermis Lin.
Cabbage tree; the bark.

The bark of this tree, which grows in the low savannahs of Jamaica, is of a grey colour externally, but black and furrowed on the inside. It has a mucilaginous and sweetish taste, and a disagreeable

disagreeable smell. It is given in cases of worms, in form of powder, decoction, syrup, and extract. The decoction is preferred; and is made by slowly boiling an ounce of the fresh dried bark in a quart of water, till it assume the colour of Maderia wine. This sweetened is the syrup; evaporated, it forms an extract. It commonly produces some sickness and purging: Sometimes violent effects, as vomiting, delirium, and fever. These last are said to be owing to an over dose, or to drinking cold water; and are relieved by the use of warm water, castor oil, or a vegetable acid. It should always be begun in small doses. When properly and cautiously administered, it is said to operate as a very powerful anthelmintic, particularly for the expulsion of the lumbrici, which are a very common cause of disease in the Westindia islands; and there it is very frequently employed. But it has hitherto been little used in Britain.

GINSENG [*Lond. Ed.*] *Radix.*

Panax quinquefolium Lin.

Ginseng; the root.

Ginseng is a small root; what is used in Britain is chiefly brought from North America; sometimes from China; but much more frequently the American ginseng is carried from Britain to China. Every root is an inch or two long, taper, finely striated, of a whitish or yellowish colour. It has a very sweet taste, accompanied with a slight bitterness and warmth.

The Chinese are said to have a very extraordinary opinion of the virtues of this root, and to consider it as an universal restorative in all decays, from age, intemperance, or disease. The great value there set upon it, has prevented its being exported thence into other countries, and its discovery in Northamerica is but of late date; so that among us it has hitherto been very rarely used; although, from what can be judged of it from the taste, it seems to deserve some regard, especially as it is now procurable in plenty.

GLADIOLUS. See IRIS PALUSTRIS.

GLYCYRRHIZA [*Lond. Ed.*] *Radix.*

Glycyrrhiza glabra Lin.

Liquorice; the root.

This is produced plentifully in all the countries of Europe: That which is the growth of our own is preferable to such as comes from abroad. The powder of liquorice usually sold is often mixed with flour, and perhaps too often with substances not quite so wholsome: The best sort is of a brownish yellow colour, the fine pale yellow being generally sophisticated, and it is of a very rich sweet taste, much more agreeable than that of the fresh root. Liquorice is almost the only sweet that quenches thirst; whence it is called by the Greeks *adipson*. Galen takes notice, that it was employed with this intention in hydropic cases, to prevent the necessity of drinking. Mr. Fuller, in his *Medicina Gymnastica*, recommends this root as a very useful pectoral, and says it excellently softens acrimonious humours, at the same time that it proves gently detergent: And this account is warranted by experience. It

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is an ingredient in several compounds. 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 such as is made with proper care among ourselves.

GRAMEN [*Succ.*] *Radix.*
Triticum repens 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 sweetning the blood.

GRANA PARADISI [*Brun.*] *Fructus.*
Amomum Granum paradisi Lin.
Grains of paradise.

The fruit known by this name is brought from the Eastindies. It is about the size 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 considerably 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 cardamoms does, but in the resin extracted by spirit of wine.

GRANATUM [*Lond.*] *Floris petalum*, Balaustium *actum*, *Fructus Cortex.*

GRANATA MALUS [*Ed.*] *Cortex fructus, Flores pleni* Balaustia *dicti.*
Punica Granatum Lin.
Pomegranate; the flowers called *balaustine*, and rind of the fruit.

The pomegranate is a low tree or rather shrub, growing wild in Italy and other countries in the south of Europe: It is sometimes met with in our gardens; but the fruit, for which it is chiefly valued, rarely comes to such perfection as in warmer climates. This fruit has the general qualities of the other sweet summer fruits, allaying heat, quenching thirst, and gently loosening the belly. The rind is a strong astringent, and as such is occasionally used. The flowers are of an elegant red colour, in appearance resembling a dried red rose. Their taste is bitterish and astringent. They are recommended in diarrhœas, dysenteries, and other cases where astringent medicines are proper.

GRATIOLA [*Lond. Ed.*] *Herba.*
Gratiola officinalis Lin.
Hedge Hyssop; the leaves.

This is a small plant, met with, among us, only in gardens. The leaves have a very bitter, disagreeable taste; an infusion of a handful of them when fresh, or a drachm when dried, is said to operate strongly as a cathartic. Kramer reports, that he has found the *root* of this plant a medicine similar in virtue to ipecacuanha.

This herb has been mentioned as useful in the venereal disease: And it has been highly extolled in maniacal cases.

GUAIACUM [*Lond. Ed.*] *Lignum cortex. gummi resina.*
Guaiacum officinale Lin.
Guaiacum; its wood, bark, and resin.

The guaiacum is a tree growing in

in the warmer parts of the Spaniſh Weſtindies.

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, or variegated with black, green, pale, and brown colours: The bark is thin, ſmooth, externally of a dark greyiſh hue: Both have a ſlightly aromatic bitteriſh pungent taſte; the bark is ſomewhat the weakeſt. The reſin which exudes from inciſions made in the trunk of the tree is brought to us in irregular maſſes, uſually friable, of a duſky greeniſh, and ſometimes of a reddiſh caſt, with pieces of the wood among them: Its taſte 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 viſcera; and remarkably promote the urinary and cuticular diſcharges; hence in cutaneous deſedations, and other diſorders proceeding from obſtructions of the excretory glands, they are eminently uſeful: Rheumatic and other pains have often been relieved by them. The reſin is the moſt active part, and the efficacy of the wood and bark depends on the quantity of the reſin contained in them: The reſin is extracted from the wood in part by watery liquors, but much more perfectly by ſpirituous ones; the reſin is given from a few grains to a ſcruple, or half a drachm, which laſt doſe proves for the moſt part conſiderably purgative. The officinal preparations of guaiacum are a ſolution of the gum in rectified ſpirit of wine, and a ſolution in volatile ſpirit.

Guaiacum in decoction has been ſaid to cure the venereal diſeaſe; and in this country it is frequently uſed as an adjuvant to mercury. The reſin diſſolved in rum, or combined with water, by means of mucilage or the yolk of an egg, or in the form of the volatile tincture or elixir, is much employed in gout and chronic rheumatiſm. The tincture has been given to the extent of half an ounce twice a day, and is ſometimes uſefully combined with laudanum.

GUMMI AMMONIACUM. See AMMONIACUM.

GUMMI ARABICUM. See ARABICA.

GUMMI ELEMI. See ELEMI.

GUMMI TRAGACANTHA. See TRAGACANTHA.

GUTTA GAMBA. See GAMBOGIA.

HÆMATITES *Lapis* [*Brun.*] Hæmatites, or bloodſtone.

This is an elegant iron ore, extremely hard, of a dark reddiſh or yellowiſh colour: It is found either along with other ores of iron, or in diſtinct mines by itſelf. Its medical virtues do not vary from thoſe of ruſt, and the common croci of iron, notwithſtanding the extraordinary opinion which many have entertained of it; ſuch as its curing ulcers of the lungs, which Geoffroy lays the hæmatites dries and heals.

HÆMATOXYLUM [*Lond.*] *lignum, vulgo lignum campechianum.*
LIGNUM CAMPECHENSE ſive HÆMATOXYLUM [*Edin.*] *lignum.*

Hæmatoxylum

Hæmatoxylum campechianum Lin.

Logwood or Campeachy wood.

This wood is brought chiefly from Campeachy in the bay of Honduras. It is usually in large logs, very compact and hard, of a red colour, and an astringent sweet taste. It has been for a long time used by the dyers, but not till lately as a medicine; a decoction of it, and the extract, are used in our hospitals, and are said to have proved very serviceable in diarrhœa. It frequently tinges the stools, and sometimes the urine. The extract is now received into the shops; and it is found to be a very useful astringent.

HEDERA ARBOREA

[*Brun.*] *Folia, resina.*

Hedera Helix Lin.

Ivy; the leaves and resin.

This is a climbing shrubby plant, growing commonly on the trunks of trees, or on old walls. The leaves have rarely been given internally; notwithstanding they are strongly recommended against the atrophy of children; their taste is nauseous, acrid, and bitter. Externally, they have sometimes been employed for drying and healing ichorous sores, and for keeping issues open. The berries were supposed by the antients 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 in vinegar with good success, as a sudorific. It is probable the virtue of the composition was rather owing to the vinegar than to the powder. The resin was ranked by the antients (if their *dakruon tou kissu* was the same with our *gummi hederæ*) among the depilatories.

HEDREA TERRESTRIS

[*Ed.*] *Herba.*

Glechoma hederacea Lin.

Ground ivy; the leaves.

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: It was extolled for cleansing and healing ulcers of the internal parts, even of the lungs; and for purifying the blood. It is customary to infuse the dried leaves in malt liquors; a practice not to be commended, though it readily communicates its virtues to them and helps to fine them down: Scarce any other herb has this effect more remarkably than ground ivy.

HELLENIUM, See ENULA CAMPANA.

HELLEBORASTER [*Lond.*]

Folium.

Helleborus fœtidus Lin.

Bears foot; the leaves.

The leaves of this plant, taken in several different forms, have been recommended as a very powerful anthelmintic. They are particularly extolled by Dr. Bisset in his Essay on the Medical Constitution of Great-britain, especially under the form of syrup made by moistening the leaves of the fresh herb in vinegar, and then pressing out their juice, which is formed into a syrup with coarse sugar. Of this syrup, Dr. Bisset gave to children from two to six years

years of age, one tea ſpoonful at bed time and another in the morning, for two or three days ſucceſſively. The doſe was increaſed or diminiſhed, according to the ſtrength of the patient. And in this way he found it very ſucceſsful in the expulſion of lumbrici.

Where the helleboraſter is to be employed, this form is perhaps the beſt, and it may ſucceed where others have failed: But it ſhould not be employed till ſafer anthelmintics have been tried in vain: For the imprudent adminiſtration of it has been ſometimes attended with fatal conſequences.

HELLEBORUS ALBUS

[*Lond.*] *Radix.*

VERATRUM [*Ed.*] *Helleborus albus; Radix.*

Veratrum album Lin.

White hellebore the root.

This plant grows ſpontaneouſly in Switzerland and the mountainous parts of Germany. The root has a nauſeous, bitteriſh, acrid taſte, burning the mouth and fauces: If wounded when freſh, it emits an extremely acrimonious juice, which mixed with the blood, by a wound, is ſaid to prove very dangerous: The powder of the dry root, applied to an iſſue, occaſions violent purging; ſnuffed up the noſe it proves a ſtrong, and not always a ſafe ſternutatory. Taken internally it acts with extreme violence as an emetic; and has been obſerved, even in a ſmall doſe, to occaſion convulſions, and other terrible diſorders. The antients ſometimes employed it in very obſtinate caſes, and always made it their laſt reſource. Modern practice ſeems to have almoſt entirely rejected its internal uſe, though ſome practitioners have lately ventured on ſo large a doſe as a ſcruple in maniacal caſes, and have found good effects from it after the ſtronger antimonial preparations had been given in vain. A tincture and honey of it were formerly kept in the ſhops, but are now rejected from the London pharmacopœia. The former is ſtill retained by the Edinburgh college, but is very rarely, if ever, uſed.

HELLEBORUS NIGER

[*Lond.*] *Radix.*

MELAMPODIUM [*Edin.*]. *Radix.*

Helleborus niger Lin.

Black hellebore, or melampodium; the roots.

This plant grows wild in the mountainous parts of Switzerland, and Auſtria: The earlineſs of its flowers, which ſometimes appear in December, has gained it a place in our gardens.

In ſome parts of Germany, a ſpecies of black hellebore has been uſed, which frequently produced violent, and ſometimes 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 *Helleboraſter* above deſcribed, whoſe roots are paler than thoſe of the black hellebore. The roots of the poiſonous aconites reſemble in appearance thoſe of the black hellebore; and in the Breſlaw collections we find ſome inſtances of fatal effects occaſioned by miſtaking the one for the other: Theſe alſo are happily diſtinguiſhable by their colour; the *aconitum* being lighter coloured than even the paleſt of the black hellebores.

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The taſte 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 ſeems 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 iſſue. Black hellebore root, taken in doſes of from fifteen grains to half a drachm, proves a ſtrong cathartic; and as ſuch has been celebrated for the cure of maniacal, and other diſorders proceeding from what the antients called *atra bilis*. It does not however appear, that our black hellebore acts with ſo much violence as that of the antients: Whence many have ſuppoſed it to be a different plant; and indeed the deſcriptions which the antients have left us of their hellebore, do not agree with any of the ſorts uſually noticed 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 he ſuppoſes it to be the true antient hellebore, from its growing about mount Olympus, and in the iſland of Anticyra, celebrated of old for the production of this antimaniaca drug: He relates, that a ſcruple of this ſort, given for a doſe, occaſioned convulſions.

Our hellebore is at preſent principally conſidered as an alterative; and is frequently employed, in ſmall doſes, for promoting the uterine and urinary diſcharges, and opening inveterate obſtructions of the 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, operating ſufficiently, without occaſioning the irritation which the pure reſin does. A tincture drawn with proof ſpirit contains the whole virtue of the hellebore, and ſeems to be one of the beſt preparations of it when deſigned for an alterative: This tincture and the extract, are kept in the ſhops.

The melampodium is the baſis of Becher's tonic pills for the dropſy. The root is ordered to be macerated in rectified ſpirit of wine, the liquor expreſſed is repeatedly mixed with water and duly evaporated. This is made up into pills with an extract of myrrh and powder of carduus benedictus. They are ſaid to be cathartic and diuretic, and at the ſame time tonic.

HERMODACTYLUS [*Brun.*]
Radix.

Iris tuberoſa Lin.

Hermodactil.

This is 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 ſlight degree of acrimony.

Hermodactils were of great repute among the antients 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.

HIPPOCASTANUM [*Ed.*]
Fructus.

Æſculus

Æsculus Hippocastanum Lin.

Horse chesnut; the fruit.

This fruit has been used as food for sheep and poultry, and as sope for washing. It was much employed in powder as a sternutatory by an itinerant oculist, and has been recommended by some others in certain states of ophthalmia, headach, &c. in which errhines are indicated.

Its effects as a sternutatory may also be obtained by using it under the form of infusion or decoction drawn up into the nostrils. It is entirely with a view to its errhine power that it is now introduced into the pharmacopœia of the Edinburgh college. The bark has also been represented as a cure for intermittent fevers; and it is probably with this intention that this part of the hippocastanum is introduced as an officinal article into the Pharmacopœia Rossica.

HORDEUM [*Lond. Ed.*] *Semen, omni cortici nudatum.*

Hordeum distichon Lin.

Barley, and pearl barley.

Barley is a well known farinaceous grain. Pearl barley is prepared by grinding the shell 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 antients, decoctions of it were the principal aliment and medicine in acute diseases. Both a simple and compound decoction of barley are introduced into our pharmacopœias.

HORMINUM SATIVUM [*Brun.*] *Herba.*

Horminum Salvia Lin.

Garden clary; the leaves and seeds.

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 female weaknesses, in hysteric disorders, and in flatulent colics.

HYDRARGYRUS, sive ARGENTUM VIVUM. [*Lond. Ed.*]

Mercury, or quicksilver.

Mercury is an opake silver coloured mineral fluid; appearing to the eye like tin or lead when melted: It is 15 times heavier than water; it remains fluid in great degrees of cold, and congeals at 40 degrees below 0 of Farenheit's scale. 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 considerable mines of it in Hungary and Spain. What is employed in Britain comes chiefly from Hungary.

The use of mercury in medicine seems to have been little known before the fifteenth century. The antients considered it as a corrosive poison, though of itself perfectly void of acrimony, taste, and smell: 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 intestines unchanged, and has not been found to produce any considerable effect. It has indeed been recommended in asthmas and

diſorders 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; yet when reſolved by fire into the form of fume, or otherwiſe divided into very minute particles and prevented from reuniting by the interpoſition of proper ſubſtances, or when it is 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, ſeem to forward circulation through even the minuteſt and moſt remote veſſels of the body; and may be ſo managed as to promote all the excretions through the emunctories. Hence their common uſe in inveterate chronic diſorders, and obſtinate obſtructions of the excretory glands; in cutaneous diſeaſes; and in the venereal lues. If their power be not reſtrained to certain emunctories, they tend chiefly to affect the mouth; and occaſion a plentiful evacuation from the ſalival glands.

The ſalutary effects of mercurials do not depend on the quantity of ſenſible evacuation. This medicine may be gradually introduced into the habit, ſo as, without occaſioning any remarkable diſcharge, to be productive of very happy effects. To anſwer this purpoſe, it ſhould be given in very ſmall doſes, in conjunction with ſuch ſubſtances as determine its action to the kidneys or the pores of the ſkin. By this method inveterate cutaneous and venereal diſtempers have been cured, without any other ſenſible excretion than a gentle increaſe of perſpiration or urine. Ulcers which diſcharge for ſome time a very fetid matter, diſcharge gradually leſs, and at length kindly heal, by a long continued uſe of mercury. If the mercury ſhould at any time, from cold, or the like, affect the mouth, it may be reſtrained by omitting a doſe, and by warm or ſuitable medicines promoting the perſpiration. Cooling purgatives are alſo often employed with advantage; but perhaps the moſt effectual means of giving with ſafety a ſudden check to a mercurial ſalivation is by the application of a large bliſter to the back.

Mercury, as uſed in medicine, has been employed in a very great variety of forms. Of the preparations directed by the London and Edinburgh colleges, we ſhall afterwards treat in particular: But to give a full and comprehenſive view of them we ſhall here ſubjoin Dr. Black's table, in which they are ſyſtematically arranged.

Quickſilver is prepared for medical purpoſes.

I. By diſtillation, in order to procure it pure.

Hydrargyrus purificatus. Lond.

II. By triture, that it may be exquiſitely divided.

Pilulæ Hydrargyri. Ed. et Lond.
Hydrargyrus cum creta. Lond.
Emplaſtrum Hydrargyri, ſive ex. rot Ed.
Emplaſtrum Lithargyri cum Hydrargyro. Lond.

Emplaſtrum

Emplaſtrum Ammoniaci cum Hydrargyro. Lond.
Unguentum Hydrargyri, ſive cæruli. Ed.
Unguentum Hydrargyri fortius et mitius. Lond.

III. By calcination, or the joint action of heat and air.

Hydrargyrus calcinatus.
Vulgo, *Mercurius præcipitatus per ſe.*

IV. By the action of ſaline ſubſtances.

1. With the Vitriolic acid.

Hydrargyrus vitriolatus flavus, vulgo Turpethum minerale. Ed.
Hydrargyrus vitriolatus. Lond.

2. With the Nitrous acid.

Unguentum Hydrargyri nitrati. Ed. et Lond.
Hydrargyrus nitratus ruber. Ed. et Lond.

3. With the Muriatic acid.

Hydrargyrus muriatus corroſivus. Ed.
Hydrargyrus muriatus. Lond.
Hydrargyrus muriatus mitis. Ed.
Calomelas. Lond.
Hydrargyrus muriatus præcipitatus. Ed.
Hydrargyrus muriatus mitis, Lond.

4. With the Acetous acid or Vinegar.

Hydrargyrus acetatus. Ed. et Lond.
Pilulæ Keyſeri.

5. Precipitated by means of alkalies from its ſolution in acids.

Hydrargyrus præcipitatus cinereus. Ed.
Mercurius præcipitatus fuſcus.
Calx hydrargyri alba. Lond.
Unguentum Calcis Hydrargyri albæ. Lond.

V. Combined with Sulphur.

Hydrargyrus ſulphuratus niger. Ed.
Hydrargyrus cum Sulphure. Lond.
Hydrargyrus ſulphuratus ruber. Lond.
Pilulæ Hydrargyri muriati mitis, ſive Calomelanos, compoſitæ. Ed.

Notwithſtanding this great number of mercurial preparations, which however is ſmall when compared with thoſe in ſome of the foreign pharmacopœias, or in our own old ones, every uſeful purpoſe to be anſwered by mercury may be obtained from a very few. The mercurial preparations in general, may be divided into two great claſſes, the mild and acrid. Every purpoſe to be anſwered by the former, may be accompliſhed by the *Unguentum hydrargyri* and *Pilulæ hydrargyri* of the London and Edinburgh pharmacopœias; while the effects to be obtained from the latter may be derived from Calomel and Corroſive Sublimate Mercury.

The marks of pure mercury are, its globules not loſing their ſpherical figure when poured on wood; its not communicating a tinge to water, or ſweetneſs to vinegar, when rubbed with them; its evaporating entirely in an iron ſpoon over the fire; and its having a ſhining appearance without any pellicle on its ſurface. Mercury is beſt purified by diſtillation in an iron pot, with a long neck whoſe end is immerſed in water.

Quickſilver has ſometimes been uſed in its pure metallic ſtate, with a view of removing obſtruction in the alimentary canal, from an idea that it would operate by its weight. But it is ſeldom attended

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ed with good effects, and sometimes it does harm.

An immense number of volumes have been written respecting its operation and use in different diseases, and particularly in venereal affections. Some authors refer its operation to an evacuant power, others to its operating as a peculiar stimulus, and others to its possessing a power of destroying or neutralising the venereal virus. Of these opinions, the last is the most generally received, and perhaps the best founded.

In virulent gonorrhœa, it is doubted whether mercury be necessary. This disease is commonly treated like any similar inflammation; and the chief things attended to are cleanliness of the parts, a regular belly, and an abstinence from every thing stimulant in food, drink, &c. An injection of oil with calomel, or white precipitate, is much used, and some prefer a watery solution of opium. The more active injections have sometimes very disagreeable consequences.

When the constitution is affected, which is known by ulcers on the glans, buboes, ulcers in the mouth or throat, copper coloured spots and ulcers on the surface, nodes, &c. mercury is thrown into the body either by friction or by the mouth. The general rule is, to keep up a slight soreness of the gums for some short time after the symptoms disappear; at the same time it is to be remembered, that mercury sometimes continues gleets, and induces ulcers, that are difficultly distinguished from venereal ones; and that these last only yield to warm bathing, diaphoretick diluents, opiates, country air, and milk diet. Corrosive sublimate is sometime used, as more speedily arresting disagreeable, spreading, or dangerous ulcers; but the completion of the cure should always be trusted to the mild preparations alone. Mercury is also used in rabies, canina, in worms, in hydrocephalus internus, in tetanus, and is considered as an antidote to the variolous matter.

HYDROLAPATHUM [*Ed.*] *Radix.*

Rumex aquaticus Lin.

Water dock; the root.

The leaves of this dock gently loosen the belly, and have sometimes entered decoctions for removing a costive habit. The roots manifest to the taste a considerable astringency; they form an ink with iron, and are celebrated for the cure of scorbutic and cutaneous disorders, either exhibited internally, or applied externally in ointments, cataplasms, lotions, and fomentations. Muntingius published a treatise on this plant in 1681, in which he endeavours to prove, that our great water dock is the *herba Britannica* of the antients. He therefore ascribes to the hydrolapathum all the virtues attributed to the *Herba Britannica*, particularly recommending it against scurvy and all its symptoms.

HYOSCYAMUS [*Ed.*] *Herba, semen.*

Hyoscyamus niger Lin.

Common black henbane; the herb and seeds.

This vegetable grows in great abundance in most parts of Britain: It has long been considered as one of the most deleterious poisons; but it nevertheless proves on many occasions a very useful medicine. The London college have

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given it no place in their liſt, and yet ſome of the London practitioners mention it as a remedy which they frequently employ with much benefit.

The ſmell of the hyoſcyamus is ſtrong and peculiar; and the leaves when bruiſed ſmell like tobacco. This ſmell is ſtill ſtronger when the leaves are burnt; and on burning they ſparkle with a deflagration, ſomewhat reſembling that of nitre; but to the taſte they ſhew no evident ſaline impregnation. When chewed, they are inſipid, mild, and mucilaginous; yet when taken to any great extent, they produce the moſt alarming effects. They give the appearances of intoxication, attended with delirium, remarkable dilatation of the pupils of the eyes, and convulſions. Hyoſcyamus often produces ſweat, and ſometimes an eruption of puſtules over the ſurface, and generally ſound ſleep, ſucceeded by ſerenity of mind and recruited vigour of the body: But like the other narcotics, it often gives riſe to vertigo, headach, and general uneaſineſs. It ſometimes occaſions vomiting, colic pains, a copious flow of urine, and purging. On the whole, like opium, it is a powerful anodyne; and like cicuta, it is free from any conſtipating effect, having rather a tendency to move the belly.

From theſe effects it is not ſurpriſing that hyoſcyamus ſhould have been introduced into the practice of medicine; and accordingly it appears to have been uſed both externally and internally for a variety of purpoſes. Several different ſpecies of the hyoſcyamus were formerly employed, as appears from the writings of Dioſcorides and others. Celſus, in particular, was very fond of this medicine; he uſed it externally as a collyrium, in caſes of ophthalmia: He employed it topically for allaying the pain of toothach; and he gave it internally, both with the view of mitigating other pains and of producing quiet ſleep.

For a conſiderable length of time, however, hyoſcyamus fell almoſt into diſuſe; but the employment of it has of late been revived by Dr. Stoerk of Vienna; and it has been uſed both by him, and by many other practitioners in thoſe caſes where an anodyne is requiſite, and where an objection occurs to the uſe of opium. It is employed for reſolving ſwelling, and allaying pain in caſes of ſcirrhus, under the form of cataplaſm of the leaves, or of a plaſter made from the oil of the ſeeds and powder of the herb, with wax, turpentine, and other articles; or of ointment made of the powder of the leaves with hog's lard. In open ulcers the powder of the leaves ſprinkled on the part has often a good effect.

An extract from the leaves or from the ſeeds is the form in which it is given internally; but, contrary to what happens with cicuta, the former appears to be the moſt powerful. This extract has been given with advantage in a variety of nervous affections, as mania, melancholia, epilepſy, hyſteria, &c. in glandular ſwellings, in obſtinate ulcerations; and in every caſe where it is neceſſary either to allay inordinate action or mitigate pain. In accompliſhing theſe ends, it is often no leſs uſeful than opium; and it frequently ſucceeds where opium produces very diſagreeable effects. The doſe of this extract muſt be accommodated to the circumſtances

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of the case and the patient; and it has been increased from half a grain to half a drachm in the day; for like opium, its influence is very much diminished by habit.

HYPERICUM [*Lond.*] *Flos.*
Hypericum perforatum Lin.
St. John's wort; the flowers.

This plant grows wild in woods and uncultivated places through Britain. Its taste is rough and bitterish, and its smell disagreeable. It abounds with an essential oil, which is contained in small vesicles in the growing plant. These vesicles, when viewed, by holding the plant between the eye and the light, resemble perforations; and the essential oil may be separated in considerable quantities by distillation. Hence there can be little doubt that it possesses active principles. At one period it was much employed and highly celebrated as a corroborant, diuretic, and vulnerary; particularly in hysterical and maniacal disorders. It was even reckoned of such efficacy as to have received the name of *fuga dæmonum*; but for these extraordinary virtues there is probably not much foundation; and of late it has been so much neglected as even to lead to its omission in the two last editions of the Edinburgh Pharmacopœia.

This plant, however, is probably not without activity; and it is remarkable that the flowery tops tinge expressed oils of a red colour, which very few vegetable substances do, and communicate a blood red to rectified spirit.

HYSSOPUS [*Ed.*] *Herba.*
Hyssopus officinalis Lin.
Hyssop; the herb.

The leaves of hyssop 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 are said to promote expectoration; but so little dependence is put upon any property of this kind that hyssop has now no place in the pharmacopœia of the London college.

JALAPIUM [*Lond.*] *Radix.*
JALAPA [*Cath.*] *Radix.*
Convolvulus jalapa Lin.
Jalap; the root.

Jalap is the root of an American plant, brought to us in thin transverse slices from Xalpa, a province of New Spain. The botanical characters of the vegetable which furnishes it are not absolutely ascertained; hence the London college have given it no Linnæan name. But in the opinion of the best botanists it belongs to the genus of convolvulus as stated by the Edinburgh College.

Such pieces should be chosen as are most compact, hard, weighty, dark coloured, and abound most with black circular streæ. Slices of bryony root are said to be sometimes mixed with jalap: These may be easily distinguished by their whiter colour, and less compact texture.

Jalap in substance, taken in a dose of about half a drachm (less or more, according to the circumstances of the patient) is an effectual, and in general a safe purgative, performing its office mildly, seldom occasioning nausea or gripes, which too frequently accompany the other strong cathartics. In hypochondriacal disorders, and hot bilious temperaments, it gripes violently, but rarely takes

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due effect as a purge. An extract made by water purges almost universally, but weakly; and at the same time has a considerable effect by urine: The root remaining after this process gripes violently. The pure resin, prepared by spirit of wine, occasions, if taken alone, most violent gripings, and other distressing symptoms, but scarcely proves at all cathartic: Triturated with sugar, or with almonds into the form of an emulsion, or dissolved in spirit and mixed with syrups, it purges plentifully in a small dose, without occasioning much disorder. The part of the jalap remaining after the separation of the resin, yields to water an extract, which has no effect as a cathartic, but operates powerfully by urine. The officinal preparations of Jalap are extracts made with water and spirit, a simple tincture and a compound powder.

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; and accordingly inoculators make much use of the tincture mixed with simple syrup. The compound powder is employed in dropsy, as a hydragogue purge; and where stimulus is not contraindicated, jalap is considered as a safe cathartic.

JAPONICA TERRA. See Catechu.

JASMINUM [*Brun.*] *Flos.*

Jasminum officinale Lin.

Jasmine; the flower.

This is a small tree, commonly planted in our gardens. The flowers have a strong agreeable smell; expressed oils extract their fragrance by infusion; and water elevates some of it in distillation, but no essential oil has hitherto been obtained from them: The distilled water kept for a little time, loses its odour. The medical virtues of these flowers are doubtful, although they have been recommended for promoting delivery, curing ulcerations of the uterus, &c.

ICHTHYOCOLLA [*Lond.*]

Ising glass, or fish glue.

This is a glutinous substance, obtained from different kinds of fish caught in the seas of Muscovy. The skin and some other parts of the animal are boiled in water, the decoction is inspissated to a proper consistence, and then poured out so as to form thin cakes; these are either farther exsiccated till perfectly dry, or cut while soft into slices, which are afterwards bent, or rolled up into spiral, horseshoe, and other shapes. This glue is more employed for mechanical purposes than in medicine. It may be given in the same manner as the vegetable gums and mucilages; regard being had to their different disposition to putrescence.

It is also sometimes employed externally, with a view to its action as a glue.

IMPERATORIA [*Ed.*] *Radix.*

Imperatoria Ostruthium Lin.

Masterwort; the root.

This is a native of the Alps and Pyrenean mountains, and some parts

parts of Germany, from whence we are ſupplied with roots ſuperiour in aromatic flavour to thoſe raiſed in our gardens. The odour of this root is very fragrant; its taſte bitteriſh, warm and pungent, glowing in the mouth for a long time after it has been chewed. Though undoubtedly an elegant aromatic, it is not regarded in the preſent practice; and accordingly it has no place in the London pharmacopœia.

IPECACUANHA [*Lond. Ed.*]
Radix.

Ipecacuanh; the root.

The vegetable from which this root is obtained is not with certainty determined, any more than that of jalap.

The root is brought from the Spaniſh Weſt Indies. It is divided into two ſorts, Peruvian and Brazilian: But the eye diſtinguiſhes three, aſh coloured or grey, brown, and white. The aſhcoloured, or Peruvian ipecacuanh of the ſhops, is a ſmall wrinkled root, bent and contorted into a great variety of figures, brought over in ſhort pieces full of wrinkles and deep circular fiſſures, quite down to a ſmall white woody fibre that runs in the middle of each piece: The cortical part is compact, brittle, looks ſmooth and reſinous upon breaking: It has very little ſmell; the taſte is bitteriſh and ſubacrid, 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 ſort is woody, has no wrinkles, and no perceptible bitterneſs in taſte. The firſt ſort, the aſhcoloured or grey, ipecacuanh, is that uſually preferred for medicinal uſe. The brown has been ſometimes obſerved, even in a ſmall doſe, to produce violent effects. The white, though taken in a large one, has ſcarcely any effect at all: Mr. Geoffroy calls this ſort baſtard ipecacuanh, and complains that it is an impoſition upon the public. Geoffroy, Neumann, Dale, and Sir Hans Sloane, inform us, that the roots of a kind of apocynum (dogs bane) are too frequently brought over inſtead of it; and inſtances are given of ill conſequences attending the uſe of theſe roots. If the marks above laid down particularly the aſhcolour, brittleneſs, deep wrinkles, and bitteriſh taſte, be carefully attended to, all miſtakes of this kind may be prevented.

Ipecacuanh was firſt brought into Europe about the middle of 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 with which we are acquainted; and has this peculiar advantage, that if it ſhould not operate by vomit, it paſſes off by the other emunctories. It was introduced among us with the character of an almoſt infallible remedy in dyſenteries, and other inveterate fluxes; in menorrhagia and leucorrhœa; and in diſorders proceeding from obſtructions of long ſtanding: Nor has it loſt its reputation by time. In dyſenteries, it almoſt always produces happy effects, and often performs a ſpeedy cure. In other fluxes

of

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 ſucceſsful: In theſe caſes it is neceſſary to continue its uſe for ſeveral days, and to join with it opiates, and diaphoretics. This root, given in ſubſtance, is as effectual, if not more ſo, than any of its preparations: The pure reſin acts as a ſtrong irritating emetic, but is of little ſervice in dyſenteries; while an extract prepared with water is almoſt of an equal ſervice in theſe caſes with the root itſelf, though it has little effect as an emetic. Geoffroy concludes from hence that the chief virtue of ipecacuanh in dyſenteries depends upon its gummy ſubſtance, which lining the inteſtines with a ſoft 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 reſinous part, in which the emetic quality reſides, 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, aſſiſted by a boiling heat, takes up from all vegetables a conſiderable portion of reſinous along with the gummy matter: If the ipecacuanh remaining after the action of water be digeſted with pure ſpirit, it will not yield half ſo much reſin as at firſt; ſo that the aqueous extract differs from the crude root only in degree, being proportionally leſs reſinous, and having leſs effect, both as an emetic, and in the cure of dyſenteries. The virtues of ipecacuanh, 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 healthy perſons, 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 ipecacuanh, if the patient after a puke or two be covered up warm, brings on a plentiful ſweat. After the removal of the dyſentery, it is neceſſary to continue the uſe of the medicine for ſome time longer, in order to prevent a relapſe; for this purpoſe, a few grains divided into ſeveral doſes, ſo as not to occaſion any ſenſible evacuation may be exhibited every day; by this means the cure is effectually eſtabliſhed. And indeed ſmall doſes given, even from the beginning, have better effect 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 to between ſix and ten grains; it has lately been found, that even ſmaller doſes prove ſufficiently emetic. The officinal preparations of this root are a tincture made in wine, which accordingly has now the appellation of *vinum ipecacuanhæ* and a powder formerly called *Dover's powder*, but now named *Pulvis Ipecacuanhæ compoſitus*, both in the London and Edinburgh pharmacopœias.

Many ingenious experiments have been made on the ſubject of ipecacuanh by Dr. Irvine, for which he obtained the prize medal of the

Harveian Society at Edinburgh for 1784. He has aſcertained, that this root contains a gummy reſinous matter; that the gummy exiſts in a much greater proportion than the reſinous part; that the gummy part is much more powerfully emetic than the reſinous; that the cortical is more active than the ligneous part; and that the whole root poſſeſſes conſiderable influence, both as an antiſceptic and aſtringent; that the diſtilled water has very little influence; but that the decoction which remained in the ſtill, operated violently as an emetic, produced rigours, cold ſweats, and other alarming ſymptoms; that by long continued boiling, the activity of the root is almoſt totally deſtroyed; that the emetic property of ipecacuanh was moſt effectually counteracted by means of the acetous acid; inſomuch that thirty grains of the powder taken in two ounces of vinegar, produced only ſome looſe ſtools.

Ipecacuanh, particularly in powder, is now advantageouſly employed in almoſt every diſeaſe in which full vomiting is indicated; and when combined with opium as in the *Pulvis ſudoriſicus*, it furniſhes us with a very uſeful and active ſweating medicine. It is alſo often given with advantage in very ſmall doſes, ſo as neither to operate by vomiting, purging nor ſweating.

The full doſe of the powder of ipecacuanh is a ſcruple, or half a drachm, and double that in form of watery infuſion. The full doſe is recommended in the paroxyſm of ſpaſmodic aſthma, and a doſe of three or four grains every morning in habitual aſthmatic indiſpoſition. A doſe of $\frac{1}{3}$ or $\frac{1}{2}$ grain rubbed with ſugar, and given every four hours or oftener is recommended in uterine hæmorrhagy, cough, pleuriſy, hæmoptoe, &c. and has often been found highly ſerviceable.

IRIS FLORENTINA. [*Lond. Ed.*] *Radix.*

Iris florentina Lin.

Florentine orris; the root.

Several varieties of iris are cultivated in our gardens on account of the elegance of their flowers; but the Florentine orris is what is chiefly employed for medicinal purpoſes. The roots, when recent, have a bitter, acrid, naufeous taſte, and when taken internally, prove ſtrongly cathartic; and hence the juice is recommended in dropſies, in the doſe of three or four ſcruples. By drying they loſe this quality, yet ſtill retain a ſomewhat pungent, bitteriſh taſte: Their odour 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 orris in perfumes, and for flavouring liquors; the ſhops employ it in the *Trochiſci amyli.*

IRIS PALUSTRIS. [*Ed.*] *Radix.*

Iris Pſeudacorus Lin.

Yellow water flag: The roots.

This plant grows in great abundance by the brinks of rivers, and in other watery places: The root has an acrid taſte; and when freſh is ſtrongly cathartic. The expreſſed juice, given to the quantity of ſixty or eighty drops every hour or two, and occaſionally increaſed has been productive of very copious evacuation, after jalap, gamboge, and other ſtrong purgatives

purgatives had proved ineffectual; and in this form only it is used; for by drying, it entirely loses its purgative effects. Although this article still retains a place in the Edinburgh pharmacopœia, and under proper management might probably furnish an useful medicine, yet it is at present very little employed.

JUGLANS [*Lond.*] *Fructus immaturus.*

Juglans regia Lin.

Walnut; the unripe fruit.

The kernel of the fruit is similar in quality to almonds: The shell is astringent: But neither of them is at present much employed in medicine among British practitioners, although it still retains a place in most of the foreign pharmacopœias, as well as in that of the London college.

JUJUBA [*Brun.*] *Baccæ.*

Rhamnus Zizyphus Lin.

Jujubes have a pleasant sweet taste. They are recommended in an acrimonious state of the fluids; in coughs from thin sharp defluxions; and in heat of urine; but they are at present, among us, a stranger in medicinal practice, and even in the shops.

JUNIPERUS [*Lond.*] *Bacca, cacumen.* [*Ed.*] *Baccæ.*

Juniperus communis Lin.

Juniper; the berry and top.

This is an evergreen shrub growing on heaths and hilly grounds in all parts of Europe: The wood and resin are not at present used for medicinal purposes: The berries are brought from Holland and from Italy. The Italian berries are in general reckoned the best.

Juniper berries have a strong, not disagreeable smell, and a warm pungent sweet taste, which if they are 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 flavour in oily vesicles, spread through the substance of the pulp and distinguishable even by the eye; and the bitter in the seed. 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.

The berries are good carminatives and stomachics, and are diuretic; for these purposes a compound spirit and essential oil distilled from them are kept in the shops: The liquor remaining after the distillation of the oil, passed through a strainer, and gently exhaled to the consistence of a rob, proves likewise a medicine of great utility, and in many cases is perhaps preferable to the oil or berry itself. Hoffman is expressly of this opinion, and strongly recommends it in debility of the stomach and intestines, and says it is particularly serviceable to old people who are subject to these disorders, or who labour under a difficulty with regard to the urinary excretion. This rob is of a dark brownish yellow colour, a balsamic sweet taste, with a little of the bitter, more or less according as the seeds in the berry have been more or less bruised. The best form under which they can be used, is that of a simple watery infusion. This, either by itself or with a small quantity of gin, is a very useful drink for hydropic patients. An infusion of the tops has also been advantageously employed in the same manner.

KERMES

KERMES [*Brun.*] *Grana fuccus.*

Coccus, quercus cocciferæ Lin.

Kermes; the grains.

These grains appear, when fresh, full of small reddish ovula, or animalcula, of which they are the nidus. On expression they yield a red juice, of a bitterish, somewhat rough and pungent taste, and not an unpleasant smell: This is brought to us from the south of France. The grains themselves are cured by sprinkling them with vinegar before exsiccation: This prevents the exclusion of the ova, and kills such of the animals as are already hatched; otherwise they change into a winged insect, leaving the grain an empty husk.

Kermes, considered as a medicine, is a grateful, mild astringent and corroborant. In this light it was considered by the Greeks: The Arabians added a cordial virtue: European writers also have in general recommended it for exhilirating the spirits, and against palpitations of the heart: It has also been particularly recommended, but without any good foundation, for promoting birth, and preventing abortion.

KINO [*Lond. Ed.*] *Gummi resina.*

Gummi rubrum astringens Gambienese. Obs. med. Lond.

Kino; the gum resin.

Kino was first recommended to the attention of medical practitioners by Dr. Fothergill, as being a very useful vegetable astringent; and in the hands of other practitioners it has been so far found to answer the character he gave of it, that it is now in very common use. It has a considerable resemblance to the catechu; but is of a much more resinous nature, and of a less firm texture: It is also redder and more astringent; its watery solution is more decomposable by acids, and its ink less permanent. Its colouring and astringent matter are more perfectly taken up by spirit than by water, though water readily enough extracts a considerable share of both. It is used as an astringent in diarrhœa, hæmorrhagies, &c. In proof spirit it forms an elegant tincture: And it is a principal ingredient in the *pulvis alum nis compositus*, and some other officinal compositions.

LAC [*Russ.*]

Milk.

Milk is a secretion peculiar to the females of the order of mammalia. It may be considered as a kind of emulsion, consisting of butter, cheese and whey; the whey containing a mucilaginous saccharine matter, which keeps the butter and cheese in union with its water; and it is from this sugary part that milk is subject to the vinous fermentation, as in the Russian Koumis, a vinous liquor made of mares milk, and recommended in phthisis and cases of weakness.

New milk mixes uniformly with common water, the mineral chalybeate waters, wines, and malt liquors that are not acid, weak vinous spirits, solutions of sugar, sopes, and neutral salts; but not with oils expressed or distilled. Acids both mineral and vegetable coagulate it; as also do fixed and volatile alkalies, and highly rectified spirit of wine: The curd made with acids is in part resolved again by alkaline liquors; as that made with alkalies likewise is by acids. Neutral salts, nitre in particular,

preserve

preſerve it from coagulating ſpontaneouſly; and render it leſs eaſily coagulable by acids.

The human milk is the ſweeteſt of theſe liquors, and that of aſſes next to it: This laſt is the moſt dilute of them all: On ſuffering it to coagulate ſpontaneouſly, the curd ſcarcely amounted to two drachms from twelve ounces, while that of cows milk was five times as much: The coagulum of aſſes milk, even when made by acids forms only into fine light flakes, which ſwim in the ſerum; that of goats milk concrete into more compact maſſes, which ſink.

The ſaline ſubſtance obtained from aſſes milk was white, and ſweet as ſugar; thoſe of the others brown or yellow, and conſiderably leſs ſweet; that of cows milk, the leaſt ſweet of all. It appears, therefore, that aſſes milk contains more ſerum, and much more of a ſaccharine ſaline matter than thoſe of cows and goats; and that the two latter abound moſt with unctuous groſs matters: Hence theſe are found to be moſt nutritious, while the firſt proves moſt effectual as an aperient and detergent.

The quantities of Saccharine matter in four ounces of		
Sheep's milk is from	35	to 37 grs.
Goats - -	47	49
Cow's - -	53	54
Woman's - -	58	67
Mare's - -	69	70
Aſſes - -	80	82

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 taſte, and which keeps better than that made in the common manner. This liquor promotes the natural ſecretions in general; and, if its uſe is duly continued, does good ſervice in ſcorbutic and other diſorders.

There are conſiderable differences in the milk of the ſame animal according to its different aliment. Dioſcorides relates, that the milk of goats who feed on ſcammony and ſpurges, proved cathartic: And examples are given in the Acta Haffnienſia of bitter milk from the animal having eaten wormwood. It is a common obſervation, that carthartics 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 ſo far, as to direct the animal to be dieted according to the diſeaſe for which its milk is to be drank.

LACCA [*Sues.*] *Gummi reſina. Croton lacciferum Lin.*

Lac, the gum reſin.

Lac is produced by means of an inſect of the cochineal kind. The inſect pierces the ſmall branches of the tree, and the juice which exudes from the inciſion is formed by the inſect into a nidus for its eggs; each ſeparate nidus or cell has the appearance of a ſeed.

It is brought to us either adhering to the ſticks, or in ſmall tranſparent grains, in ſemitranſparent flat cakes; the firſt is called *ſtick lac*, the ſecond *ſeed lac*, and the third *ſhell lac*. On breaking a piece of ſtick lac, it appears compoſed of regular cells like honeycomb, with ſmall corpuſcles of a deep red colour lodged in them

them: These are the young insects 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 insects or cellular appearance upon breaking, are supposed to be artificial preparations of the other: The seed sort is said to be the stick lac bruised and robbed of its more soluble parts; and the shell to be the seed lac, melted and formed into cakes. The stick lac therefore is the genuine sort, and ought alone to be employed for medicinal purposes. This concrete is of great esteem in Germany, and other countries, for laxity and sponginess of the gums, proceeding from cold or from a scorbutic habit: For this use the lac is boiled in water, with the addition of a little alum, which promotes its solution: Or a tincture is made from it with rectified spirit. The tincture is recommended also internally in the fluor albus, and in rheumatic and scorbutic disorders: It has a grateful smell, and a pleasant, bitterish, astringent taste. The principal use of lac among us, is in certain mechanick arts as a colouring drug, and for making sealing wax and varnishes.

LACTUCA SATIVA [*Brun.*] *Folia, semina.*
Lactuca sativa. Lin.

Garden lettuce; the leaves and seeds.

The several sorts of garden lettuces are very wholesome, emolient, cooling salad herbs, easy of digestion, and somewhat loosening the belly. Most writers suppose that they have a narcotic quality; and indeed, in many cases, they contribute to procure rest; this they effect by abating heat, and relaxing the fibres.

LACTUCA VIROSA [*Edin.*] *Folia*
Lactuca virosa Lin.

Strong scented wild lettuce.

This plant which is indigenous in Britain, and grows abundantly in some places, differs very essentially in its qualities from the garden lettuce.

It smells strongly of opium, and resembles it in some of its effects; and its narcotic power like that of the popy heads, resides in its milky juice. An extract from the expressed juice is recommended in small doses in dropsy. In dropsies of long standing, proceeding from visceral obstructions, it has been given to the extent of half an ounce a day. It is said to agree with the stomach, to quench thirst, to be gently laxative, powerfully diuretic, and somewhat diaphoretic. Plentiful dilution is allowed during its operation. Dr. Collin of Vienna asserts that out of 24 dropsical patients, all but one were cured by this medicine.

LADANUM [*Lond.*] *Resina.*
Cistus creticus Lin.

Ladanum; the gum resin.

This resin is said to have been formerly collected from the beards of goats who browzed the leaves of the cistus: At present a kind of rake, with several straps or thongs of skins fixed to it, is drawn lightly over the shrub, so as to take up the unctuous juice, which is afterwards scraped off with knives. It is rarely met with pure, even in the places which produce it; the dust, blown upon the plant mixing with the tenacious juice: The inhabitants

habitants are also said to mix with it a certain black sand. In the shops two sorts are met with: The best (which is very rare) is in dark coloured almost black masses, of the consistence of a soft plaster, which grows still softer on being handled; of a very agreeable smell, and of a slight pungent bitterish taste: The other sort is harder, not so dark coloured, and is coiled up in long rolls. Rectified spirit of wine almost entirely dissolves pure ladanum, leaving only a small portion of gummy matter which has no taste or smell: And hence this resin may be thus excellently purified for internal purposes. It is an useful ingredient in the stomachic plaster, now styled *Emplastrum ladani.*

LAVENDULA [*Lond. Ed.*]
Spicæ florentes.
Lavendula Spica Lin.
Lavender; the flowering tops.

There are different varieties of this vegetable, particularly the narrow and broad leaved. The flowers of both have a fragrant agreeable smell, and a warm, pungent, bitterish taste; the broad-leaved sort is the strongest in both respects, and yields in distillation thrice as much essential oil as the other; its oil is also hotter and specifically heavier: hence in the southern parts of France, where both kinds grow wild, this only is used for the distillation of what is called oil of spike. The narrow leaved is the sort commonly met with in our gardens.

Lavender is a warm stimulating aromatic. It is principally recommended in vertigoes, palsies, tremors, suppression of the menstrual evacuations; and in general in all disorders of the head, nerves, and uterus. It is sometimes also used externally in fomentations for paralytic limbs. The distilled oil is particularly celebrated for destroying the *pediculi inguinales*, and other cutaneous insects: If soft spongy paper dipt in this oil, either alone or mixed with that of almonds be applied at night to the parts infected by the insects, they will certainly, says Geoffroy, be all found dead in the morning. The officinal preparations of lavender are, the essential oil, simple spirit, and a componud tincture.

LAURUS [*Lond.*] *Folium, bacca.* [*Ed.*] *Folia Baccæ, baccarum olum expressum.*
Laurus nobilis, Lin.
Bay: The leaf and berry.

The berries of the bay are generally brought from the coasts of the Mediterranean: The tree bears the colds of our own climate. They have a moderately strong aromatic smell, and a warm bitterish pungent taste: The berries are stronger in both respects than the leaves, and afford in distillation a larger quantity of aromatic essential oil; they yield also an almost insipid oil to the press, in consequence of which they prove unctuous in the mouth. These simples are warm carminative medicines, and are sometimes exhibited with this intention against flatulent colics, and 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 of cummin: They also gave name to an electuary, which was little otherwise used than in glysters.

LENTISCUS

LENTISCUS [*Brun.*] *Lignum.*

Piſtacia lentiſcus Lin.

The lentiſc tree; the wood.

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; white within, of a rough, ſomewhat pungent taſte and an agreeable, though faint ſmell; the ſmaller tough ſprigs are the ſtrongeſt both in taſte and ſmell. This wood is accounted a mild balſamic aſtringent; a decoction of it is in the German ephemerides dignified with the title of vegetable *aurum potabile*, and ſtrongly recommended in catarrhs, naufea, and weakneſs of the ſtomach; for ſtrengthening the tone of the viſcera in general, and promoting the urinary ſecretion.

This is the tree which, in the iſland Chio, affords the reſin called *maſtich*. See MASTICHE.

LEONTODON. See TARAXACUM.

LICHEN CINEREUS TERRESTRIS [*Brun.*]

Lichin caninus Lin.

Aſhcoloured ground liverwort.

This ſimple is ſaid to be a warm diuretic; but the taſte diſcovers in it little or no warmth. It was celebrated for its virtue in the cure of the diſorders occaſioned by the bite of a mad dog. An account of the remarkable effects of a powder compoſed of the dried leaves and pepper, in theſe caſes, was communicated to the Royal Society by Mr. Dampier, and publiſhed in the Philoſophical Tranſactions. This powder was afterwards inſerted (in the year 1721) into the London pharmacopœia, under the title of *pulvis antilyſſus*, at the deſire of Dr. Mead who had great experience of its good effects. Some years after, the Dr. 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 "bled to the extent of nine or "ten ounces: And afterwards "take a drachm and a half of the "powder every morning faſting; "for four mornings ſucceſſively, "in half a pint of cow's milk, "warm. After theſe four doſes "are taken, the patient muſt go "into the cold bath, or a cold "ſpring or river, every morning "faſting for a month, he muſt "be dipped all over, but not ſtay in "(with his head above water) "longer than half a minute, if "the water be very cold: After "this he muſt go in three times "a week for a fortnight longer." In the year 1745, the world was favoured with a new edition of the Mechanical Account of Poiſons, in which we find the ſame method of cure again recommended, as having, in a courſe of thirty years experience, never failed of ſucceſs; 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 proved by inconteſtible facts.

Inſtances

Instances have been produced of its proving unsuccessful; and the many examples of the fatality of the disease which continually occur, seem arguments either of the inefficacy of the medicine or a strange negligence in applying it. We shall only farther observe that Boerhaave, who is in general sufficiently liberal in the commendation of remedies, ranks this among those insignificant trifles, which whoever depends on, will find himself deceived; and indeed this opinion is now so general, that this species of the lichen has no place in the present editions of our pharmacopœias, and is now rejected from most of the foreign ones.

LICHEN [*Ed.*] *Herba.*
Lichen islandicus Lin.
Eryngo leaved, or eatable liverwort.

The leaves of this species of lichen are nearly erect, stiff when dry, and pliant when moist, irregularly divided into broad distant segments, smooth and ciliated at the margins. It is a native of this country. An ounce of it boiled in a pound of water, and strained, yields about seven ounces of as thick a mucilage as one part of gum Arabic dissolved in three parts of water. The Icelanders use it in diet. It is steeped in water to deprive it of its bitterness and cathartic quality, and the powder of it is made into pottage with milk or water. This diet is recommended in phthisis and scorbutus; and is said to be very nourishing, antiseptic, and gently laxative. The Edinburgh pharmacopœia, however, is the only one into which this species of lichen seems yet to be introduced: And few practitioners in Britain have much experience of it. If it have any effect, it is probably only as a mild article of diet.

LIGNUM CAMPECHENSE.
See HÆMATOXYLUM.

LIGNUM RHODIUM [*Ross.*]
Genista canariensis Lin.
Rosewood.

This wood or root is chiefly brought to us from the Canary islands. 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 (an article of considerable esteem among the antients, but with regard to which the moderns are very much at a loss) are the same; whence different woods, brought into Europe for the unknown aspalathus, were sold again by the the name of rhodium.

In those modern pharmacopœias which admit the lignum rhodium, different Linnæan names are at present given to it: The authors of the Dispensatorium Brunsvicense suppose it to be the rhodiola rosa of Linné, and they may perhaps be as near the truth as the authors of the pharmacopœia Rossica.

As to aspalathus, the antients themselves disagree; Dioscorides meaning 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 heretofore sold among

us as aſpalathus, were pieces of a pale coloured wood brought from the Eaſt Indies, and more commonly called *calambour*.

The aſpalathus calambour, and lignum aquilæ, are ſuppoſed to be woods of the nature of agallochum, or lignum aloes, but weaker in quality.

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 ſmootheſt, moſt compact, and deepeſt coloured pieces, ſhould be choſen; and the ſmall, thin, or pale ones rejected. The taſte of this wood is ſlightly bitteriſh, and ſomewhat pungent; its ſmell very fragrant, reſembling that of roſes: Long kept, it ſeems to loſe its ſmell; but on cutting, or rubbing one piece againſt the other, it ſmells as well as at firſt. Diſtilled with water, it yields an odoriferous eſſential oil, in very ſmall quantity. Rhodium is at preſent in eſteem only on 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 advantageouſly applied to more uſeful purpoſes; a tincture of it in rectified ſpirit of wine, which contains in a ſmall volume the virtue of a conſiderable quantity of the wood, bids fair to prove a ſerviceable cordial, not inferior perhaps to any thing of this kind.

LIGUSTICUM [*Ed.*] *ſemen.*
Liguſticum Levisticum Lin.
Lovage; the ſeed.

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 taſte, accompanied with a more durable ſweetneſs: The ſeeds 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 preſcription.

LILIUM ALBUM [*Ed.*] *Radix.*
Lilium candidum Lin.
White lily; the root.

This is cultivated in gardens, more for the beauty of its flowers than for medicinal uſe. The mucilaginous root is ſometimes uſed as a poultice; but it poſſeſſes no advantage over the poultices formed of vegetable farinæ.

LILIUM CONVALLIUM [*Succ.*] *Flores.*
Convallaria maialis Lin.
Lily of the valley, or May lily; the flowers.

This plant grows wild in great abundance in woods and ſhady places, flowering in May. The flowers are ſaid to be cephalic and nervine. They have a pleaſant ſweet ſmell, which they impart by infuſion 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 wild lily are very bitter: When dried, they are ſaid to prove a gentle errhine; as are alſo the flowers.

LIMON [*Lond.*] *Succus, cortex exterior, et oleum* eſſentia *dictum.* [*Ed.*] *Fructus, cortex fructus, et ejus oleum vulgo* eſſentia *dictum.*

Citrus

Citrus medica Lin.

Lemon; the juice, outer rind, and its oil or eſſence.

The juice of lemon is a ſtrong native vegetable acid. The yellow peel is an elegant aromatic, and is frequentlyemployed in ſtomachic tinctures and infuſions: It is conſiderably leſs hot than orange peel, and yields in diſtillation with water a leſs quantity of eſſential oil: Its flavour is nevertheleſs more periſhable, yet it does not riſe 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 and wines; the eſſential oil enters the volatile aromatic ſpirit, *Spiritus ammoniæ compoſitus*, as it is now called, and ſome other formulæ.

LINARIA [*Succ.*] *Folia.*

Antirrhinum Linaria Lin.

Toad flax; the leaves.

This grows wild on banks and about the ſides of fields. It is ſaid by ſome to be a powerful diuretic, whence it is named by Tragus *herba urinalis*; by others, to be a ſtrong cathartic, inſomuch that Branſelſius has called it by a German name expreſſing this quality, *ſcheiſskrant*. Experience ſcarcely warrants either of theſe appellations; nor does common practice take any notice of the plant.

LINGUA CERVINA. See SCOLOPENDRIUM.

LINUM CATHARTICUM [*Roſs.*] *Herba.*

Linum Catharticum Lin.

Purging flax; the leaves.

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 herb, or a drachm of it in ſubſtance when dried, are ſaid to purge without inconvenience.

LINUM SATIVUM [*Lond.*] *Semen.* [*Ed.*] *Semen et oleum ejus expreſſum.*

Linum uſitatiſſimum Lin.

Lintſeed.

Lintſeed yields, by preſſing, a conſiderable quantity of oil; and boiled in water, a ſtrong mucilage: Theſe are occaſionally uſed for the ſame purpoſes as other ſubſtances of that claſs; as are alſo the ſeeds themſelves in emolient and maturating cataplaſms. They have 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 them in Zealand, had the hypochondria much diſtended, and the face and other parts ſwelled, in a very ſhort time; and that ſeveral died of theſe complaints. The expreſſed oil is an officinal preparation.

LIQUIDAMBRA [*Brun.*] *Reſina.*

Liquidambra ſtyraciflua Lin.

Liquidamber.

This is a reſinous juice which flows from a large tree growing in Virginia, Mexico, and other provinces of America. This juice is at firſt about the conſiſtence of turpentine,

turpentine, but by long keeping hardens into a refin; it is of a yellow colour inclining to red, a warm taſte, and a fragrant ſmell, not unlike that of ſtorax heightened with a little ambergris. It was formerly of great uſe as a perfume but is at preſent a ſtranger in the ſhops.

LITHARGYRUS. See PLUMBUM.

LIXIVIA. See CINERES CLAVELLATI.

LOBELIA [*Ed.*] *Radix.*
Lobelia ſyphilitica Lin.
Lobelia; the root.

This plant grows in moiſt places in Virginia, and bears our winters. It is perennial, has an erect ſtalk three or four feet high, blue flowers, a milky juice, and a rank ſmell. The root conſiſts of white fibres about two inches long, reſembles tobacco in taſte, and is apt to excite vomiting. It is uſed by the North American Indians as a ſpecific in the venereal diſeaſe. The form is that of decoction; the doſe of which is ordered to be gradually increaſed till it bring on very conſiderable purging, then to be intermitted for a little, and again uſed in a more moderate degree till the cure be completed. The ulcers are alſo waſhed with the decoction, and the Indians are ſaid to ſprinkle them with the powder of the inner bark of the ſpruce tree. The ſame ſtrictneſs of regimen is ordered as during a ſalivation or mercurial courſe. The benefit to be derived from this article has not, as far as we know, been confirmed either in Britain, or by the practitioners in Virginia: For there, as well as in this country, recourſe is univerſally had to the uſe of mercury; and probably from this reaſon the London college have not received it into their liſt. It ſeems, however, to be an article which deſerves a trial.

LUJULA [*Lond. Edin.*] *Folium.*
Oxalis Acetoſella Lin.
Wood ſorrel; the leaves.

This is a ſmall plant growing wild in woods. In taſte and medical qualities, it is ſimilar to the common ſorrel, but conſiderably more grateful, and hence is preferred. Boiled with milk, it forms an agreeable whey; and beaten with ſugar, a very elegant conſerve, which has been for ſome time kept in the ſhops, and not unfrequently employed.

LUPINUS [*Brun.*] *Semen.*
Lupinus albus Lin.
White lupines; the ſeeds.

Theſe have a leguminous taſte, accompanied with a diſagreeable bitter one. They are ſaid to be anthelmintic, both taken internally or applied externally. Caſpar Hoffman cautions againſt their internal uſe, and tells us (from one of the Arabian writers) that they have ſometimes occaſioned death. Simon Paulli alſo ſays, that he ſaw a boy of eight or ten years of age, after taking a drachm of theſe ſeeds in powder, ſeized with exquiſite pains of the abdomen, a difficulty of reſpiration, and almoſt total loſs of voice; and that he was relieved from theſe complaints by a glyſter of milk and ſugar which brought away a vaſt quantity of worms. But Mr. Geoffroy obſerves, very juſtly, that either theſe ſymptoms were owing to the worms, and not to the medicine;

icine; or that these seeds, if they have any noxious quality, lose it, with their bitterness, in boiling; since they were commonly used among the Greeks as food, and recommended by Galen as very wholesome.

LUPULUS [*Suec.*] *Strobili.*
Humulus Lupulus Lin.
Hops; the leafy heads.

These are 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 preserve from undergoing the acetous and putrifactive fermentations, render less glutinous, and dispose to pass off more freely by urine.

The odour of hops hung in a bed has been said to induce sleep after opium had failed.

Hops contain a very considerable proportion of essential oil; and in the manner in which they are commonly used in brewing, this has been hitherto almost entirely lost: But a late proposal has been made for preserving it as it arises, and restoring it to the brewed liquor; a discovery well meriting attention.

LYCOPERDON [*Brun.*]
Ly. sperdon Bovista Lin.
Puff ball, or dusty mushroom.

This fungus is found in dry pasture grounds. It seems to be nearly of the same quality with the agaric of the oak; and has, like it, been employed for restraining external hæmorrhagies and other fluxions. The fine dust, with which it becomes filled by age, has also been applied with the same intentions.

MACIS. See MYRISTICA.

MAGNESIA VITRIOLATA. [*Lond. Ed.*] *Sal Cathartic us Amarus.*

This salt is the salt of the Epsom and some other purging mineral waters: It may also be extracted from the bitter liquor remaining after the crystallization of common salt. We usually meet with it in minute crystals, of a snowy appearance; dissolved in water, and crystallized afresh, it concretes, if properly managed, into larger ones, of a rectangular prismatic figure, resembling those of the artificial cathartic salt of Glauber, for which they are sometimes substituted in the shops.

This salt has a penetrating bitterish taste; it dissolves in less than an equal weight of water: In a moderate heat, it melts, bubbles up into blisters, and soon changes into a white spongy mass, with the loss of above half of its weight: This calx tastes more bitter than the salt did at first, and totally dissolves again in water. The acid of this salt is the vitriolic: And its basis magnesia. Hence on adding alkaline salts to a solution of Glauber's salt no change ensues: While the salts obtained from the purging waters, or the bittern of marine waters, grow milky and deposite their earth, by the addition of the alkaline salt which is taken up in its place.

The magnesia vitriolata is a mild and gentle purgative, operating with sufficient efficacy, and in general with ease and safety, rarely occasioning any gripes, sickness, or the other inconveniences, which purgatives of the resinous kind are too often accompanied with. Six or eight drachms may be dissolved for a dose in a proper quantity of common water; or four,

four, five, or more, in a pint, or quart of the purging waters. These liquors may likewise be so managed as to promote evacuation, by the other emunctories; if the patient be kept warm, they increase perspiration: And by moderate exercise in a cool air, the urinary discharge. Some allege this salt has a peculiar effect in allaying pain, as in colic, even independently of evacuation.

MAJORANA [*Lond. Ed.*] *Herba.*

Origanum Majorana Lin.

Sweet marjoram; the leaves.

Marjoram is raised annually in our gardens for culinary as well as medicinal uses; the seeds are commonly procured from the southern 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 humoral asthmas and catarrhs of old people. An essential oil of the herb is kept in the shops. The powder of the leaves proves an agreeable errhine, and enters the officinal sternutatory powder.

MALVA [*Lond. Ed.*] *Folium. flos.*

Malva sylvestris Lin.

Mallow; the leaf and flower.

These have a somewhat mucilaginous sweetish taste. The leaves were formerly of some esteem, in food, for loosening the belly; at present, decoctions of them are sometimes employed in dysenteries, heat, and sharpness of urine, and in general for obtunding acrimonious humours: Their principal use is as emollient glysters, cataplasms, and fomentations. The leaves enter the officinal decoction for glysters, and a conserve was formerly prepared from the flowers.

MANDRACORA [*Succ.*] *Radix.*

Atropa Mandragora Lin.

Mandrake; the root.

The qualities of this plant are very doubtful: It has a strong disagreeable smell resembling that of the narcotic herbs, to which class it is usually referred; and it belongs indeed to the same genus as the deadly nightshade. It has rarely been any otherwise used in medicine, than as an ingredient in one of the old officinal ointments. Both that composition and the plant itself are now rejected from our pharmacopœias: But it still retains a place in most of the foreign ones, and may perhaps be considered as deserving farther attention.

MANNA [*Lond. Ed.*] *Succus concretus.*

Fraxinus Ornus Lin.

Manna.

Manna is the juice of a species of ash tree, growing in Italy and Sicily. When naturally concreted on the tree and scraped off, it is called manna in the tear; but if allowed to exude on straws or chips of wood fastened to the tree, it is called canulated or flaky manna. The common, or fat manna, is got by incisions made after the spontaneous exudation is over, and is in larger masses and of a redder colour. The best Calabrian manna is in oblong, light, friable pieces or flakes, of a whitish or pale yellow colour, and somewhat transparent. The inferior

ferior kinds are moiſt, unctuous, and dark coloured. Manna is ſaid to be ſometimes counterfeited by a compoſition of ſugar and honey, mixed with a little ſcammony: There is alſo a factitious manna, which is white and dry, ſaid to be compoſed of ſugar, manna, and ſome purgative ingredient, boiled to a proper conſiſtence: This may be diſtinguiſhed by its weight, ſolidity, untranſparent whiteneſs, and by its taſte, which is different from that of manna.

Manna is a mild, agreeable laxative, and may be given with ſafety to children and pregnant women: Nevertheleſs in ſome particular conſtitutions, it acts very unkindly producing flatulencies and diſtention of the viſcera, theſe inconveniences 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 with this intention by itſelf. It may be commodiouſly diſſolved in the purging mineral waters, or joined to cathartic ſalts, to ſenna, rhubarb, or the like. Geoffroy recommends acuating it with a few grains of emetic tartar; the mixture is to be divided into ſeveral doſes, each containing one grain of the emetic tartar: By this management, he ſays, bilious ſerum will be plentifully evacuated without any nauſea, gripes, or other inconvenience. It is remarkable, that the efficacy of this drug is greatly promoted (if the account of Valliſnieri is to be relied on) by a ſubſtance which is itſelf very ſlow of operation, caſſia. And for this reaſon manna is an ingredient in the electuary of caſſia.

MARRUBIUM [*Lond. Ed.*] *Herba.*

Marrubium vulgare Lin.

White horehound; the leaves.

They 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 humoral aſthmas and coughs, the jaundice, and other chronical diſorders. They are doubtleſs an uſeful aperient and deobſtruent, they promote the fluid ſecretions in general, and, when liberally taken, looſen the belly.

MARUM SYRIACUM [*Lond.*] *Herba.*

Teucrium Marum Lin.

Syrian herb maſtic.

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 between the fingers, a quick pungent ſmell like volatile alkali, which ſoon affects the head, and occaſions ſneezing: Diſtilled with water, they yield a very acrid penetrating eſſential oil, reſembling that of ſcurvy graſs. Theſe qualities ſufficiently point out the uſes to which this plant might be applied; at preſent it is little otherwiſe employed than in cephalic ſnuffs. It is an ingredient in the *pulvis aſari compoſitus*, of the London pharmacopœia.

MASTICHE [*Lond. Ed.*] *Reſina.*

Piſtacia Lentiſcus Lin.

Gum maſtich.

Maſtich is a reſinous ſubſtance brought from Chio, in ſmall, yellowiſh, tranſparent grains or tears,

of

of an agreeable ſmell, eſpecially when heated or ſet on fire. This reſin is recommended in old coughs, dyſenteries, hæmoptoes, weakneſs of the ſtomach, and in general in all debilities. Geoffroy directs an aqueous decoction of it to be uſed for theſe purpoſes. Water extracts little or nothing from this reſin; rectified ſpirit almoſt entirely diſſolves it: The ſolution taſtes very warm and pungent; it is not however the baſis of any fixed formula in our pharmacopœias, and is at preſent but little employed.

MATRICARIA [*Succ.*] *Herba.*

Matricaria Parthenium Lin.

Common wild featherfew; the leaves.

This plant was at one time much celebrated as an antihyſteric medicine; but it is now ſo little employed in Britain, that it has no place in our pharmacopœias.

Simon Paulli relates, that he has experienced moſt happy effects from it in obſtructions of the uterine evacuations; I have often ſeen, ſays 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 ſtate, return as it were into life again. Matricaria is likewiſe recommended in ſundry other diſorders, as a warm ſtimulating bitter: All that bitters and carminatives can do, ſays Geoffroy, may be expected from it. It is undoubtedly a medicine of ſome uſe in theſe caſes, though not perhaps equal to chamomile flowers alone, with which the matricaria agrees in ſenſible qualities, excepting in being weaker.

MECHOACANNA [*Brun.*] *Radix.*

Convolvulus Mechoacanna Lin.

Mechoacan; the root.

This is the root of an American convolvulus brought from Mechoacan, a province of Mexico, in thin ſlices like jalap, but larger, and of a whitiſh colour. It was firſt introduced into Europe about the year 1524, as a purgative univerſally ſafe, and capable of evacuating all morbific humours from the moſt remote parts of the body: But as ſoon as jalap became known, mechoacan gradually loſt its reputation, which it has never ſince been able to retrieve. It is nevertheleſs ſtill deemed an uſeful cathartic; it has very little ſmell or taſte, and is not apt to offend the ſtomach; its operation is ſlow but effectual and ſafe. Geoffroy affirms, that ſcarcely any purgative is accompanied with fewer inconveniences. It ſeems to differ from jalap only in being weaker, the reſins obtained from both have nearly the ſame qualities, but jalap yields five or ſix times as much as mechoacan; hence it is found neceſſary to exhibit the latter in ſix times the doſe of the former to produce the ſame effects.

MEL. [*Lond. Ed.*]

Honey.

Honey is a juice, obtained from the honey comb, either by ſeparating the combs, and laying them flat upon a ſieve, through which the honey ſpontaneouſly percolates; or by including the comb in canvas bags, and forcing the honey out by a preſs: The firſt ſort is the pureſt; the latter is found to contain a good deal of the matter of which the comb is formed, and ſundry other impurities: There is another ſort ſtill inferior to the two

two foregoing, obtained by heating the combs before they are put into the preſs. The beſt ſort is thick, of a whitiſh colour, an agreeable ſmell, and a very pleaſant taſte; both the colour, and flavour differ according to the plants from which the bees collect it: That of Narbonne in France, where roſemary abounds, is ſaid to have a very manifeſt flavour of that plant, and to be imitable by adding to other honey an infuſion of roſemary flowers; and the Corſican honey has the taſte and flavour of orange flowers.

Honey, conſidered as a medicine, is a very uſeful detergent and aperient, powerfully promoting the expectoration of tough phlegm: In ſome particular conſtitutions it has an inconvenience of griping or proving purgative; and hence the Edinburgh college, do not now employ it in any preparation, and have entirely rejected the mella medicata, ſubſtituting ſyrups in their place: Honey however doubtleſs is very uſeful in giving form to different articles, though there be ſome individuals with whom it may diſagree.

MELAMPODIUM [*Ed.*] See HELLEBORUS NIGER.

MELILOTUS [*Succ.*] *Flores, herba.*

Trifolium Melilotus officinalis Lin.

Melilot; the leaves and flowers.

This plant grows wild in hedges and among corn; and has likewiſe, been cultivated for medicinal uſe, in gardens. The green herb has no remarkable ſmell; when dry, a pretty ſtrong one; the taſte 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 glyſters, and in fomentations, cataplaſms, and the like; and even in theſe not often. It formerly gave name to one of the officinal plaſters, which received from the melilot a green colour, but no particular virtue.

MELISSA [*Lond. Ed.*] *Folia.*

Meliſſa officinalis Lin.

Balm; the herb.

This plant, when in perfection, has a pleaſant ſmell, ſomewhat of the lemon kind; and a weak, roughiſh, aromatic taſte. The young ſhoots have the ſtrongeſt flavour; the flowers, and the herb itſelf, when old, or produced in very moiſt rich ſoils or rainy ſeaſons, 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 ſome phyſicians entertained of balm, that they have expected to find in it a medicine which ſhould prolong life beyond the uſual period. The preſent practice however holds it in no great eſteem, and ranks it, where it certainly deſerves to be, among the weaker corroborants: In diſtillation it yields an elegant eſſential oil, in ſmall quantity; the remaining decoction taſtes roughiſh. Strong infuſions of the herb, drank as tea, and continued for ſome time, have done ſervice in a weak lax ſtate of the viſcera: Theſe liquors, ſlightly 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.

MENTHA CATARIA. See NEPETA.

MENTHA PIPERITIS [*Lond. Ed.*] *Herba.*

Mentha piperita Lin.

Pepperm nt ; the leaves.

This ſpecies of mint grows wild in ſome parts of England in moiſt watery places, but is much leſs common than the other ſorts. The leaves have a more penetrating ſmell than any of the other mints, and a much warmer, pungent, glowing taſte like pepper, ſinking as it were into the tongue. The principal uſe of this herb is in flatulent colics, languors and oth er ſimular diſorders : It ſeems, to act as ſoon as taken, and to extend its effects through the whole ſyſtem, inſtantly communicating a glowing warmth. Water extracts the whole of the pungency of this herb by infuſion, and elevates it in diſtillation. Its officinal preparations are an eſſential oil, a ſimple water, and a ſpirit.

MENTHA SATIVA [*Lond. Ed.*] *Herba.*

Mentha viridis Lin.

Garden- or ſpear mint ; the leaves.

Both the London and Edinburgh pharmacopœias make it the *mentha viridis* of Linné, but in the Swediſh pharmacopœia it is ſtated to be the *Mentha criſpa*, of Linné ; the reader may judge for himſelf which is right ; but he muſt recollect that the Swediſh pharmacopœia was compiled by a committee of the college of phyſicians at Stockholm ; and this committee, conſiſting of ſeveral members left the revital and publication of the pharmacopœia to two of their number, viz. Linné and Bergman, the one the greateſt naturaliſt, and the other the greateſt chymiſt then in the world.

The leaves of this mint have a warm, roughiſh, ſomewhat bitteriſh taſte ; and a ſtrong, not unpleaſant, aromatic ſmell. Their virtues are thoſe of a warm ſtomachic and carminative : In loſs of appetite, nauſea, continual retchings to vomit, and as Boerhaave expreſſes it, almoſt paralytic weakneſſes of the ſtomach, few ſimples are perhaps of equal efficacy. In colic pains, the gripes to which children are ſubject, lienteries, and other kinds of immoderate fluxes, this plant frequently does good. It likewiſe proves beneficial in hyſteric caſes, and affords an uſeful cordial in languors and other weakneſſes following delivery.

The beſt preparations for theſe purpoſes are, a ſtrong infuſion 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 eſſential oil and diſtilled water contain only the aromatic part ; the expreſſed juice only the aſtringency and bitterneſs, together with the mucilaginous ſubſtance common to all vegetables. The eſſential oil, a ſimple water, a ſpirit, and a conſerve, are kept in the ſhops.

MENYANTHES. See TRIFOLIUM.

MERCURIALIS [*Gen.*] *Herba.*

Mercurialis annua Lin.

Herb mercury ; the leaves.

This herb is ſometimes uſed in glyſters.

glyſters. A ſyrup made from the leaves, given in the doſe of two ounces, is ſaid to prove a mild and uſeful laxative.

There is another ſort of mercurialis growing in woods and hedges, which though recommended by ſome botanic writers as having the ſame virtues with the foregoing, and as being more palatable, has been found poſſeſſed of noxious qualities. This may be diſtinguiſhed from the foregoing by its being a perennial plant, *Mercurialis perennis Lin.* by being larger, having its leaves rough and the ſtalk not at all branched: It is commonly called dog's mercury.

MERCURIUS. See HYDRARGYRUS.

MEUM [*Brun.*] *Radix.*
Æthuſa Meum Lin.
Spignel; the root.

Spignel is an umbelliferous plant, found wild in Italy and the warmer parts of Europe, and ſometimes 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 ſo little regarded as to have no place in our pharmacopœias.

MEZEREUM [*Lond. Ed.*] *radicis cortex.*
Daphne Mezereum Lin.
Mezereon or ſpurge olive; the bark of the root.

Mezereon, although an article of great activity, has only of late had a place in our pharmacopœias. It is a native of different parts of Europe; it has elegant pale purpliſh or white flowers, ſometimes appearing about the end of January. The root was long uſed in the Liſbon diet drink, particularly for venereal complaints, nodes, and other ſymptoms reſiſting the uſe of mercury.

On chewing it a little, it proves very pungent, and its acrimony is accumulated about the fauces, and is very durable. It is employed chiefly under the form of decoction; and it enters the *Decoctio Sarſaparillæ compoſitum* of the London pharmacopœia; but it has alſo been uſed in powder combined with ſome inactive one, as that of liquorice root. It is apt to occaſion vomiting and purging; ſo muſt be begun in grain doſes, and gradually increaſed. It is often uſefully combined with mercury. The bark of the root contains moſt acrimony, though ſome prefer the woody part. Mezereon has alſo been uſed with good effects in tumors and cutaneous eruptions not venereal.

MILLEFOLIUM [*Ed.*] *Folia, flores.*
Achillea Millefolium Lin.
Miltoil; the leaves and flowers.

This grows plentifully about the ſides of fields, and on dry commons, flowering greateſt part of the ſummer. The leaves have a rough bitteriſh taſte, and a faint aromatic ſmell. Their virtues are thoſe of a very mild aſtringent; and as ſuch they ſtand recommended in hæmorrhagies, both internal and external, in diarrhœas, and in ſpaſmodic and 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 one of the moſt certain tonics and ſedatives,

atives. Its virtues are extracted in great perfection by proof ſpirit, water takes up its aſtringency and bitterneſs, but little of its aromatic flavour; tinctures made in rectified ſpirit contain both, though they be rather weaker than thoſe in proof ſpirit.

The flowers of milfoil are conſiderably 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 ſpring, have an agreeable, warm, pungent taſte. Dr. Grew reſembles them to contraerva, and imagines they might in ſome degree ſupply its place: This, however, is much to be doubted, ſince there is ſuch a remarkable difference between the two, that while one retains its taſte for a length of time after it has been brought to us from America, the taſte of the other is almoſt loſt by drying.

MILLEPEDA [*Lond. Ed.*]
Oniſcus aſſellus Lin.
Slaters or Millepedes.

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 diſagreeable ſmell, and a ſomewhat pungent, ſweetiſh, nauſeous taſte. They have been highly celebrated in ſuppreſſions of urine, in all kinds of obſtructions of the bowels, in the jaundice, weakneſs of ſight, 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 given of them. Their officinal preparations are, the millepedes dried and powdered, and a vinous infuſion, which is by ſome held in high eſteem in caſes of hooping cough.

MINIUM [*Ed.*] See PLUMBUM.

MORUS [*Lond.*] *Fructus.*
Morus nigra Lin.
Mulberry; the fruit.

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 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 [*Lond. Ed.*]
Moſchus moſchiferus Lin.
Muſk.

Muſk is a grumous ſubſtance like clotted blood, found in a little bag, ſituated near the umbilicus of a ruminating animal met with in China, Tartary, and the Eaſt Indies: The beſt muſk is brought from Tonquin, an inferior ſort from Agria and Bengal, and a ſtill worſe from Ruſſia.

Fine muſk comes to us in round thin bladders; which are generally about the ſize of a pigeon's egg, covered with ſhort brown hairs, well filled, and without any appearance of having been opened. The muſk itſelf is dry, with a kind of unctuoſity, of a dark reddiſhbrown or ruſty blackiſh colour in ſmall round grains, with very few hard black clots, and perfectly free from any ſandy or other viſible foreign matter. If chewed, and rubbed with a knife on paper, it looks ſmooth, bright, yellowiſh,

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 ſubſtance have been mixed with the muſk, the quantity of the reſiduum will readily diſcover them.

Muſk has a bitter ſubacred taſte; a fragrant ſmell, agreeable at a diſtance, but diſagreeable when too near, 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 ſingle drop of it communicates to a whole quart of wine a rich muſky flavour. And this flavour, which a tincture of muſk communicates to vinous liquors, is perhaps one of the beſt criteria for judging of the goodneſs of muſk. Neumann informs us, 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, while pure ſpirit brings over nothing.

Muſk is a medicine of great eſteem in the eaſtern countries: Among us, it has been for ſome time much out of uſe, even as a perfume. It appears, however, from late experience, to be, when properly managed, a remedy of great ſervice even againſt thoſe diſorders which it has been ſuppoſed to produce. Dr. Wall has communicated (in the Philoſophical Tranſactions, No. 474) an account of ſome extraordinary effects of muſk in convulſive and other diſeaſes which have too often baffled the force of medicine. He obſerves, that the ſmell of perfumes is often of diſſervice, where the ſubſtance taken inwardly, and in conſiderable quantity, produces the happieſt effects: That two perſons labouring under a ſubſultus tendinum, extreme anxiety, and want of ſleep, from the bite of a mad dog, by taking two doſes of muſk each of which were ſixteen grains, were perfectly relieved from their complaints. He likewiſe obſerves, that convulſive hiccups, attended with the worſt ſymptoms, were removed by a dose or two, of ten grains: And that in ſome caſes, where this medicine could not on account of ſtrong convulſions, be adminiſtered to the patient by the mouth, it proved of ſervice when injected as a glyſter. He adds, that under the quantity of ſix 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 uneaſineſs; that on the contrary, it eaſes pain, raiſes the ſpirits, and that after the ſweat breaks out the patient uſually falls into a refreſhing ſleep: That he never met with any hyſterical perſon, how averſe ſoever to perfumes, but could take it in the form of a bolus, without inconvenience. To this paper is annexed an account of ſome farther extraordinary effects of muſk, obſerved by another gentleman. Repeated experience has ſince confirmed its efficacy in theſe diſorders. The doſe has ſometimes been increaſed, particularly in convulſive diſorders, to the quantity of a ſcruple or half a drachm every three or four hours, with two or three ſpoonfuls of the muſk julep between. The julep is the only officinal prepara-

tion

tion of it. It is given combined with opium in tetanus, and with mercury in rabies cania.

It is probable, that we are often diſappointed of the good effects which this medicine might produce from the muſk with which the ſhops are ſupplied being previouſly adulterated.

MURIA. See SALMURIATICUS.

MYRISTICA [*Lond. Edin.*] *Fructus nucleus* nux moſchata *dictus; macis; oleum expreſſum*, oleum macis *dictum*; *oleum eſſentiale.*

Myriſtica moſchata Act. Holm.

Nutmegs and mace.

Nutmegs are the kernel of a roundiſh nut which grows in the Eaſt Indies. The outſide covering of this fruit is ſoft and fleſhy like that of a walnut, and ſpontaneouſly opens when the nut grows ripe: Immediately under this lies the mace, which forms a kind of reticular covering; through the fiſſures of which appears a hard woody ſhell that includes the nutmeg. Theſe kernels have long been uſed both for medicinal and culinary purpoſes, and deſervedly conſidered as a warm agreeable aromatic. They are ſuppoſed likewiſe to have an aſtringent virtue; and are employed with that intention in diarrhœas and dyſenteries. Their aſtringency is ſaid 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, and, if we may reaſon from analogy, probably abates its aſtringency. Nutmegs diſtilled with water, afford a large quantity of eſſential oil, reſembling in flavour the ſpice itſelf; after the diſtillation, an inſipid ſebaceous matter is found ſwimming on the water; the decoction, inſpiſſated, gives an extract of an unctuous, very ſlightly bitteriſh taſte, and with little or no aſtringency. Rectified ſpirit extracts the whole virtue of nutmegs by infuſion, but elevates very little of it in diſtillation; hence the ſpirituous extract poſſeſſes the flavour of the ſpice in an eminent degree.

Nutmegs yield to the preſs, when heated, a conſiderable quantity of limpid yellow oil, which on cooling concretes into a ſebaceous conſiſtence. In the ſhops we meet with three ſorts of unctuous ſubſtances, 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 conſiſtence, of the colour of mace, and an agreeable fragrant ſmell: The ſecond ſort, which is paler coloured, and much inferior in quality, comes from Holland in ſolid maſſes, generally flat and of a ſquare figure: The third, which is the worſt of all, and uſually called common oil of mace, is an artificial compoſition of ſevum, palm oil, and the like, flavoured with a little genuine oil of nutmeg. The oils yield all that part in which their aromatic flavour reſides, by diſtillation to water, and by infuſion to pure ſpirit; The diſtilled liquor, and ſpirituous tincture nearly reſemble in quality thoſe prepared immediately from the nutmeg. The officinal preparations of nutmegs are a ſpirit and eſſential oil, and the nutmegs in ſubſtance. Both the nutmeg itſelf and its eſſential oil enter ſeveral compoſitions, as the *confectio aromatica*, *ſpiritus ammoniæ compoſitus*, &c.

Mace nearly agrees with nutmegs

megs in its medicinal qualities. The principal difference conſiſts in mace being ſomewhat leſs aſtringent, and yielding a more fluid expreſſed oil, and a more volatile eſſential one.

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: All of them are ſuppoſed to be the produce of the ſame tree, but its botanical deſcription is not yet aſcertained.

All the myrobalans have a gentle purgative virtue. They have alſo an aſtringent quality diſcoverable by the taſte, 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 is over. Nevertheleſs their purgative virtue is ſo ſmall that practitioners have for a long time laid them entirely aſide with that intention; and the colleges of Edinburgh and London have now rejected them from the catalogue of officinal ſimples.

MYRRHA [*Lond. Ed.*] *Gummi reſina.*

Myrrh; gum reſin.

Myrrh is a concrete gummy reſinous ſubſtance brought from the Eaſt Indies, in globes or drops, of various colours and magnitudes. The beſt ſort is of a brown or reddiſh yellow colour, ſomewhat tranſparent; of a lightly pungent, bitter taſte, with an aromatic flavour, though not ſufficient to prevent its proving naufeous to the palate; and a ſtrong, not diſagreeable ſmell. The medical effects of this aromatic bitter are to warm and ſtrengthen the viſcera: It frequently occaſions a mild diaphoreſis, and promotes the fluid ſecretions in general.

Hence it proves ſerviceable in languid caſes, in diſeaſes ariſing from ſuppreſſions of the uterine diſcharges in cachectic diſorders, and where the lungs and thorax are oppreſſed by viſcid phlegm. Myrrh is likewiſe ſuppoſed, in a peculiar manner, to reſiſt putrefaction in all parts of the body; and in this light ſtands recommended in malignant, putrid, and peſtilential fevers, and in the ſmall pox.

The preſent practice does not ſeem to expect any peculiar virtue from myrrh; and it is now leſs employed than formerly. Some late writers, however, and particularly Dr. Simmons, in his Treatiſe on Conſumptions, have beſtowed very high encomiums on it even in caſes of tuberculous phthiſis; and although it can by no means be repreſented as a remedy much to be depended on, yet there is reaſon to believe that it has been ſerviceable in ſome caſes.

Rectified ſpirit extracts the fine aromatic flavour and bitterneſs of this drug, but does not elevate any thing of either in evaporation; the gummy ſubſtance left by this menſtruum has a diſagreeable taſte, with ſcarcely any of the peculiar flavour of the myrrh: This part diſſolves in water, except ſome impurities which remain. In diſtillation with water, a conſiderable quantity of a pondrous eſſential oil ariſes, reſembling in flavour the original drug. Myrrh is the baſis of an officinal tincture. It enters the *pilulæ ex aloe et myrrha*, the *pilulæ e gummi*, and *pilulæ rhei compoſitæ*, and ſome other formulæ.

But

But for obtaining its full effects, it muſt be given in doſes of half a drachm or upwards: And it is thought to be advantageouſly united with a proportion of nitre, cream of tartar, or ſome other refrigerant ſalt.

MYRTUS [*Brun.*] *Baccæ.*
Myrtus communis Lin.
Myrtle; the berries.

This is an evergreen ſhrub, growing in Italy, and cultivated in our botanic gardens. The leaves and berries have been ſometimes uſed as aſtringents, but are not at preſent regarded.

NAPUS [*Brun.*] *Semen.*
Braſſica Napus Lin.
Sweet navew, or navew gentle; the ſeeds.

This is a ſort of turnip, ſown in ſome of our gardens for culinary uſe: The roots are warmer than the common turnip. The ſeeds have a bitteriſh taſte, accompanied with a faint aromatic flavour: Abundance of virtues have been aſcribed to them, as attenuating, detergent, alexipharmac, and others, but at preſent they are ſcarcely employed in medicine.

NARDUS INDICA [*Brun.*] *Radix.*
Andropogon Nardus Lin.
Indian nard; or ſpikenard.

This root, brought from the Eaſt Indies, is a congeries of ſmall fibres iſſuing from one head, and matted cloſe together, ſo as to form a bunch about the ſize of the finger, with ſome ſmall ſtrings at the oppoſite end of the head. The matted fibres (which are the parts choſen for medicinal purpoſes) are ſuppoſed by ſome to be the head or ſpike of the plant, by others the root: They ſeem 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 likewiſe now and then meet with a number of theſe bunches iſſuing from one root.

Spikenard has a warm, pungent, bitteriſh taſte; and a ſtrong, not very agreeable ſmell. It is ſtomachic and carminative; and ſaid to be alexipharmac, diuretic, and emmenagogue; but at preſent it is very little employed.

NASTURTIUM AQUATICUM [*Lond. Ed.*] *Herba recens.*
Siſymbrium Naſturtium Lin.
Water creſſes; the freſh herb.

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 ſmell (when rubbed between the fingers), and an acrid taſte. As to their virtues, they are among the milder aperient antiſcorbutics. Hoffman had an high opinion of this plant, and recommends it as of ſingular efficacy; the expreſſed juice which contains the peculiar taſte and pungency of the herb, may be taken in doſes of an ounce or two, and continued for a conſiderable time. The juice is an ingredient in the *Succus cochlearæ compoſitus* of the ſhops.

NATRUM. See BARILLA.

NEPETA [*Brun.*] *Folia.*
Nepeta cataria Lin.
Catmint; the leaves.

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 penny royal; of the virtues of which it likewiſe participates.

NEPHRITICUM LIGNUM [*Brun.*]

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 outſide, 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 between the eye and the light, of a golden colour; in other ſituations, blue; pieces of another wood are ſometimes mixed with it, which give only a yellow colour to water. The nephritic wood has ſcarcely any ſmell, and very little taſte. It ſtands recommended in difficulty of urine, nephritic complaints, and all diſorders of the kidneys and urinary paſſages; and is ſaid to have this peculiar advantage, that it does not, like the warmer diuretics, heat or offend the parts. Practitioners, however, have not found theſe virtues warranted by experience.

NICOTIANA [*Lond. Edin.*] *Folium.*

Nicotiana Tabacum Lin.

Tobacco; the leaves.

This plant was firſt brought into Europe about the year 1560, from the iſland Tobago in America; and is now ſometimes cultivated for medicinal uſe in our gardens; but is generally imported from America in large quantities. The leaves are about two feet long, of a pale green colour while freſh, and when carefully dried of a lively yellowiſh caſt. They have a ſtrong, diſagreeable ſmell, like that of the narcotic plants, and a very acrid burning taſte. Taken internally, they prove virulently cathartic and emetic, occaſioning 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 phyſicians, as a ſafe and moſt effectual aperient, expectorant, detergent, &c. but the medicine, which is extremely precarious and uncertain, has never come into any eſteem among us. Of late, however, tobacco, under the form of a vinous or watery infuſion, and taken in ſuch ſmall doſes as to produce little effect from its action on the ſtomach, has been recommended to the attention of practitioners by Dr. Fowler. He has found it to be a very uſeful and powerful diuretic, and has publiſhed many caſes of dropſy and dyſury, in which its employment has been attended with the beſt effects; and theſe good effects have been confirmed by the obſervations of other practitioners.

Tobacco is ſometimes uſed externally in ointments, for deſtroying cutaneous inſects, cleanſing old ulcers, &c. Beaten into a maſh with vinegar or brandy, it has ſometimes proved ſerviceable in removing hard tumours of the hypocondria; an account is given in the Edinburgh Eſſays, of two caſes of this kind cured by it.

Injections by the anus of the ſmoke or decoction have been uſed with advantage in caſes of obſtinate conſtipation threatening ileus, of incarcerated hernia, of aſcarides,

des, of ſpaſmodic aſthma, and of perſons apparently dead from drowning or other ſudden cauſes. It has been uſed internally in form of ſyrup, conſerve, and infuſion, in caſes of worms, epilepſy, amenorrhœa, aſthma, &c. but it is certainly two active to be thus ventured on. An infuſion of its aſhes, recommended in dropſy, is not probably different from other vegetable lixivia, that contain a quantity of alkali.

There is another ſort of tobacco found wild on dunghills in ſeveral parts of England: *Nicotiana ruſtica of 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 flowers not reddiſh as thoſe of the officinal ſort, but of a yellowiſh green colour.

NITRUM. *Kali nitratum* [*Lond.*] *Lixiva nitrata* [*Edin.*] Nitre.

Nitre, or ſaltpetre, is a ſalt extracted in Perſia and the Eaſt Indies from certain earths; 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 ſalt extracted from the earth, &c. by means of water, is purified by colature and cryſtalliſation.

Pure nitre diſſolves in about ſix times its weight of water, and concretes again when the water is evaporated into colourleſs tranſparent cryſtals; their figure is that of a hexagonal priſm, terminated by ſloping plates. It readily melts in the fire; and in contact with fuel, deflagrates with a bright flame, and conſiderable noiſe; after the detonation is over, a large quantity of alkaline ſalt is found remaining. The taſte of nitre is ſharp, penetrating, and bitteriſh, accompanied with a certain ſenſation of coldneſs

Nitre is a medicine celebrated 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 febrile heats; promotes urine; ſometimes gently looſens the belly; but in cold phlegmatic habits, very rarely has this effect, though given in large doſes: Alvine fluxes, proceeding from too great acrimony of the bile or inflammation of the inteſtines, are ſuppreſſed by it: In choleric and febrile diſorders, it generally excites ſweat; but in malignant caſes, where the pulſe is low, and the ſtrength loſt, it retards this ſalutary evacuation.

The uſual doſe of this medicine is from two or three grains to a ſcruple; though it may be given with great ſafety and generally to better advantage, in larger quantities: The only inconvenience is its not being apt to ſit eaſy on the ſtomach. Some have affirmed, that this ſalt loſes half its weight of aqueous moiſture by fuſion, and conſequently that one part of melted nitre is equivalent to two of the cryſtals; but it did not appear, on ſeveral careful trials, to loſe ſo much as one twentieth of its weight. The only officinal preparation of nitre is the troches. It is employed likewiſe in operations on metallic bodies, for promoting their calcination.

NUX

NUX MOSCHATA. See MYRISTICA.

NUX PISTACHIA [*Gen.*]
Piſtachia vera Lin.
Piſtachio nut.

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 Aarchipelago. Piſtachio nuts have a pleaſant, ſweet, unctuous taſte, reſembling that of almonds. They are ranked among the analeptics; and are much eſteemed in certain weaknеſſes, and in emaciated habits.

NUX VOMICA [*Suec.*]
Strychnos nux vomica Lin.
Nux vomica.

This is the produce of a tree growing in the Eaſt Indies, where it is ſaid to be uſed as a ſpecific againſt the bite of a ſpecies of water ſnake. It is conſiderably bitter and deleterious; but has been uſed in doſes of from five to ten grains twice a day in intermittents, particularly obſtinate quartans, and in contagious dyſentery. The *Strychnos Ignatii* is a tree of the ſame kind, producing gourd like fruit, the ſeeds of which are improperly called St. Ignatiu's beans. Theſe, and alſo the woods or roots, of ſome ſuch trees, called lignum colubrinum or ſnakewood, are very narcotic bitters like the nux vomica.

NYMPHÆAALBA [*Brun.*]
Radix, flores.
Nymphæa alba Lin.
White water lily; the root and flowers.

This grows in ſlow running 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 they have a diſagreeable ſmell, which is in great meaſure loſt by drying: They are recommended in alvine fluxes, gleets, and the like. The roots are ſuppoſed to be in a high degree narcotic, but on no very good foundation. Lindeſtolpe informs us, that in ſome parts of Sweden they were in times of ſcarcity uſed as food, and did not prove unwholſome.

OCHRA [*Bru*]
Yellow ochre: A ſoft 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.

OCULI CANCRORUM. See CANCER.

ŒNANTHE, *Radix, folia.*
Oenanthe crocata Lin.
Hemlock dropwort.

This is a large umbelliferous plant growing in ditches and other moiſt places.

This virulent plant has been long known as a moſt dangerous poiſon. Its roots or leaves eaten by miſtake have often proved fatal; occaſioning violent ſickneſs and vomiting, rigors, convulſions, delirium, and other terrible affections of the nervous ſyſtem.

Notwithſtanding theſe violent effects which it produces when taken in large quantities, its juice in the doſe of a drachm or two twice a day has been found ſingularly efficacious in removing inveterate ſcorbutic complaints. It has been a good deal employed at

Edinburgh,

Edinburgh, and in ſome caſes with apparent advantage. The late Dr. Hope thought that in many caſes he found an infuſion of the leaves highly uſeful in promoting the menſtrual diſcharge. It does not ſeem to have yet found its way into any of our modern pharmacopœias; but it may be juſtly conſidered as meriting farther attention.

OLIBANUM [*Lond. Ed.*]
Gummi reſina.
Juniperus Lycia Lin.
Olibanum.

This gummi reſinous ſubſtance is 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 taſte, and a ſtrong not very agreeable ſmell. This drug has received many different appellations according to its different appearances: The ſingle tears are called ſimply *olibanum* or *thus*: When two are joined together they have been called *thus maſculum*, and when two were very large, *thus fœmininum*: Sometimes four or five, about the bigneſs of filberts, are found adhering to a piece of bark of the tree from which they exuded; theſe have been named *thus corticoſum*; 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.

Olibanum conſiſts of about equal parts of gummy and reſinous matters; the firſt ſoluble in water, the other in rectified ſpirit. With regard to its virtues abundance have been attributed to it, particularly in diſorders of the head and breaſt, 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 ſaid to have had large experience of the good effects of it in pleuriſies, eſpecially epidemic ones: He directs a ſcooped apple to be filled with a drachm of olibanum, then covered and roaſted 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 ſays, either a plentiful ſweat, or a gentle diarrhœa enſues, which carries off the diſeaſe.

OLIVA. [*Lond. Ed.*] *Fructus. Oleum expreſſum.*
Olea europea Lin.
Olive: The expreſſed oil of the fruit.

This tree grows in the ſouthern parts of France, in Spain, Italy, and other warm countries: With us it is uſually kept in the green houſes of the curious. Olives have an acrid, bitter, extremely diſagreeable taſte: Pickled, as we receive them from abroad, they prove leſs diſagreeable; the Lucca olives, which are ſmaller than the others, have the weakeſt taſte; the Spaniſh, or larger, the ſtrongeſt; the Provence, which are of a middling ſize, are generally the moſt eſteemed.

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 olive oil; the other before the fruit has grown ripe; this is called *oleum immaturum*

immaturum and *omphacinum*. Nothing is met with in the shops under this name; and Lemery affirms that there is no such oil; unripe olives, yielding only a viscid juice to the press. From the ripe fruit, two or three sorts are obtained, differing in degree of purity: The purest runs by light pressure: The remaining magma, heated and pressed more strongly, yields an inferior sort, with some dregs at the bottom, called *amurca*. All these oils contain a considerable portion of aqueous moisture, and a mucilaginous substance; which subject them to run into a putrid state: To prevent this, the preparers add some sea salt, which imbibing the aqueous and mucilaginous parts, sinks with them to the bottom; by this means the oil becomes more homogeneous, and consequently less susceptible of alteration. In its passage to us, some of the salt, thrown up from the bottom by the shaking of the vessel is sometimes mixed with and detained in the oil. which, in our colder climate, becomes too thick to suffer it freely to subside; and hence this oil is sometimes found to have a manifest saline taste. Olive oil is used in plasters and ointments and other compositions for external uses: It is also used internally in hoarseness, coughs, &c. either mixed with water into the form of an emulsion by means of alkalies, or mixed with syrups or conserves into linctuses.

OPIUM [*Lond. Ed.*] *Succus inspissatus.*

Papaver somniferum Lin.

Opium.

This juice has not yet been collected in quantity in Europe. Egypt, Persia, and some other provinces of Asia, have hitherto supplied us with this commodity: In those countries, large quantities of poppies are cultivated for this purpose. 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 sticking together: It is of a solid consistence, yet somewhat soft 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.

In the province of Bahar in the East Indies, the poppy seeds are sown in October or November at about eight inches distance; and are well watered till the plants are about half a foot high, when a compost of nitrous earth, dung, and ashes, is spread over the areas; and a little before the flowers appear they are again watered profusely till the capsules are half grown: And then the opium is collected; for when fully ripe, they yield little juice. Two longitudinal incisions, from below upwards, without penetrating the cavity, are made at sunset for three or four successive evenings. In the morning the juice is scraped off with an iron scoop, and worked in an earthen pot in the sun's heat till it be of a proper consistence to be formed into thick cakes of about four pounds weight, which are covered over with the leaves of poppy, and dried. It is said to be adulterated with various unknown substances, with the

extract

extract of the poppy plant procured by boiling, and even with cow dung. It is purified by reducing it to a pulp with hot water, and ſtrongly preſſing it while hot, through a linen cloth from its impurities. It is then evaporated by a water bath or other gentle heat to its original conſiſtence. This extract is found to contain a reſin, a kind of eſſential oil, a principle of odour, an eſſential ſalt, and a ſopy extract.

Opium has a browniſh colour; a ſtrong peculiar ſmell; a taſte at firſt nauſeous and bitter, but ſoon becoming acrid, with a ſlight warmth; and it appears to have ſome aſtringency, as a watery tincture of it forms an ink with a chalybeate ſolution.

The external and internal effects of opium appear to be various in different conſtitutions, and in the ſame at different times. By ſome, when applied to the tongue, the noſe, the eye, or any part deprived of ſkin, it has been ſaid to ſtimulate, and to induce, eſpecially in the eye, a ſlight degree of redneſs. But if this effect takes place, it is at the utmoſt extremely inconſiderable, particularly when compared with the effect of volatile alkali, ardent ſpirit, or a variety of other articles applied to the ſame organ: And there can be no doubt, that in a very ſhort time the ſenſibility of the part to which it is applied, even without the ſlighteſt mark of preceding ſtimulus or inflammation, is very conſiderably diminiſhed. Some allege, that, when applied, to the ſkin, it allays pain and ſpaſm, procures ſleep, and produces all the other ſalutary, or dangerous, effects, which reſult from its internal uſe; while others allege, that thus applied it has little or no effect whatever.

This variety probably ariſes from differences in the condition of the ſubcutaneous nerves, and of the ſenſibility of the ſurface as being more or leſs defended. But there is no doubt, that when mixed with cauſtic, it diminiſhes the pain, which would otherwiſe enſue, probably by deadening the ſenſibility of the part.

It ſometimes allays the pain in a carious tooth; and a watery ſolution of it has been uſed in various ulcers, certain ophthalmias, and virulent gonorrhœa, when pain and inflammation have given very great diſtreſs.

Opium, when taken into the ſtomach in a ſufficient doſe, gives riſe to a pleaſant ſerenity of mind, in general proceeding to a certain degree of languor and drowſineſs. The action of the ſanguiferous ſyſtem is diminiſhed, the pulſe becoming, for the moſt part, ſofter, fuller, and ſlower than it was before. A ſwelling of the ſubcutaneous veins, and ſweating, often takes place, both probably the conſequences of a diminution of reſiſtance at the ſurface, from a diminution of muſcular action; and accordingly opium diminiſhes thoſe diſcharges which depend on muſcular action, as is particularly exemplified in its effect of binding the belly. Opium taken into the ſtomach in a larger doſe, gives riſe to confuſion of head and vertigo. The power of all ſtimulating cauſes, as making impreſſions on the body, is diminiſhed; and even at times, and in ſituations when a perſon would naturally be awake, ſleep is irreſiſtably induced. In ſtill larger doſes, it acts in the ſame manner as the narcotic poiſons, giving

giving rise to vertigo, headach, tremours, delirium and convulsions; and these terminating in a state of stupor, from which the person cannot be roused. This stupor is accompanied with slowness of the pulse, and with stertor in breathing, and the scene is terminated in death, attended with the same appearances as take place in an apoplexy.

From these effects of opium in a state of health, it is not wonderful that recourse should have been had to it in disease, as mitigating pain, inducing sleep, allaying inordinate action, and diminishing morbid sensibility. That these effects result from it, is confirmed by the daily experience of every observer; and as answering one or other of these intentions, most if not all, of the good consequences derived from it in actual practice are to be explained. If, therefore by a sedative medicine we mean an article capable of allaying, assuaging, mitigating, and composing, no substance can have a better title to the appellation of sedative than opium.

Some practitioners are averse to its use where an active inflammation takes place; but others have recourse to it in such cases, even at an early period, especially after blood letting; and where such affections are attended not only with pain and spasm, but with watchfulness and cough, it is often productive of the greatest benefit. Opium combined with calomel has of late been extensively employed in every form of active inflammation, and with the greatest success. It is found also to be of very great service in allaying the pain and preventing the symptomatic fever liable to be induced by wounds, fractures, burns, or similar accidents.

In intermittents, it is said to have been used with good effect before the fit, in the cold stage, in the hot stage, and during the interval. Given even in the hot stage, it has been observed to allay the heat, thirst, headach, and delirium, to induce sweat and sleep, to cure the disease with the less bark, and without leaving abdominal obstructions or dropsy.

It is often of very great service in fevers of the typhoid type, when patients are distressed with watchfulness or diarrhœa. But where these or similar circumstances do not indicate its use, it is often distressing to patients by augmenting thirst and constipation.

In small pox, when the convulsions before eruption are frequent and considerable opium is liberally used. It is likewise given from the fifth day onwards; and is found to allay the pain of suppuration, to promote the ptyalism, and to be otherwise useful.

In dysentery, after the use of gentle laxatives, or along with them, opium, independently of any effect it may have on the fever, is of consequence in allaying the tormina and tenesmus, and in obviating that laxity of bowels which is so frequently a relict of that disease.

In diarrhœa, the disease itself generally carries off any acrimony that may be a cause, and then opium is used with great effect. Even in the worst symptomatic cases it seldom fails to alleviate.

In cholera and pyrosis, it is almost the only thing trusted to.

In colic, is is employed with laxatives;

laxatives; and no doubt often prevents ileus and inflammation, by relieving the ſpaſm. Even in ileus and in incarcerated hernia, it is often found to allay the vomiting, the ſpaſms, the pain, and ſometimes to diminiſh the inflammation, and prevent the gangrene of the ſtrangulated gut.

It is given to allay the pain and to favour the deſcent of calculi through the ureters, and to relieve the ſymptoms proceeding from ſpaſm in jaundice and dyſuria.

It is of acknowledged uſe in the different ſpecies of tetanus; affords relief to the various ſpaſmodic ſymptoms of dyſpepſia, hyſteria, hypochondriaſis, aſthma, rabies canina, &c. and has been found uſeful in ſome kinds of epilepſy.

Of late, in doſes gradually increaſed to five grains, three, four, or even ſix times a day, it has been uſed in ſyphilis; and ſome inſtances are recorded, in which it would ſeem that by this remedy alone, a complete cure had been obtained. In other inſtances, however, after the faireſt trial for a conſiderable length of time, it has been found ineffectual; and on the whole it ſeems rather to be uſeful in combating ſymptoms, and in counteracting the effects reſulting from the improper uſe of mercury, than in overcoming the venereal virus.

It is found uſeful in certain caſes of threatened abortion and lingering delivery, in convulſions during parturition, and in the after pains and exceſſive flooding.

The only form perhaps neceſſary for opium is that of pill; and as it is ſo ſoluble in every menſtruum, there ſeems the leſs occaſion for the addition of either gum or ſope. This form is more apt to ſit on the ſtomach than any liquid form, but requires rather more time to produce its effects. The adminiſtration of opium to the unaccuſtomed is ſometimes very difficult. The requiſite quantity of opium is wonderfully different in different perſons, and in different ſtates of the ſame perſon. A quarter of a grain will in one adult produce effects which ten times that quantity will not do in another; and a doſe that might prove fatal in cholera or colic, would not be perceptible in many caſes of tetanus or mania. The loweſt fatal doſe to the unaccuſtomed, as mentioned by authors, ſeems to be four grains; but even this is a dangerous doſe. When given in too ſmall a doſe, it is apt to produce diſturbed ſleep, and other diſagreeable conſequences; and in ſome caſes it ſeems impoſſible to be made to agree in any doſe or form. Often, on the other hand, from a ſmall doſe, ſound ſleep, and alleviation of pain will be produced, while a large one gives riſe to vertigo and delirium. Some phyſicians prefer the repetition of ſmall doſes, others the giving of a full doſe at once. In ſome caſes it ſeems not to have its proper effect till after a conſiderable time. The operation of a moderate doſe generally laſts about eight hours from the time of taking it.

Pure opium is partially ſoluble in water and in rectified ſpirit, and totally in proof ſpirit, wine, or vinegar. Water rubbed with opium, and decanted repeatedly till it come off colourleſs, yields, on gentle evaporation, an extract which ſome practitioners uſe and recommend as one of the beſt preparations of this ſubſtance, and which requires to be given

in

in double the dose of common opium.

It is said, that alkalies diminish its soporific effects; that the fixed render it diuretic, the volatile determine it to the skin; and that acids destroy its activity almost entirely; when however it is conjoined with acids, particularly the diluted vitriolic acid, it often sits easily on the stomach, when it would not otherwise be retained, and afterwards produces all its sedative effects.

The chief officinal preparations of opium, are, the *Opium purificatum*, *Pilulæ ex opio*, *Pulvis opiatus*, *Tinctura opii*, *Tinctura opii ammoniata*. Besides these it enters a great variety of different compositions, as the *Pulvis Ipecacuanha compositus*, *Linimentum Opiatum*, *Electuarium catechu*, &c.

The occasional bad effects of opium may result from the same power by which, in other states of the system, it proves beneficial. The methods, therefore, proposed of correcting these by roasting, fermentation, long continued digestion, repeated solutions and distillations, have not succeeded.

OPOPANAX [*Lond.*] *Gummi resina.*

Pastinaca Opopanax Lin.

Opopanax.

This is a concrete gummy resinous juice, obtained from the roots of an umbelliferous plant, which grows spontaneously in the warmer countries, and bears the colds of 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 outside with specks of white, inwardly of a paler colour, and frequently variegated with large white pieces. It has a peculiar strong smell, and a bitter, acrid, somewhat nauseous taste. Boerhaave frequently employed it, along with ammoniacum and galbanum, in hypocondriacal disorders, obstructions of the abdominal viscera, and suppressions of the menstrual evacuations; With these intentions it is an useful ingredient in the *Pilulæ gummosæ* and compound powder of myrrh of the London pharmacopœia, but it is not employed in any composition of the Edinburgh; nor is it in the Edinburgh materia medica. It may be given by itself in the dose of a scruple, or half a drachm: A whole drachm proves, in many constitutions gently purgative.

ORCHIS. See SATYRION.

ORIGANUM [*Lond.*] *Herba.*

Origanum vulgare Lin.

Wild marjoram; the herb.

This is met with upon dry chalky hills and in gravelly soils, in several parts of England. It has an agreeable smell, and a pungent taste, warmer than that of the garden marjoram, and much resembling thyme, which it seems to agree with in virtue. An essential oil distilled from it is kept in the shops.

There is another sort of *origanum* called *Creticum*, whose flowers, or rather flowery tops, are sometimes brought to us from Candy; these have an agreeable aromatic flavour, somewhat stronger than the common sort.

ORYZA [*Brun.*] *Semen.*

Oryza sativa Lin.

Rice; the grain.

Rice is the product of many different countries, particularly of the

the East Indies: But, as used in Britain, it is brought chiefly from Carolina, where the plant is cultivated in larger quantities. It is sufficiently nutritious, and affords an useful food in diarrhœas, dysenteries, and other disorders.

OSTREA [*Lond.*] *Testa.*
Ostrea edulis Lin.
Oyster shell.

The shells of the oyster, like those of other similar fish, are calcareous earth with some animal gluten. They possess no medicinal virtue superior to common limestone and chalk; and the only reason that can be assigned for using them is, that they afford a quicklime which is perfectly free from any taint of metallic or other mineral substance.

OVIS [*Lond.*] *Sevum.*
SEVUM OVILLUM [*Edin.*]
Ovis Aries Lin.
Mutton suet.

This article is used merely for the sake of giving a proper consistency to ointments, liniments, and plasters, and as a basis for these kind of compositions. Like other animal fats, it is lubricating and relaxing; and is sometimes employed for that purpose, being externally applied to take off the rigidity of certain parts, or to promote perspiration by relaxing the skin.

OVUM [*Lond.*]
Ovum Gallinaceum Lin.
Hens egg.

Both the yolk and the white of eggs are used to give a proper form to different medicines, and are for that purpose employed in some of the officinal preparations, as in the *Coagulum aluminis*. But they do not seem to possess any medical virtues, unless as an article of diet; and used with that intention they are highly nutritious. Eggshells when burnt become quicklime, and as such they have sometimes been used in medicine; but they differ in no respect from the other calcareous earths.

OXALIS. See ACETOSA.

OXYACANTHA GALENI. See BERBERIS.

OXYLAPATHUM. See HYDROLAPATHUM.

PÆONIA [*Suec.*] *Radix, semen.*
Pæonia officinalis Lin.
Male and female peony; the root and seed.

These plants are cultivated in our gardens on account of the beauty of their flowers; the female which is the largest and most elegant, and for this reason the most common, is the only one with which the shops are supplied. In quality they are scarcely sensibly different; and hence they may be taken promiscuously. The roots and seeds of peony have, when recent, an unpleasant scent, approaching to that of the narcotic plants, and a somewhat glutinous subacid taste, with a slight degree of bitterness and astringency; the leaves also discover an astringent quality, both to the taste and by changing chalybeate solutions to a purple colour: The flowers have little taste, and a very faint not agreeable smell. The parts which have been chiefly used for medicinal purposes are the roots and seeds. They are considered as emollient, corroborant, and slightly anodyne; and supposed to be of service in some kinds of

of obſtructions, eroſions of the viſcera, heat of urine, pains in the kidneys, &c. The virtue they are chiefly celebrated for, is that of curing ſpaſmodic and epileptic complaints; which many have been abſurd enough to believe that the roots and ſeeds of this plant would do by being only worn about the neck.

PALMA [*Ed.*] *Fructus oleum expreſſum.*

Palm tree; the expreſſed oil of the fruit.

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; it has a ſtrong, agreeable ſmell, but very little taſte: 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 ſaid 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, cramps, ſprains and the like. The common people apply it for the cure of chilblains, and when early uſed it is not without ſucceſs.

PAPAVER ALBUM [*Lond. Ed.*] *Capſula.*

Papaver ſomniferum Lin.

The white poppy; the ſeed-pod.

Poppy heads, boiled in water impart to the menſtruum their narcotic juice. The liquor ſtrongly preſſed out, ſuffered to ſettle, clarified with whites of eggs, and evaporated to a due conſiſtence, yields about one fifth, or one ſixth the weight of the heads, of extract. This poſſeſſes the virtues of opium; but requires to be given in double its doſe to anſwer the ſame intention, which it is ſaid to perform without occaſioning a nauſea and giddineſs, the uſual conſequences of the other. A ſtrong decoction of the heads, mixed with as much ſugar as is ſufficient to reduce it into the conſiſtence of a ſyrup, becomes fit for keeping in a liquid form; And is the only officinal preparation of the poppy. Both theſe preparations are very uſeful ones, though liable to variation in point of ſtrength: Nor does this inconvenience ſeem avoidable by any care in the preſcriber or the operator; ſince the poppy heads themſelves, according to the degree of maturity and the ſoil and ſeaſon of which they are the produce, contain different proportions of the narcotic matter to the other juices of the plant.

The ſeeds of the poppy are by many reckoned ſoporific: Juncker ſays, they have the ſame quality with thoſe of the hyoſcyamus, and Herman looks upon them as a good ſubſtitute for opium; miſled probably by an obſervation which holds in many plants, that the ſeeds are more efficacious than the veſſels in which they are contained. The ſeeds 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 olive oil; and the ſeeds themſelves have been taken as food: Their taſte is ſweetiſh and farinaceous.

PAPAVER

PAVAVER ERRATICUM [*Lond.*] *Flos.*

Papaver Rhœas Lin.

Red poppy; the flower.

The flowers of this plant yield upon expreſſion a deep red juice, and impart the ſame 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 ſlightly anodyne virtue.

PAREIRA BRAVA [*Lond.*]

Ciſſampelos Pareira Lin.

Pareira brava; the root.

This is the root of an American plant brought to us from Brazil, in pieces of different ſizes, ſome no bigger than one's finger, others as large as a child's arm; it is crooked, and variouſly wrinkled on the ſurface; outwardly of a dark colour, internally of a dull yellowiſh, and interwoven with woody fibres; ſo that, upon a tranſverſe ſection, a number of concentric circles appear, croſſed with fibres, which run from the centre to the circumference: It has no ſmell; the taſte is a little bitteriſh, blended with a ſweetneſs like that of liquorice. This root is highly extolled by the Brazilians and Portugueſe, in a variety of diſeaſes, particularly againſt ſuppreſſions of urine, nephritic pains, and the calculus. In the two firſt, Geoffroy ſays he has given it with good ſucceſs; and that the patient was almoſt inſtantly relieved by it, a copious diſcharge of urine ſucceeding. He likewiſe obſerved large quantities of gravel and ſmall ſtones voided after its uſe: This effect he attributes not to any lithontriptic power, but to its diſſolving 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 ſoon became clear, of a due conſiſtence, and was evacuated freely: And by joining to this medicine ballam of Copaiba, the ulcer perfectly healed. In humoral aſthmas, 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 ſo n completed a cure: In the jaundice proceeding from thick bile, it did excellent ſervice: But in another icterical caſe, where the liver was ſwelled and hard, this medicine did no good. His doſe of the root in ſubſtance is from twelve grains to half a drachm; in decoction to two or three drachms.

Theſe good effects, however, have not been confirmed by later experience; and at preſent it is ſo little uſed, that the Edinburgh college have given it no place in their pharmacopœia.

PARIETARIA [*Lond. Ed.*] *Herba.*

Parietaria officinalis Lin.

Pellitory of the wall; the herb.

This is a ſmall plant growing upon old walls: Of an herbaceous ſubſaline taſte, without any ſmell. It is an emollient, and with this intention is occaſionally uſed. The expreſſed juice has been given in the doſe of three ounces as a diuretic.

PASTINACA

PASTINACA [*Suec.*] *Semen.*
Paſtinaca ſativa Lin.
Parſneps; the ſeeds.

The roots of the parſnep are uſed as food, and prove ſufficiently nutritious. The ſeeds are ſlightly aromatic; and from that circumſtance are ſometimes, although rarely, employed in medicine.

PENTAPHYLLUM [*Lond.*] *Radix.*
Potentilla reptans Lin.
Cinquefoil; the roots.

This grows plentifully in hedges and by road ſides. The root is moderately aſtringent; and as ſuch is ſometimes given internally in diarrhœas 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 drachm; the internal part is conſiderably weaker, and requires to be given in double the doſe to produce the ſame effect; but as we poſſeſs many more powerful aſtringents, the cinquefoil is but little uſed.

PERSICARIA [*Suec.*] *Herba.*
Polygonum Hydropiper Lin.
Water pepper; the leaves.

This ſpecies of polygonum is remarkable for its pungent, biting, pepper like taſte. Its virtues are thoſe of an acrid ſtimulating medicine; in phlegmatic habits, it promotes the urinary diſcharge, and has frequently done good ſervice in ſcorbutic complaints. The freſh leaves are ſometimes applied externally for cleanſing old fiſtulous ulcers, and conſuming fungous fleſh; for thoſe purpoſes they are ſaid to be employed by the farriers, among whom they have been principally uſed.

PERSICA [*Brun.*] *Flos, nuclei.*
Amygdalus perſica Lin.
The peach tree; its flowers and kernels.

Peach flowers have an agreeable ſmell, and a bitteriſh taſte; diſtilled without any addition, by the heat of a water bath, they yield one ſixth of their weight, or more of a whitiſh liquor, which communicates to a large quantity of other liquids a flavour like that of the kernels of fruits. An infuſion in water of half an ounce of the freſh gathered flowers, or a drachm of them when dried, ſweetened with ſugar, proves for children an uſeful laxative and anthelmintic: The leaves of the tree are, with this intention, ſomewhat more efficacious, though leſs agreeable. The fruit has the ſame quality with the other ſweet fruits, that of abating heat, quenching thirſt, and gently looſening the belly.

PETASITIS [*Roſs.*] *Radix.*
Taſſilago Petaſitis Lin.
Butterbur; the root.

This grows wild, by the ſides of rivers and in moiſt meadows: It ſends forth ſhort ſcaly ſtalks in the ſpring, bearing ſpikes of purpliſh flowers; after this the leaves appear, which are very large and hollowed about the middle, ſo as to reſemble a bonnet, or what the Greeks called *petaſos*, whence the name of the plant. The roots have a ſtrong ſmell; a bitteriſh, aromatic, not very agreeable taſte; they have been given in the doſe of a drachm or more as an aromatic, and likewiſe as an aperient and deobſtruent; theſe virtues, however they poſſeſs in ſo low a degree, as to have loſt their reputation in the ſhops.

PETROLEUM

PETROLEUM [*Lond.*]
PETROLEUM BARBADENSE [*Edin.*]
Bitumen petroleum.
Rock oil, Barbadoes tar.

This is a general name for ſundry 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 pit coal, &c. afford, on diſtillation, oils not greatly different from them.

The fineſt ſort of this commodity comes from the duchy of Modena in Italy, where three different kinds are found; the beſt is almoſt as clear, fluid, and tranſparent as water, of a highly penetrating, yet not diſagreeable ſmell, ſomewhat like that of rectified oil of amber: The ſecond ſort is of a clear yellow colour, not ſo fluid as the former, leſs penetrating, and partaking more of the oil of amber ſmell: The third, or worſt, is of a blackiſh red colour, of a thicker conſiſtence, and more diſagreeable than the two foregoing. The firſt of theſe is very rarely met with in the ſhops; the ſecond; mixed with a little of the third and ſome ſubtile oil. is uſually ſent us inſtead of it. 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 it greatly loſes its natural ſmell: It unites with the eſſential oils of vegetables; but not at all with vinous ſpirits: The finer ſorts are ſo light as to ſwim 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 which they participate. They are principally recommended by authors for external purpoſes, againſt pains and achs, in paralytic complaints, and for preventing chilblains. For theſe intentions, ſome of the more common mineral oils have been uſed with good ſucceſs: An oil extracted from a kind of foſſil 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.

The Barbadoes tar is thicker than moſt petrolea, and nearly of the conſiſtence of common tar. It is of a reddiſh black colour, a diſagreeable ſmell, leſs pungent than the other ſorts. This bitumen is found in ſeveral of the Weſt India 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 likewiſe apply it externally as a diſcutient, and for preventing paralytic diſorders.

PETROSELINUM [*Lond. Ed.*] *Radix, ſemen.*
Apium petroſelinum Lin.
Parſley; the root and ſeed.

This plant is commonly cultivated for culinary purpoſes. The ſeeds have an aromatic flavour, and are occaſionally uſed as carminatives,

atives, &c. The root is sometimes made an ingredient in apozems and diet drinks: 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 slight degree of warmth and aromatic flavour.

PIMENTO [*Lond.*] *Bacca.*
PIMENTA [*Ed.*] *baccæ.*
Myrtus Pimenta Lin.

Pimento, or Jamaica pepper; the berry.

The smell of this spice resembles a mixture of cinnamon, cloves, and nutmegs: Its taste 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 accustomed to employ this aromatic as a succedaneum for the more costly spices, and from them it has been introduced into our hospitals.

Pimento is now in our pharmacopœias the basis of a distilled water, a spirit, and an essential oil; all of which are frequently employed where aromatics are indicated.

PIMPINELLA [*Ed.*] *Radix.*
Pimpinella saxifraga Lin.

Burnet saxifrage; the root.

Of this plant several varieties had formerly a place in our pharmacopœias: But all of them seem to be possessed of the same qualities, and to differ only in external appearance.

The roots of pimpinella have a grateful, warm, very pungent taste, which is entirely extracted by rectified spirit: In distillation, the menstruum arises, leaving all that it had taken up from the root, united into a pungent aromatic resin. This root promises, from its sensible qualities, to be a medicine of considerable utility; though little regarded in common practice, Stahl, Hoffman, and other German physicians, are extremely fond of it, and recommend it as an emollient, stomachic, resolvent, detergent diuretic, diaphoretic, and alexipharmac. They frequently gave it, and not without success, in scorbutic and cutaneous disorders, tumors and obstructions of the glands, and diseases proceeding from a deficiency of the fluid secretions in general. Boerhaave directs its use in asthmatic and hydropic cases, where the strongest resolvents are indicated: The form he prefers is a watery infusion; but the spirituous tincture possesses the virtues of the root in much greater perfection.

PIPER INDICUM [*Lond. Ed.*] *Fructus.*
Capsicum annuum Lin.

Guinea pepper, or capsicum; the fruit.

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 used in medicine, being chiefly employed for culinary purposes. And there can be little doubt that it furnishes us with one of the purest and strongest stimulants which can be introduced into the stomach; while, at the same time, it has nothing of the narcotic effect of ardent spirit. Its dose is six or eight grains in the form of pills, or from one to three drachms of tincture made by infusing half an ounce of it in a

pound

pound of rectified spirit. Dr. Adair has found it useful in a variety of cases, particularly in that morbid disposition which he calls the *cachexia Africana*, and which he considers as a most frequent and fatal predisposition to disease among the slaves. It has also been successfully employed in a species of cynanche maligna, which proved very fatal in the West Indies, resisting the use of Peruvian bark, wine, and the other remedies commonly employed.

A species of it, called in the West Indies *bird pepper*, is the basis of a powder brought from thence under the name of *Cayan pepper*.

PIPER LONGUM [*Lond. Ed.*] *Fructus.*

Piper longum Lin.

Long pepper.

Long pepper is the fruit of a plant growing in the East Indies. It is of a cylindrical figure, about an inch and a half long; the external surface appears composed of numerous minute grains placed round the fruit in a kind of spiral direction.

PIPER NIGRUM [*Lond. Ed.*] *Bacca.*

Piper nigrum Lin.

Black pepper; the berry.

Black pepper is the fruit of a plant growing in Java and Malabar, gathered probably before it be fully ripe, and exsiccated in the sun.

All the species of pepper have a pungent smell, and a very hot biting taste. The long sort, which is the hottest and strongest, is most frequently used for medicinal purposes; the black, as being more grateful, for culinary ones. The warmth and pungency of these spices reside chiefly in their resinous parts; and their aromatic odour in an essential oil. The genuine distilled oil smells strong of the pepper but has very little acrimony; the remaining decoction inspissated, yields an extract considerably pungent. A tincture made in rectified spirit is extremely hot and fiery; a few drops of it set the mouth as it were in a flame.

PIX BURGUNDICA [*Lond. Ed.*]

Pinus abies Lin.

Burgundy pitch.

This is of a solid consistence, yet somewhat soft, of a reddish brown colour, and not disagreeable in smell. Geoffroy relates, that it is composed of gallipot (a solid white resin which separates from some of the *terebinthinæ*, 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 saw the preparation of this commodity in Saxony, (from whence we are chiefly supplied with it,) that it is no more than the common turpentine boiled a little.

It is employed only externally. It was formerly an ingredient in several ointments and plasters, but from these it is now rejected; and at present it is used only by itself as a warm plaster. In some cases it excites even vesications; but in general it produces only redness of the part to which it is applied, with a slight degree of moisture exuding from it; and in consequence of these stimulating effects it is often serviceable in cases of coughs, rheumatisms &c.

PIX

PIX LIQUIDA [*Lond. Ed.*]
Pinus sylvestris Lin.
Tar.

This is a thick black empyreumatic oil obtained from the roots of old pines by distillation. It differs from the native resinous juice of the trees, in having a disagreeable empyreumatic quality, and in containing a proportion of the saline and other juices united with the resinous and oily. By the mediation of these a part of the terebinthinate oil proves soluble in aqueous liquors, which extract little or nothing from the purer turpentine. In consequence of which, water digested with tar, becomes, by being impregnated with this hot and pungent oil, warm and stimulating. It has been said not only to raise the pulse, and quicken circulation, but to increase the vis vitæ; and at one time it was highly extolled as a remedy of the utmost utility, particularly in cold phlegmatic habits. It is now, however, very generally allowed, that it is by no means intitled to the high character which was once given of it, and at present it is very little employed.

PLANTAGO [*Ed.*] *Folia.*
Plantago major Lin.
Common great plantain; the leaves.

The leaves are slightly astringent. and the seeds said to be so; and hence they stand recommended in hæmorrhagies and other cases where medicines of this kind are proper. The leaves bruised a little are the usual application of the common people to slight flesh wounds.

Plantain has been alleged to be a cure for the bite of the rattlesnake: But probably without much foundation, although it is one of the principal ingredients in the remedy of the Negro Cæsar, for the discovery of which he received a considerable reward from the assembly of South Carolina.

PLUMBUM [*Lond.*]
Lead.

This is the heaviest of the metals, except gold, platina and quicksilver: It melts in a moderate heat, and if kept in fusion, is soon converted partly into fume, and partly into an ash coloured calx, *plumbum ustum*; this exposed to a stronger fire, in such a manner that the flame may play upon its surface, becomes first yellow, and afterwards of a deep red, *minium* or red lead: If in this process the fire be suddenly raised to a considerable height, the calx melts, assumes the appearance of oil, and on cooling forms a soft leafy substance of a yellowish or reddish colour, *Lithargyrus* or litharge; of these there are two kinds one of a deep orange or reddish colour, formerly call *lithargyrus auri*, and the other of a paler colour called *Lithargyrus argenti*.

The proper menstruum of this metal is aquafortis: The vegetable acids likewise dissolve it, but in very small quantity: A quart of distilled vinegar will not take up a drachm of lead; exposed to the steam of vinegar, it is by degrees corroded into a white powder, *cerussa*, which is considerably more easy of solution. The calces of lead dissolve by heat in expressed oils; these mixtures are the basis of several officinal plasters and ointments. Crystals obtained from a solution of this metal in distilled vinegar, are called from their sweetish taste, *sugar* of lead; but

more

more properly *plumbum acetatum* or *ceruſſa acetata.*

Preparations of lead, given internally, are ſuppoſed to inciaſſate the fluids, abate inflammations, and reſtrain ventreal deſires. The acetated lead is a ſtrong aſtringent, and has been uſed, it is ſaid, with good ſucceſs in hæmorrhagies, fluor albus, ſeminal gleets, &c. A tincture of it is recommended for the like purpoſes; and for checking immoderate ſweats in phthiſical caſes; whence it has been called *tinctura antiphthiſica.* The internal uſe of this metal is nevertheleſs dangerous, and ought never to be ventured on unleſs in deſperate caſes, after other medicines have been employed without effect: It often occaſions violent colics; and though it ſhould not prove immediately hurtful, its ill conſequences are ſure, though ſlow: Tremors, ſpaſms, or lingering tabes, too frequently follow.

The preparations of lead with vinegar are much uſed externally in inflammation, with great ſucceſs; but of theſe we ſhall ſpeak more particularly afterwards. See Part III. Chap. 14. on the preparations of lead.

POLYPODIUM [*Succ.*] *Radix.*

Polypodium vulgare Lin.

Polypody; the root.

Polypody is a capillary plant, growing on old walls, the trunks of decayed trees, &c. That found upon the oak is generally preferred though not ſenſibly different from the others. The roots are long and ſlender, of a reddiſh brown colour on the outſide, greeniſh within, and full of ſmall tubercles, which reſemble 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 yet remain to be determined. The antients held it to be a powerful purger of melancholic humours; by degrees it came to be eſteemed an evacuator of humours in general: At length it was ſuppoſed only to gently looſen the belly; and afterwards even this quality was denied it; ſucceeding phyſicians declared it to be aſtringent; of this number is Boerhaave, who eſteems it moderately ſtyptic and antiſcorbutic.

POMPHOLYX [*Succ.*]

This is an impure calx 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, to the ſides of the furnaces in the vents, &c. either in form of thin cruſts, or of a light downy matter, generally of a pure white colour, though ſometimes yellowiſh. See ZINCUM.

POPULUS [*Brun.*] *Gemma.*

Populus niger Lin.

The black poplar; its buds.

The black poplar is a large tree growing wild in watery places; it is eaſily raiſed, and of very quick growth. The young buds or rudiments of the leaves, which appear in the beginning of ſpring abound with a yellow, unctuous, 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 purpoſes: A tincture of them made in rectified ſpirit yields when inſpiſſated a fragrant reſin ſuperior

or to many of thoſe brought from abroad. The black poplar however, affords a much weaker flavoured reſin, and in conſiderable leſs quantity than another ſpecies known by the name of Tacamahaca, for an account of which, ſee TACAMAHACA.

PRUNELLA [*Brun.*] *Herba.*
Prunella vulgaris Lin.
Self heal; the plant.

This plant grows wild in meadows and paſture grounds, and produces thick ſpikes of purpliſh flowers during the latter part of the ſummer. It has an herbaceous roughiſh taſte: And hence ſtands recommended in hæmorrhagies and alvine fluxes: It has been principally celebrated as a vulnerary, whence its name; and in gargariſm, for aphthæ, and inflammations of the fauces.

PRUNUS GALLICA [*Lond. Ed.*] *Fructus.*
Prunus domeſtica Lin.
The common prune.

The medical effects of the common prunes are, to abate heat, and gently looſen the belly; which they perform by lubricating the paſſage, and ſoftening the excrement. They are of conſiderable ſervice in coſtiveneſs, accompanied with heat or irritation, which the more ſtimulating cathartics would tend to aggravate: Where prunes are not of themſelves ſufficient, their effects may be promoted by joining them with a little rhubarb or the like; to which may be added ſome carminative ingredient to prevent their occaſioning flatulencies.

PRUNUS SYLVESTRIS [*Lond. Ed.*]
Prunus ſpinoſa Lin.
The ſloe.

Theſe have a very rough auſtere taſte, eſpecially before they have been mellowed by froſts. The juice of the unripe fruits 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. A conſerve of the fruit is directed by the London college.

PSYLLIUM [*Suec.*] *Semen.*
Plantago Pſyllium Lin.
Fleawort; the ſeeds.

This is a ſort of plantain, grows wild in the warmer climates, and is ſometimes met with in our gardens: It differs from the common plantains in having its ſtalks branched with leaves upon them. The ſeeds have been uſually brought from the ſouth of France; they are ſmall, but ſuppoſed to reſemble in ſhape a flea, whence the Engliſh name of the plant. Theſe ſeeds have a nauſeous, mucilaginous taſte: Boiled in water, they yield a conſiderable quantity of mucilage, which is ſometimes uſed in emollient glyſters. Alpinus relates, that among the Egyptians this mucilage is given in ardent fevers, and that it generally either looſens the belly or promotes ſweat.

PTARMICA [*Brun.*] *Radix.*
Achillea Ptarmica Lin.
Sneeze wort; the root.

This grows wild on heaths and in moiſt ſhady places: The flowers which are of a white colour, come forth in June and July The roots have an acrid ſmell, and a hot biting taſte: When chewed they occaſion a plentiful diſcharge of

ſaliva;

ſaliva; and when powdered and ſnuffed up the noſe provoke ſneezing. Theſe are the only intentions to which they have been uſually applied.

PULEGIUM [*Lond. Ed.*] *Herba, flos.*

Mentha Pulegium Lin.

Pennyroyal; the flower.

This plant grows ſpontaneouſly, in ſeveral parts of England, on moiſt commons, and in watery places; creeping on the ground, and ſtriking roots at the joints. Our markets have been for ſome time ſupplied with a garden ſort, which is larger than the other, and grows upright.

Pennyroyal is a warm, pungent herb, of the aromatic kind, ſimilar to mint, but more acrid and leſs agreeable: It has long been held in great eſteem as an aperient and deobſtruent, particularly in hyſteric complaints, and ſuppreſſions of the uterine purgations. For theſe purpoſes, the diſtilled water is generally uſed, or an infuſion of the leaves. Both water and rectified ſpirit extract the virtues of this herb by infuſion, and the greateſt part of them in diſtillation.

In the ſhops are kept a ſimple water, a ſpirit, and an eſſential oil obtained from this vegetable. But under any form it is now leſs frequently employed than formerly.

PULSATILLA NIGRICANS [*Ed.*] *Herba cum floribus.*

Anemone pratenſis Lin.

Meadow anemone.

This is the moſt acrid of the anemonies; and is recommended by Dr. Stoerk, in the quantity of half an ounce of the diſtilled water, or five grains of the extract, twice or thrice a day in venereal nodes, pains, ulcers with caries, chronic eruptions, amenorrhœa, various chronic affections of the eye, particularly blindneſs from obſcurities of the cornea. Its common effects are nauſea or vomiting, an augmented diſcharge of urine, diarrhœa, and increaſed pain at firſt in the affected part.

PYRETHRUM [*Lond. Ed.*] *Radix.*

Anthemis Pyrethrum Lin.

Pellitory of Spain; the root.

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 grow alſo larger with us than thoſe with which the ſhops are uſually ſupplied from abroad.

Pellitory root has no ſenſible ſmell; its taſte is very hot and acrid, but leſs ſo than that of arum; the juice expreſſed from it has ſcarcely any acrimony, nor is the root itſelf ſo pungent when freſh as after it has been dried. Water, aſſiſted by heat, extracts ſome ſhare of its taſte; rectified ſpirit, the whole; neither of them elevate any thing in diſtillation. The principal uſe of pyrethrum in the preſent practice is as a maſticatory, for promoting the ſalival flux; by this means it often relieves the toothach, ſome kinds of pains of the head, and lethargic complaints.

QUASSIA [*Lond. Ed.*] *Lignum, cortex, radix.*

Quaſſia amara Lin.

Quaſſy; the wood, bark, and root.

This root is about the thickneſs of a man's arm; its wood is whitiſh, becoming yellowiſh by expoſ-

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ure to the air. It has a thin, grey, fiſſured, brittle bark, which is deemed in Surinam more powerful than the wood. Quaſſy has no ſenſible odour, but is one of the moſt intenſe, durable, pure bitters known. Its infuſion, decoction, and tincture are almoſt equally bitter and yellowiſh, but they are not blackened by a chalybeate.

It was much uſed in a fatal fever in Surinam, and is ſaid to be effectual in ſuppreſſing vomiting.

It is ſaid to be leſs antiſceptic than Peruvian bark; but, like colombo, another pure bitter, it preſerves bile longer from putrefaction. The beſt form is that of pills of the extract.

QUERCUS [*Lond. Ed.*] *Cortex.*

Quercus robur Lin.

Oak tree; the bark.

This bark is a ſtrong aſtringent; and hence ſtands recommended in hæmorrhagies, alvine fluxes, and other preternatural or immoderate ſecretions; and in theſe it is ſometimes attended with good effects.

RADIX INDICA LOPEZIANA [*Ed.*]

Radix indica a Joanne Lopez denominata, Gaubii Adverſaria.

Indian, or Lopez root.

The tree is unknown. Neither the woody or cortical part of the root has any remarkable ſenſible quality. A ſlight bitterneſs is perceptible, and it is recommended, like ſimarouba, in diarrhœas even of the colliquative kind, in half drachm doſes four times a day. Little of this root has been brought to Europe: But ſome of thoſe who have had an opportunity of employing it, ſpeak in very high terms of its effects.

RAPHANUS RUSTICANUS [*Lond. Ed.*] *Radix.*

Cochlearia Armoracia Lin.

Horſe radiſh root.

This plant is ſometimes found wild about river ſides, and other moiſt places; for medicinal and culinary uſes, it is cultivated in gardens; it flowers in June, but rarely perfects its ſeeds in this country. Horſe radiſh root has a quick, pungent ſmell, and a penetrating acrid taſte; it nevertheleſs contains in certain veſſels a ſweet juice, which ſometimes exudes upon the ſurface. By drying, it loſes all its acrimony, becoming firſt ſweetiſh, and afterwards almoſt inſipid; if kept in a cool place covered with ſand, it retains its qualities for a conſiderable time. The medical effects of this root are, to ſtimulate the ſolids, and promote the fluid ſecretions: It ſeems to extend its action through the whole habit, and affect the minuteſt glands. It has frequently done ſervice in ſome kinds of ſcurvies and other chronic diſorders. 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 eſſential oil ariſe, poſſeſſing the whole taſte and pungency of the horſe radiſh. From this root, the *ſpiritus raphani compoſitus* derives its name, and no inconſiderable ſhare of its activity.

REALGAR, a foſſil compoſed of arſenic and ſulphur. See ARSENICUM.

RESINA ALBA. See TEREBINTHINA.

RHABARBARUM

RHABARBARUM [*Lond.*]
RHEUM [*Edin.*] *Radix.*
Rheum Palmatum Lin.
Rhubarb; the root.

This plant grows ſpontaneouſly in China, and endures the colds of our climate. Two ſorts of rhubarb are met with in the ſhops. The firſt is imported from Turkey and Ruſſia, in roundiſh pieces freed from the bark, with a hole through the middle of each; they are externally of a yellow colour, and on cutting, appear variegated with lively reddiſh ſtreaks. The other, which is leſs eſteemed, comes principally from China in longiſh pieces, harder, heavier, and more compact than the foregoing. The firſt ſort, unleſs kept very dry, is apt to grow mouldy and worm eaten: The ſecond is leſs ſubject to theſe inconveniences. Some of the more induſtrious artiſts are ſaid to fill up the worm-holes with certain mixtures, and to colour the outſide of the damaged pieces with powder of the finer ſorts of rhubarb, and ſometimes with cheaper materials: This is often ſo nicely done, as effectually to impoſe on the buyer, unleſs he very carefully examines each piece. The marks of good rhubarb are, that it be firm and ſolid, but not flinty; that it be eaſily pulveriſable, and appear, when powdered, of a fine bright yellow colour: That upon being chewed, it impart to the ſpittle a ſaffron tinge, without proving ſlimy or mucilaginous in the mouth. Its taſte is ſubacrid, biteriſh, and ſomewhat aſtringent; the ſmell ſlightly aromatic.

Rhubarb is a mild cathartic, which operates without violence or irritation, and may be given with ſafety even to pregnant women and to children. In ſome people however, it occaſions ſevere griping. Beſides its purgative quality, it is celebrated as an aſtringent, by which it ſtrengthens the tone of the ſtomach and inteſtines, and proves uſeful in diarrhœa and diſorders proceeding from laxity. Rhubarb in ſubſtance operates more powerfully as a cathartic than any of the preparations of it. Watery tinctures purge more than the ſpirituous ones; while 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 drachm or more.

The Turkey rhubarb is, among us, univerſally preferred to the Eaſt India ſort, though this laſt is for ſome purpoſes at leaſt equal to the other: It is manifeſtly more aſtringent, but has ſomewhat leſs of an aromatic flavour. Tinctures drawn from both with rectified ſpirit have nearly the ſame taſte: on diſtilling off the menſtruum, the extract left from the tincture of the Eaſt India rhubarb proved conſiderably the ſtrongeſt. They are both the produce of the ſame climate, and probably the roots of the ſame plant taken up at different ſeaſons, or cured in a different manner.

Rhubarb is now raiſed in Britain equal to any that is imported.

The officinal preparations of this drug are, a watery and a vinous infuſion, a ſimple and a compound tincture. It is alſo an ingredient in different compoſitions, ſuch as the *Tinctura rhei cum aloe*, *pilulæ rhei compoſitæ*, and ſome others.

RHAMNUS CATHARTICUS. See SPINA CERVINA.

RHAPONTICUM

RHAPONTICUM [*Roſs.*] *Radix.*

Rheum raponticum Lin.

Monks rhubarb, or Rhapontic; the root.

Rhapontic is a large roundiſh leaved plant, growing wild on the mountain Rhodope in Thrace, from 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 antients) is by ſome confounded with the modern rhubarb, though conſiderably 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, two or three drachms being required for a doſe.

RHEUM. See RHABARBARUM.

RHODODENDRON [*Ed.*] *Herba.*

Rhododendron chryſanthemum Lin.

Rhododendron; the herb.

This plant is a native of Siberia, where a weak infuſion of it is uſed as tea. The Siberians uſe a decoction of it in rheumatiſm and gout. They put about two drachms of the dried ſhrub in an earthen pot, with about ten ounces of boiling water, keeping it near a boiling heat for a night, and this they take in the morning. It is ſaid to occaſion heat, thirſt, a degree of delirium, and a peculiar creeping like ſenſation in the parts affected. The uſe of liquids is not allowed during its operation, as this is apt to induce vomiting. In a few hours the pain and diſagreeable ſymptoms are relieved, and two or three doſes generally complete the cure. The powder has alſo been uſed in doſes of a few grains.

Hitherto it has been ſo little employed in Britain that it has no place in the London pharmacopœa: But in ſome caſes in which it has been uſed at Edinburgh, it has been productive of good effects; and accordingly it is now introduced into the Edinburgh pharmacopœia, as well as into the pharmacopœia Roſſica, where it firſt had a place.

RIBES NIGRUM [*Lond.*] *Fructus.*

Ribes nigrum Lin.

Black currants; the berry.

RIBES RUBRUM [*Lond.*] *Fructus.*

Ribes rubrum Lin.

Red currants; the berry.

Theſe have a cool acidulous ſweet taſte, ſufficiently agreeable both to the palate and ſtomach.

The black currants are the baſis of an officinal ſyrup, and an inſpiſſated juice, which are frequently employed with advantage in recent catarrhs, attended with ſlight ſore throat.

RICINUS [*Lond. Ed.*] *Semen et ejus Oleum.*

Ricinus communis Lin.

Caſtor nut; the ſeed.

Theſe ſeeds are nuts about the ſize of beans, which in their brittle ſhells contain white kernels of a ſweet oily, and ſomewhat nauſeous taſte. The oil, commonly called nut or caſtor oil, is got by expreſſion, retains ſomewhat of the mawkiſhneſs and acrimony of the nut, but is, in general, a ſafe and mild laxative in caſes where we wiſh to avoid

avoid irritation, as in thoſe of colic, calculus, gonorrhœa, &c. and it is alſo uſed as a purgative in worm caſes. Half an ounce or an ounce commonly anſwers for an adult and a drachm or two for an infant.

An oil of an inferior kind, but poſſeſſing nearly the ſame qualities, is obtained by boiling.

Many people have ſo great an averſion to oil in its pure ſtate, that this purgative cannot be taken without great reluctance; and accordingly different modes of taking it have been propoſed. Some prefer taking it ſwimming on a glaſs of water or peppermint water, or in the form of emulſion, with mucilage, or with the addition of a little rum. Sometimes it is neceſſary to increaſe its activity by adding ſome other purgative. And with this view, nothing anſwers better than a ſmall quantity of tincture of jalap, or compound tincture of ſenna.

ROSA DAMASCÆNA [*Lond.*] *Petalum.*

ROSA PALLIDA [*Edin.*] *Petala.*

Roſa centifolia Lin.

The damaſk roſe; the petal.

This elegant flower is common in our gardens. Its ſmell is very pleaſant and almoſt univerſally admired; its taſte bitteriſh and ſubacrid. In diſtillation with water, it yields a ſmall portion of butyraceous oil, whoſe flavour exactly reſembles that of the roſes. This oil, and the diſtilled water, are very uſeful and agreeable cordials. Hoffman ſtrongly recommends them as of ſingular efficacy for raiſing the ſtrength, cheering and recruiting the ſpirits, and allaying pain; which they perform without raiſing any heat in the conſtitution, and rather abating it when inordinate. Damaſk roſes, beſides their cordial aromatic virtue, which reſides 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 ſugar, forms an agreeable laxative ſyrup, which has long kept its place in the ſhops.

ROSA RUBRA [*Lond. Ed.*] *Petalum.*

Roſa gallica Lin.

The red roſe; the petal.

This has very little of the fragrance of the foregoing pale ſort; and inſtead of its purgative quality, has a mild gratefully aſtringent one, eſpecially before the flower has opened: This is conſiderably improved by haſty exſiccation; but both the aſtringency and colour are impaired by ſlow drying. In the ſhops are prepared a conſerve, an infuſion, a honey, and a ſyrup of this flower.

ROSMARINUS [*Lond.*] *Cacumen, flos.* [*Edin.*] *ſummitates florentes.*

Roſmarinus officinalis Lin.

Roſemary; the top and flower.

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 ſoils it thrives beſt with us, and likewiſe proves ſtronger in ſmell than when produced in moiſt rich ones: This obſervation obtains 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

ſelves are conſiderably the weakeſt, but moſt pleaſant. Aqueous liquors extract a great ſhare of the virtues of roſemary leaves by infuſion, and elevate them in diſtillation; along with the water ariſes a conſiderable quantity of eſſential oil, of an agreeable ſtrong penetrating ſmell. Pure ſpirit extracts in great perfection the whole aromatic flavour of the tops of roſemary, but elevates very little of it in diſtillation: Hence the reſinous maſs left after abſtracting the ſpirit, proves an elegant aromatic, very rich in the peculiar qualities of the plant. The flowers of roſemary give over great part of their flavour in diſtillation with pure ſpirit; by watery liquors, their fragrance is much injured; and by heating, deſtroyed. The officinal preparations of roſemary are, an eſſential oil, and a ſpirit commonly known by the title of *Hungary water*; the tops are alſo an ingredient in the compound tincture of lavender, and ſome other formulæ.

RUBIA [*Lond. Ed.*] *Radix.*

Rubia tinctorum Lin.

Madder; the root.

Madder is raiſed in ſome of our gardens for medicinal purpoſes: 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 ſmell, and a ſweetiſh taſte, mixed with a little bitterneſs. The virtues attributed to it are thoſe of a detergent and aperient; whence it has been recommended in obſtructions of the viſcera, particularly of the kidneys; in coagulations of the blood from falls or bruiſes; in the jaundice, and beginning dropſies.

It is obſervable, that this root, taken internally, tinges the urine of a deep red colour; and we have accounts of its producing a ſimilar effect upon the bones of animals who had it mixed with their food: All the bones, particularly the more ſolid ones, were changed, both externally and internally, to a deep red; but neither the fleſhy or cartilaginous parts ſuffered any alteration: Some of theſe bones macerated in water for many weeks together, and afterwards ſteeped and boiled in ſpirit of wine, loſt none of their colour, nor communicated any tinge to the liquors. The colouring part of this root appears therefore to be poſſeſſed of great ſubtility of parts; whence its medical virtues ſeem to deſerve inquiry.

Some practitioners uſe it in half drachm doſes, ſeveral times a day as an emmenagogue.

RUBUS IDÆUS [*Lond.*] *Fructus.*

Rubus idæus Lin.

Raſpberry; the fruit.

This ſhrub is a native of the northern parts of Europe, and is common in our gardens. It flowers in May; and ripens its fruit in July. Raſpberries have a pleaſant ſweet taſte, accompanied with a peculiar grateful flavour, 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.

RUBUS NIGER [*Roſs.*] *Baccæ.*

Rubus fruticoſus Lin.

The bramble; the fruit.

This ſhrub is frequently found wild in woods and hedges. The berries have a faint taſte, without any

any of the agreeable flavour of the foregoing; the leaves are somewhat aſtringent.

They enter no officinal compoſition, are rarely directed in practice, and hence have now no place in our pharmacopœias.

RUSCUS [*Brun.*] *Radix.*
Ruſcus aculeatus Lin.
Butcher's broom; the root.

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 ſometimes made an ingredient in apozems and diet-drinks, for opening ſlight obſtructions of the viſcera, and promoting the fluid ſecretions.

RUTA [*Lond. Ed.*] *Herba.*
Ruta graveolens Lin.
Rue; the herb.

This is a ſmall ſhrubby plant, met with in our gardens, where it flowers in June, and holds its green leaves all the winter; we frequently find in the markets a narrow leaved ſort which is cultivated in preference to the other, on account of its leaves appearing variegated during the winter with white ſtreaks.

Rue has a ſtrong ungrateful ſmell, and a bitteriſh, penetrating taſte; the leaves, when in full vigour, are extremely acrid; inſomuch as to inflame and bliſter the ſkin, if much handled. With regard to their medicinal virtues, they are powerfully ſtimulating, and detergent; they quicken the circulation, open obſtructions of the excretory glands, and promote the fluid ſecretions.

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 eſſential oil, and the diſtilled water cohobated, or rectified ſeveral times, from freſh parcels of the 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 beſtow upon it fall ſhort of its merit: "What medicine (ſays he) can be more efficacious for promoting ſweat and perſpiration, for the cure of the hyſteric paſſion, and of epilepſies, and for expelling poiſon." Whatever ſervice rue may be of in the two laſt caſes, it undoubtedly has its uſe in others: The cohobated water, however, is not the moſt efficacious preparation of it. An extract made by rectified ſpirit contains, in a ſmal 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, are; the bitterneſs, and a conſiderable ſhare of the pungency, remaining behind.

The only officinal preparation of rue now retained in our pharmacopœias is the extract: But it is an ingredient in the compound powder of myrrh, and ſome other compoſitions.

SABINA [*Lond. Ed.*] *Folium.*
Juniperus Sabina Lin.
Savin; the leaf.

This is an evergreen ſhrub, clothed with ſmall, ſomewhat prickly leaves: It does not produce fruit till very old, and hence has been generally reputed barren. The leaves have a bitter, acrid, biting taſte; and a ſtrong diſagreeable ſmell: Diſtilled with water,

ter, they yield an eſſential 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 ſweat, urine, and all the glandular ſecretions. The diſtilled oil is one of the moſt powerful emmenagogues, and is found of ſervice in obſtructions of the uterus or other viſcera, proceeding from laxity and weakneſs.

The powder is ſometimes uſed for conſuming venereal warts.

The eſſential oil and watery extract are kept in the ſhops; and, as well as the rue, the ſavin is likewiſe an ingredient in the compound powder of myrrh.

SACCHARUM NON PURIFICATUM [*Lond. Ed.*]
Brown ſugar.

SACCHARUM PURIFICATUM, ſive BIS COCTUM [*Lond. Ed.*]
Double refined ſugar.

SACCHARUM CANTUM ALBUM ET RUBRUM [*Roſs.*]
Sugar candy white and brown.

Sugar is the eſſential ſalt 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 there in great quantity. The expreſſed juice of the cane is clarified with the addition of lime-water and boiled down to a due conſiſtence; when removed from the fire, the ſaccharine part concretes from the groſſer mucilaginous matter called *treacle* or *moloſſes*. This, as yet impure ſugar, is farther purified in conical moulds, by ſpreading moiſt clay on the upper broad ſurface: The watery moiſture, ſlowly percolating through the maſs, carries with it a conſiderable part of the remains of the treacly matter. This clayed ſugar, imported from the Weſt Indies and America is by our refiners diſſolved in water, the ſolution clarified by boiling with whites of eggs and deſpumation, and after due evaporation poured into moulds: As ſoon as the ſugar has concreted, and the fluid part ſtrained off, the ſurface is covered with moiſt clay as before. The ſugar, thus once refined, by a repetition of the proceſs becomes the double refined ſugar of the ſhops. The candy, or cryſtals, are prepared by boiling down ſolutions of ſugar to a certain pitch, and then removing them into a hot room, with ſticks ſet across the veſſel for the ſugar to ſhoot on: Theſe cryſtals prove of a white or brown colour, according as the ſugar was pure or impure.

The uſes of ſugar as a ſweet are ſufficiently well known. The impure ſorts 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 ſlowly in the mouth.

SAGAPENUM [*Lond. Ed.*]
Gummi reſinæ.
Sagapenum; the gum reſin.

This is a concrete juice brought from Alexandria, either in diſtinct tears, or run together in large maſſes. It is outwardly of a yellowiſh colour; internally, ſomewhat paler, and clear like horn: It grows ſoft on being handled, and ſticks to the fingers: Its taſte

is

is hot and biting: The ſmell diſagreeable, ſomewhat reſembling that of a leek.

Sagapenum is an uſeful aperient and deobſtruent; and is frequently preſcribed either alone or in conjunction with ammoniacum or galbanum, for opening obſtructions of the viſcera, and in hyſterical diſorders ariſing from a deficiency of the menſtrual purgations. It likewiſe promotes expectoration, and proves of conſiderable ſervice in ſome kinds of aſthmas and chronic catarrh, 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 drachm may be given every night or oftener, and continued for ſome time. When ſagapenum is ſcarce, the druggiſts uſually ſupply its place with the larger and darker coloured maſſes of bdellium, broken into pieces; which are not eaſily diſtinguiſhed from it.

Sagapenum was an ingredient in the compound powder of myrrh, electuary of bay berries, mithridate and theriaca of the London pharmacopœia.

But from ſuch of theſe formulæ as are ſtill retained it is now rejected. It enters the gum pills of the London college; but it has no place in any formula of the Edinburgh pharmacopœa, a preference being given to ammoniacum and galbanum.

SAGO [*Gen.*]
Cycas circinalis Lin.
Sago.

This is the produce of an oriental tree of the palm tribe. The medullary part of the tree is beaten with water, and made into cakes, which are uſed by the Indians as bread. They likewiſe put the powder into a funnel, and waſh it with water over a hair ſievewhich allows only the finer part to paſs through. The water on ſtanding, depoſits the feculæ; which being paſſed through perforated copper plates, is formed into grains called *Sago*. It furniſhes an agreeable jelly with water, milk, or broth, and is much uſed in phthiſical and convaleſcent caſes.

SAL ABSINTHII. See CINERES CLAVELLATI.

SAL ALKALINUS FIXUS VEGETABILIS. See CINERES CLAVELLATI.

SAL ALKALINUS FIXUS FOSSILIS. See BARILLA.

SAL CATHARTICUS AMARUS. See MAGNESIA VITRIOLATA.

SAL AMMONIACUS [*Lond. Ed.*]
Ammonia muriata.
Sal ammoniac.

This is an artificial ſaline concrete, prepared by ſublimation from the ſoot of animal dung. It is brought from Egypt in conſiderable quantities, but we are now principally ſupplied in Britain from our own manufactures, ſeveral of which are eſtabliſhed in different parts of the country. Though the cheapeſt and moſt commodious proceſs for preparing it is not generally known, yet it is with good reaſon conjectured to be principally formed from ſea ſalt and ſoot; the former furniſhing the muriatic acid, the latter the volatile alkali. It is generally in large round cakes, convex on one ſide, and concave on the other; and ſometimes in conical loaves: On breaking they appear compoſed of needles, or ſtriæ, running tranſverſely. The beſt are almoſt tranſparent, colourleſs, and free from any viſible impurities:

purities: 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 ſalt 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 fibrous plates like feathers.

Sal ammoniac is compoſed of muriatic acid, united with volatile alkali. If mixed with fixt alkalies, or abſorbent earths, and expoſed to a moderate fire, a large quantity of volatile ſalt ſublimes, the acid remaining united with the intermedium; if treated in the ſame manner with quick lime, the penetrating volatile ſpirit ariſes in a cauſtic ſtate, but no ſolid ſalt is obtained. Expoſed alone to a conſiderable heat, it ſublimes entire, without any alteration of its former properties: Ground with certain metallic ſubſtances, 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 ſolution of the metal made directly in muriatic acid.

Pure ſal ammoniac is a perfectly neutral ſalt, capable of 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 drachm of the ſalt be taken, diſſolved in water, and the patient kept warm it generally proves ſudorific; 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 ſalt is recommended as an excellent febrifuge, and has been held a great ſecret in the cure of intermittents. It is undoubtedly a powerful aperient, and ſeems to paſs into the minuteſt veſſels; and as ſuch may in ſome caſes be of ſervice, either alone, or joined with bitters or the bark. This ſalt is ſometimes employed externally as an antiſeptic, and in lotions and fomentations, for œdematous and ſcirrhous tumours: And alſo in gargariſms for inflammations of the tonſils. Some uſe it in form of lotion in certain ulcers, and for removing common warts, which it does very effectually.

SAL MURIATICUS [*Lond.*]
Natron muriatum.
SAL MARINUS HISPANUS [*Ed.*] *Muria calore ſolis parata.*
Soda muriata.
Sea ſalt, or common ſalt.

This is a neutral ſalt, differing from moſt others in occaſioning thirſt when ſwallowed. It diſſolves in about three times its weight of water; the ſolution ſlowly evaporated, affords cubical cryſtals which unite together into the form of hollow truncated pyramids. Expoſed to the fire, it crackles and flies about, or deprec ates, as it is called: It afterwards melts and appears fluid as water. A ſmall quantity of this ſalt added to the nitrous acid, enables it to diſſolve gold but renders it unfit 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 phenomenon is owing to the precipitation of the ſilver by the muriatic acid.

This ſalt is either found in a ſolid

solid form in the bowels of the earth, or dissolved in the waters of the sea or saline springs.

1. *Sal gemmæ.* Rock salt. This is met with in several parts of the world, but in greatest plenty in certain deep mines, of prodigious extent, near Cracow in Poland; some is likewise found in England, particularly in Cheshire. It is for the most part very hard, sometimes of an opaque snowy whiteness, sometimes of a red, green, blue, and other colours. When pure, it is perfectly transparent and colourless; other sorts are purified by solution in water and crystallisation, in order to fit them for the common uses of salt.

2. *Sal marinus, or Sal coctus.* The salt extracted from sea water and saline springs. Sea waters yield from one fiftieth to one thirtieth their weight of pure salt: Several springs afford much larger quantities; the celebrated ones of our own country at Nantwich, Northwich and Droitwich, yield (according to Dr. Brownrig) above one sixth. There are two methods of obtaining the common salt from these natural solutions of it: The one a hasty evaporation of the aqueous fluid till the salt begins to concrete, and fall in grains to the bottom of the evaporating pan, from whence it is raked out, and set in proper vessels for the brine or bittern to drain from it: the other a more slow and gradual evaporation continued no longer than till a saline crust forms on the top of the liquor; which, after removing the fire, soon begins to shoot, and run into crystals of a cubical figure. In the warmer climates, both these processes are effected by the heat of the sun. The salts obtained by them differ very considerably: That got by a hasty evaporation is very apt in a moist air, to run per deliquium; an inconvenience to which the crystallized salt is not subject: This last is likewise found better for preserving meat, and sundry other purposes.

Common salt in small 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 stimulus in glysters.

SAL CORNU CERVI; [*Ed.*] *Ammonia sicca, ex ossibus vel cornibus animalium igne paratus, et ab oleo empyreumatico, quantum igne fieri potest, purificata.*

Salt of hartshorn; *i. e.* dry volatile alkaline salt, obtained by means of fire from the bones or horns of animals, and purified from its oil.

This article, to which the London college now give the name of *Ammonia præparata*, will afterwards come to be mentioned under the head of *Salts*. Here, it is sufficient to observe, that it is a quick and powerful stimulant, and as such is applied externally to the nose in syncope: And with oil in cynanche, and some other inflammations, as a rubefacient. It is used internally in various low states of the system. See SPIRITUS CORNU CERVI.

SALIX [*Ed.*] *Ramulorum cortex.*

Salix fragilis Lin.

The willow; the bark of the branches.

This bark possesses a considerable

able degree of bitterneſs and aſtringency. It has been recommended by ſome as a ſubſtitute for the Peruvian bark, and of the indigenous barks which have been propoſed, it is perhaps one of the moſt effectual. But in point of efficacy it is in no degree to be compared with the Peruvian bark.

SALVIA [*Lond. Ed.*] *Folium.*
Salvia officinalis Lin.
Sage; the leaf.

Of the ſalvia different varieties are in uſe, particularly thoſe diſtinguiſhed by the titles of *major* and *minor*. Theſe plants are common in our gardens and flower in May and June: The green and red common ſages differ no otherwiſe than in the colour of their leaves; the ſeeds of one and the ſame plant produce both: The ſmall ſort is a diſtinct ſpecies; its leaves are narrower than the others, generally of a whitiſh colour, and never red. Both ſorts are moderately warm aromatics, accompanied with a ſlight degree of aſtringency and bitterneſs; the ſmall ſort is the ſtrongeſt, the large moſt agreeable.

The writers on the materia medica are full of the virtues of ſage and derive its name from its ſuppoſed ſalutary qualities.

Salvia ſalvatrix, naturæ conciliatrix.

Cur moriatur homo, cui ſalvia creſcit in horto.

Its real effects are, to moderately warm and ſtrengthen the veſſels; and hence, in cold phlegmatic habits, it excites appetite, and proves ſerviceable in debilities of the nervous ſyſtem. The beſt preparation for theſe purpoſes is an infuſion of the dry leaves, drank as tea; or a tincture, or extract, made with rectified ſpirit, taken in proper doſes; theſe contain the whole virtues of the ſage; the diſtilled water and eſſential oil, only its warmth and aromatic quality, without any of its roughneſs or bitterneſs. Aqueous infuſions of the leaves, with the addition of a little lemon juice prove an uſeful diluting drink in febrile diſorders, being ſufficiently agreeable to the palate.

SAMBUCUS [*Lond. Ed.*] *Cortex interior flos, bacca.*
Sambucus nigra Lin.
Black berried elder; the inner bark, flower, and berry.

This is a large ſhrub, frequent in hedges; it flowers in May, and ripens its fruit in September. The inner green bark of its trunk is gently cathartic: an infuſion of it in wine, or the expreſſed juice in the doſe of half an ounce or an ounce is ſaid to purge moderately, and in ſmall doſes to prove an efficacious deobſtruent, capable of promoting all the fluid ſecretions.

The young buds or rudiments of the leaves, are ſtrongly purgative, and act with ſo much violence as to be deſervedly accounted unſafe. The flowers are very different in quality: Theſe have an agreeable aromatic flavour, which they give over in diſtillation with water, and impart by infuſion to vinous and ſpirituous liquors. The berries have a ſweetiſh, not unpleaſant taſte; nevertheleſs, eaten in ſubſtance they offend the ſtomach: The expreſſed juice, inſpiſſated to the conſiſtence of a rob, proves an uſeful aperient medicine; it opens obſtructions of the viſcera, promotes the natural evacuations and if continued for a length of time, does conſiderable ſervice in ſeveral chronical diſorders.

ders. It is obſerveble, that this juice, which in its natural ſtate is of a purpliſh colour, tinges vinous ſpirits of a deep red.

This article was formerly kept in the ſhops, under ſeveral different formulæ. The *Succus ſpiſſatus* and *Unguentum ſambuci* ſtill retain a place in the London pharmacopœia; but the ſambucus does not now enter any fixed formula in that of Edinburgh.

A rob was prepared from the berries; an oil of elder by boiling the flowers in olive oil; and an ointment by boiling them in a mixture of oil and ſuet.

SANGUIS DRACONIS

[*Lond. Ed.*] *Gummi reſina.*

Dragon's blood.

What is called dragon's blood is a gummi reſinous ſubſtance brought from the Eaſt Indies, either in oval drops, wrapped up in flag leaves; or in large maſſes, compoſed of ſmaller tears. It is ſaid to be obtained from the palmi juncus draco, the calamus rotang the dracena draco, the pterocarpus draco, and ſeveral other vegetables.

The writers on the materia medica in general, give the preference to the former, though the others are frequently of equal goodneſs; the fine dragon's blood of either ſort breaks ſmooth, free from any viſible impurities, of a dark red colour, which changes on being powdered into an elegant bright crimſon. Several artificial compoſitions, coloured with the true dragon's blood, or Brazil wood, are ſometimes ſold inſtead of this commodity: Some of theſe diſſolve like gums, in water; others crackle in the fire, without being inflammable; while the genuine ſanguis draconis readily melts and catches flame, and is not acted on by watery liquors. It totally diſſolves 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 ſenſible ſmell or taſte; when diſſolved, it diſcovers ſome degree of warmth and pungency. It is uſally, but without foundation eſteemed a gentle aſtringent, and ſometimes directed as ſuch in extemporaneous preſcription, againſt ſeminal gleets, the fluor albus, and other fluxes. In theſe caſes, it is ſuppoſed to produce the general effects of reſinous bodies, ſlightly incraſſating the fluids, and ſomewhat ſtrengthening the ſolids. But in the preſent practice it is very little uſed, either externally or internally. It is ſtill however an ingredient in the *Emplaſtrum thuris* of the Loddon pharmacopœia. It formerly entered the *Pulvis ſlypticus*, or the *Pulvis aluminis compoſitus* as it is now called, of the Edinburgh college; but from this it has with propriety been rejected, giving place to a much more active article, the gum kino: And perhaps the ſanguis draconis might even with propriety be omitted in our pharmacopœias, at leaſt till its qualities be really aſcertained.

SANTALUM CITRINUM

[*Ed.*]

Santalum album Lin.

Yellow ſaunders.

This article, which is the interior part of the wood, is of a pale yellowiſh colour, of a pleaſant ſmell, and a bitteriſh aromatic taſte, accompanied with an agreeable kind of pungency. This

elegant

elegant wood might undoubtedly be applied to valuable medical purpoſes, though at preſent it is very rarely uſed. Diſtilled with water it yields a fragrant eſſential oil, which thickens in the cold into the conſiſtence of a balſam. Digeſted in pure ſpirit, it imparts a rich yellow tincture; which being committed to diſtillation, the ſpirit ariſes without any conſiderable flavour of the ſaunders. Hoffman conſiders this extract as a medicine of ſimilar virtues to ambergris; and recommends it as an excellent reſtorative in great debilities.

SANTALUM RUBRUM [*Lond. Ed.*]
Pterocarpus ſantolinus Lin.
Red ſaunders.

This is a wood brought from the Eaſt Indies in large billets, of a compact texture, of a dull red, almoſt blackiſh colour on the outſide, and a deep brighter red within. It has no manifeſt ſmell, and little or no taſte. It has been commended as a mild aſtringent, and as a corroborant; but theſe are qualities that belong only to the yellow ſort.

The principal uſe of red ſaunders is as a colouring drug; with which intention it is employed in ſome formulæ, particularly in the *Tinctura lavendulæ compoſita*. It communicates a deep red to rectified ſpirit, but gives no tinge to aqueous liquors: A ſmall quantity of reſin, extracted by means of ſpirit, tinges a large one of freſh ſpirit, of an elegant blood red. There is ſcarcely any oil, that of lavender excepted, to which it communicates its colour. Geoffroy and others take notice, that the Brazil woods are ſometimes ſubſtituted for red ſaunders; and the colleges of Bruſſels are in doubt whether all that is ſold among them for ſaunders be not really Brazil wood. According to the account which they have given, their ſaunders is certainly the Brazil wood; the diſtinguiſhing character of which is, to impart its colour to water.

SANTONICUM [*Lond. Ed.*]
Semen.
Artemiſia Santonicum Lin.
Worm ſeed.

This is a ſmall, light, chaffy ſeed, compoſed as it were of a number of thin membranaceous 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 with this intention, either mixed with molaſſes, or candied with ſugar.

SAPO [*Lond.*] *Ex oleo olivæ et natro confectus.*
SAPO ALBUS HISPANUS [*Ed.*]
White Spaniſh ſope.

SAPO MOLLIS.
Common ſoft ſope.

SAPO NIGER.
Black ſoft ſope.

Sope is compoſed of expreſſed vegetable oils or animal fats, united with cauſtic alkaline lixivia. The firſt ſort, or white hard ſope, is made with the finer kinds of olive oil; the common ſoft ſort with coarſer oils, fat, tallow, or a mixture of all theſe; and the black with train oil.

The purer hard ſope is the only ſort intended for internal uſe,

Boerhaave was a great admirer of ſope, and in his private practice ſeldom preſcribed any reſinous pills without it, unleſs where an alkaleſcent or putrid ſtate of the juices forbad its uſe. It has been ſuppoſed a powerful menſtruum for the human calculus; and a ſolution of it in lime water was formerly eſteemed one of the ſtrongeſt ſolvents that could be taken with ſafety into the ſtomach.

The ſoft ſopes are more penetrating and acrimonious than the hard. Their principal medical uſe is for ſome external purpoſes, although when diſſolved in ale, they have been directed to be taken in conſiderable quantity for the cure of jaundice.

Hard ſope gives name to an officinal plaſter, liniment, and baſſam.

SAPONARIA [*Suec.*] *Folia, Radix.*

Saponaria officinalis Lin.

Sopewort, or bruiſewort; the herb and root.

This grows wild, though not very common, in low wet places, and by the ſides of running waters; a double flowered ſort is frequent in our gardens. The leaves have a bitter, diſagreeable taſte: Agitated with water they raiſe a ſaponaceous froth, which is ſaid to have nearly the ſame effects with ſolutions of ſope itſelf, in taking out ſpots from cloths, and the like. The roots taſte ſweetiſh and ſomewhat pungent, and have a ſlight ſmell 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 conſiſtence 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 conſiderable utility. It is much eſteemed by the German phyſicians as an aperient, corroborant, and ſudorific; and preferred by the college of Wirtemberg, by Stahl, Neumann, and others, to ſarſaparilla.

SARCOCOLLA [*Lond.*] *Gummi reſina.*

This is a concrete juice, brought from Perſia and Arabia in ſmall white, yellow grains, with a few of a reddiſh, and ſometimes of a deep red colour, mixed with them; the whiteſt tears are preferred, as being the freſheſt. It is ſuppoſed to be the product of the Penæa ſarcocolla of Linné. Its taſte is bitter, accompanied with a dull kind of ſweetneſs. It diſſolves in watery liquors, and appears to be chiefly of the gummy kind, with a ſmall admixture of reſinous matter. It is principally celebrated for conglutinating wounds and ulcers (whence its name *ſarkokolla, fleſh glue,*) a quality to which neither this nor any other drug has a juſt title. It is an ingredient in the *Pulvis ceruſſæ compoſitus.*

SARSAPARILLA [*Lond. Ed.*] *Radix.*

Smilax Sarſaparilla Lin.

Sarſaparilla; the root.

This root is brought from the Spaniſh Weſt Indies. It conſiſts of a great number of long ſtrings hanging from one head: The long roots, the only part uſed, are about the thickneſs of a gooſe quill, or thicker, flexible, compoſed of fibres running their whole length; ſo that they may be ſplit into pieces from one end to the other. They have a glutinous, bitteriſh, not ungrateful taſte, and no ſmell.

It

It 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; and likewiſe of ſeveral obſtinate chronic diſorders. Whatever good effects it might have produced in the warmer climates, it proved unſucceſsful in this; inſomuch, that many have denied it to have any virtue at all. Though very unequal to the character which it bore at firſt, it appears to be 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 drachm of the extract, may be taken for a doſe.

SASSAFRAS [*Lond.*] *Lignum, radix ejuſque cortex,* [*Ed.*] *Lignum radicis ejuſque cortex.*
Laurus Saſſafras Lin.
Saſſafras; the wood, root, and its bark.

Saſſafras is brought to us in long ſtraight pieces, very light, and of a ſpongy texture, covered with a rough fungous bark, outwardly of an aſh colour, inwardly of the colour of ruſty iron. 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 ſucceſs for purifying the blood and juices. For theſe purpoſes, infuſions made from the raſped root or bark, may be drank as tea. In ſome conſtitutions, theſe liquors, by their fragrance, are apt, on firſt taking them, to affect the head: In ſuch caſes they may be advantageouſly freed from their flavour by boiling. A decoction of ſaſſafras boiled down to the conſiſtence of an extract, is bitteriſh and ſubaſtringent. Hoffman aſſures us, that he has frequently given this extract to the quantity of a ſcruple at a time, with remarkable ſucceſs, for ſtrengthening the tone of the viſcera in cachexies, and alſo in the decline of intermittent fevers, and in hypochondriacal ſpaſms. Saſſafras yields, in diſtillation, an extremely fragrant oil, of a penetrating pungent taſte, ſo ponderous, notwithſtanding the lightneſs of the drug itſelf, as to ſink in water. Rectified ſpirit extracts the whole taſte and ſmell of ſaſſafras, 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 ſaſſafras is the eſſential oil. The ſaſſafras itſelf is an ingredient in the *Decoctum Sarſaparillæ compoſitum*; and the oil in the *Tinctura guaiaci ammoniata.*

SATUREIA [*Suec.*] *Herba.*
Satureia hortenſis Lin.
Summer ſavory; the herb.

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 infuſion to aqueous liquors: Rectified ſpirit extracts the whole of its taſte and ſmell, but elevates nothing in diſtillation.

SATYRION [*Ed.*] *Radix.*
Orchis maſcula Lin.
Orchis; the root.

This

This plant is frequent in ſhady places and moiſt 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 ſlimy juice. With regard to their virtues, like other mucilaginous vegetables, they defend the ſolids from the acrimony of ſharp humours; they have alſo been celebrated, though on no very good foundation, for analeptic and aphrodiſiac virtues; and frequently uſed with theſe intentions. Salep, a celebrated reſtorative among the Turks, is prepared from the roots of certain plants of the orchis kind. This drug, as ſometimes brought to us, is in oval pieces, of a yellowiſh white colour, ſomewhat clear and pellucid, very hard, and almoſt horny, of little or no ſmell, and taſting like gum tragacanth. Satyrion root, boiled in water, freed from the ſkin, and afterwards ſuſpended in the air to dry, has 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 conſumptions, in bilious dyſenteries, and diſorders of the breaſt, proceeding from an acrimony of the juices.

SCAMMONIUM [*Lond. Ed.*]

Gummi reſina.

Convolvulus Scammonia Lin.

Scammony; the gum reſin.

Scammony is a concrete juice, extracted from the roots of a large climbing plant growing in Aſiatic Turkey. The beſt comes from Aleppo, in light ſpongy maſſes, eaſily friable, of a ſhining aſh colour verging to black; when powdered, of a light grey or whitiſh colour. An inferior ſort is brought from Smyrna in more compact ponderous pieces, of a darker colour, and full of ſand and other impurities. This juice is chiefly of the reſinous kind: Rectified ſpirit diſſolves five ounces out of ſix; the remainder is a mucilaginous ſubſtance mixed with droſs: Proof ſpirit totally diſſolves it, the impurities only being left. It has a faint unpleaſant ſmell, and a bitteriſh, ſomewhat acrimonious, taſte.

Scammony is an efficacious and ſtrong purgative. Some phyſicians have condemned it as unſafe, and laid ſundry ill qualities to its charge; the principal of which is, that its operation is uncertain, a full doſe proving ſometimes ineffectual, while at others a much ſmaller one occaſions dangerous hypercatharſis. This difference, however, is owing entirely to the different circumſtances of the patient, and not to any ill quality of the medicine; where the inteſtines are lined with an exceſſive load of mucus, the ſcammony paſſes through them without exerting itſelf; where the natural mucus is deficient, a ſmall doſe of this, or any other reſinous cathartic, irritates and inflames. Many have endeavoured to abate its force and correct its imaginary virulence, by expoſing it to the fume of ſulphur, 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 ſubſtance, judiciouſly managed, needs no corrector: If triturated with ſugar, with almonds, or with gum, as we have formerly recommended for other reſinous purgatives, it becomes ſufficiently ſafe and mild in its

its operation. It may likewiſe be conveniently diſſolved, by trituration, in a ſtrong decoction of liquorice and then poured off from the fæces: The college of Wirtemberg aſſure us, that, by this treatment, it becomes mildly purgative, and is unattended with gripes, or other inconveniences; and that it likewiſe proves inoffenſive to the palate. The common doſe of ſcammony is from three to twelve grains.

Scammony gives name to three different compound powders, viz. the *Pulvis ſcammonii compoſitus*, *Pulvis ſcammonii compoſitus cum aloe*, and *Pulvis ſcammonii cum calomelane*; and is an ingredient in the compound powder of ſenna, the compound extract of colocynth, and the pills of colocynth and aloes.

SCILLA [*Lond. Ed.*] *Radix.*
Scilla maritima Lin.
Squil, or ſea onion; the root.

This is a ſort of onion, growing ſpontaneouſly on dry ſandy ſhores in Spain and the Levant, from whence the root is annually brought into Europe. It ſhould be choſen plump, ſound, freſh, and full of a clammy juice: Some phyſicians have preferred the red ſort, others the white, though neither deſerves the preference to the other; the only difference perceivable between them is that of the colour; and hence both may be uſed promiſcuouſly. This root is very nauſeous, intenſely bitter and acrimonious: Much handled it ulcerates the ſkin. With regard to its medical virtues, it powerfully ſtimulates, and conſequently promotes expectoration, urine, and if the patient be kept warm, ſweat: If the doſe be conſiderable, it proves emetic, and ſometimes purgative. The principal uſe of this medicine is where the primæ viæ abound with mucous matter, and the lungs are oppreſſed by phlegm. Dr. Wagner, in his clinical obſervations, recommends it given along with nitre, in hydropical ſwellings, and in nephritis; and mentions ſeveral cures which he performed, by giving from four to ten grains of the powder for a doſe, mixed with a double quantity of nitre: He ſays, that thus managed, it almoſt always operates as a diuretic, though ſometimes it vomits or purges. In dropſy, dried ſquills are often combined with mercury. The moſt commodious form for the taking of ſquills, unleſs when deſigned as an emetic, is that of a bolus, or pill: Liquid forms are to moſt people too offenſive, though theſe may be rendered leſs diſagreeable, both to the palate and ſtomach, by the addition of aromatic diſtilled waters. This root yields the whole of its virtues, both to aqueous and vinous menſtrua, and to vegetable acids. The officinal preparations of it in our pharmacopœias are, a conſerve, dried ſquills, a ſyrup, vinegar, an oxymel, and pills.

SCOLOPENDRIUM [*Ed.*]
Lingua Cervina.
Aſplenium Scolopendrium Lin.
Harts tongue; the leaves.

This plant conſiſts 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 of the maidenhair, but more diſagreeable. They are recommended in obſtructions, and for ſtrenthening the tone of the viſcera; and have ſometimes been uſed for theſe intentions, either alone

alone, or in conjunction with maidenhair, or the other plants called *capillary*.

SCORDIUM [*Lond. Ed.*] *Herba.*

Teucrium Scordium Lin.

Water germander; the herb.

This is a ſmall, ſomewhat hairy plant, growing wild in ſome parts of England, though not very common; the ſhops are generally ſupplied from gardens. It has a bitter taſte, and a ſtrong diſagreeable ſmell. Scordium is of no great eſteem in the preſent practice, notwithſtanding the deobſtruent, diuretic, and ſudorific virtues for which it was once celebrated. It formerly entered the mithridate, theriaca, and cataplaſm of cummin ſeed, and gave name to two compound powders and an electuary; but it could by no means be conſidered as an article of great activity; and from ſuch of theſe formulæ as are ſtill retained, the ſcordium is rejected.

SEBESTENA [*Brun.*] *Fructus.*

Cordia Myxa Lin.

Sebeſtens.

Theſe are a ſort of plumb, the produce of a tree growing in the Eaſt Indies. The fruit is brought from thence in a dry ſtate; it is of a dark or blackiſh brown colour, with whitiſh or aſh coloured cups: The fleſh ſticks cloſe to the ſtone, which contains ſometimes one and ſometimes two kernels. This fruit has a ſweet, very glutinous taſte: And hence has been employed in ſome kinds of hoarſeneſs, and in coughs from thin ſharp defluxions: At preſent it is not often met with in the ſhops.

SEDUM ACRE [*Suec.*] *Herba recens.*

Sedum acre Lin.

Wall or Stone crop, or pepper; the recent plant.

This ſpecies of the ſedum is a ſmall, perennial, ſucculent, plant, growing in great abundance on the tops of walls and roofs of houſes. It has a faint ſmell, and at firſt an herbaceous taſte; but it afterwards ſhews conſiderable acrimony, exciting a ſenſe of biting heat in the mouth and fauces. In its recent ſtate it ſhews very active powers, proving emetic, purgative, and diuretic. The expreſſed juice taken to the quantity of a table ſpoonful, has been ſaid to prove a very draſtic medicine: But the plant in its dried ſtate ſhews little or no activity. In this country it is ſcarcely employed, and has no place in our pharmacopœias. Its activity, however, points it out as a ſubject deſerving attention.

SENEKA [*Lond. Ed.*] *Radix.*

Polygala Senega Lin.

Seneka, or rattleſnake root.

Seneka grows ſpontaneouſly in Virginia, and bears the winters of our 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 ſuppoſed to reſemble the tail of the animal whoſe name it bears: A kind of membranous margin runs on each ſide, the whole length of the root. Its taſte is at firſt acid, afterwards very hot and pungent.

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

has

has been ſtrongly recommended in pleuriſies, peripneumonies, and other inflammatory diſorders. Its more immediate effects are thoſe of a diuretic, diaphoretic, and cathartic; ſometimes it proves emetic: The two laſt operations may be occaſionally prevented, by giving the root in ſmall doſes, along with ſome aromatic ſimple water, as that 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 ſucceſs. There are examples of its occaſioning a plentiful evacuation by ſtool, urine, and perſpiration; and by this means removing the diſeaſe, after the common diuretics and hydragogues had failed: Where this medicine operates as a cathartic, it generally proves ſucceſsful.

SENNA [*Lond. Ed.*] *Folium. Caſſia ſenna Lin.*

Senna; the leaf.

This is a ſhrubby plant cultivated in Perſia, Syria, and Arabia; from whence the leaves are brought, dried and picked from the ſtalks, to Alexandria in Egypt; and thence imported into Europe. They are of an oblong figure, ſharp pointed at the ends, about a quarter of an inch broad, and not a full inch long, of a lively yellowiſh green colour, a faint not very diſagreeable ſmell, and a ſubacrid, bitteriſh, naſeous taſte. Some worſe 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 obtuſe, of a freſh green colour, without any yellow caſt.

Senna is a very uſeful cathartic, operating mildly, and yet effectually: And, if judiciouſly doſed and managed, rarely occaſioning the ill conſequences which too frequently follow the exhibition of the ſtronger purges. The only inconveniences complained of in this drug are, it being apt to gripe, and its naſeous flavour. The griping quality depends on a reſinous ſubſtance, which, like the other bodies of this claſs, is naturally diſpoſed to adhere to the coats of the inteſtines. The more this reſin is divided by ſuch matters as take off its tenacity, the leſs adheſive, and conſequently the leſs irritating and griping it will prove; and the leſs it is divided, the more griping: Hence ſenna given by itſelf, or infuſions made in a very ſmall quantity of fluid, gripe ſeverely, and purge leſs than when diluted by a large portion of ſuitable menſtruum, or divided by mixing the infuſion with oily emulſions or with gum. The colleges, both of London and Edinburgh, have given ſeveral formulæ for the exhibition of this article, ſuch as thoſe of infuſion, powder, tincture, and electuary. The doſe of ſenna in ſubſtance, is from a ſcruple to a drachm; in infuſion, from one to three or four drachms.

It has been cuſtomary to reject the pedicles of the leaves of ſenna, as of little or no uſe: Geoffroy however obſerves, that they are not much inferior in efficacy to the leaves themſelves. The pods or ſeed veſſels met with among the ſenna brought to us, are by the college of Bruſſels preferred to the leaves: They are leſs apt to gripe, but are proportionally leſs purgative.

SERPENTARIA

SERPENTARIA VIRGINIANA [*Lond. Ed.*] *Radix.*

Ariſtolochia Serpentaria Lin.

Virginian ſnake root; the root.

This is a ſmall, light, buſhy root conſiſting of a number of ſtrings or fibres, matted together, iſſuing from one common head; of a browniſh colour on the outſide, and paler or yellowiſh within. It has an aromatic ſmell, like that of valerian, but more agreeable: And a warm, bitteriſh, pungent taſte. This root is a warm diaphoretic and diuretic: It has been much celebrated as an alexipharmac, and eſteemed one of the principal remedies in malignant fevers and epidemic diſeaſes, and alſo in cutaneous affections. It is given in ſubſtance in doſes of from ten to thirty grains, and in infuſion to a drachm or two. Both watery and ſpirituous menſtrua extract its virtue by infuſion, and elevate its flavour in diſtillation: Along with the water a ſmall portion of eſſential oil ariſes. A ſpirituous tincture is directed as an officinal preparation.

SERPYLLUM [*Ed.*] *Summitates florentes.*

Thymus Serpyllum Lin.

Mother of thyme; the flowering tops.

This is a ſmall creeping plant, common on heaths and dry paſture grounds. Its taſte, ſmell, and medical virtues are ſimilar to thoſe of thyme, but weaker.

SEVUM. See Ovis.

SIMAROUBA [*Lond. Ed.*] *Cortex.*

Quaſſia Simaruba Lin.

Simarouba; the bark.

This bark, with pieces of the wood adhering to it, is brought from Guiana in South America, in long tough pieces of a pale yellowiſh colour, and a pretty ſtrong bitter taſte. A decoction of half a drachm is given for a doſe, and repeated at intervals of three or four hours, in dyſenteric fluxes.

It has alſo been uſed with advantage in ſome other inſtances of increaſed diſcharges, particularly in leucorrhœa. From its ſenſible qualities it may be concluded to be a gentle aſtringent.

SINAPI [*Lond. Ed.*] *Semen.*

Sinapis nigra Lin. [*Lond.*]

Sinapis alba Lin. [*Ed.*]

Muſtard ſeed; black and white.

Theſe ſeeds obtained from different ſpecies of the muſtard, differ very little from each other, excepting that the black is rather more pungent than the white.

This plant is ſometimes found wild, but for culinary and medicinal uſes it is cultivated in gardens or fields. Muſtard, by its acrimony and pungency, is ſtimulating: And ſtands deſervedly recommended for exciting appetite, promoting digeſtion, increaſing the fluid ſecretions; and alſo in paralytic and rheumatic affections, and for the other purpoſes of the acrid plants called *antiſcorbutic*. Some recommend it in the diſeaſe called *milreek* or *bellon*, to which ſmelters are ſubject. It imparts its taſte and ſmell in perfection to aqueous liquors, while rectified ſpirit extracts extremely little of either: The whole of the pungency ariſes with water in diſtillation. Committed to the preſs, it yields a conſiderable quantity of a ſoft inſipid oil, perfectly void of acrimony: The cake left after the expreſſion is more pungent than the muſtard

muſtard was at firſt. The oil is directed as officinal by the London college. Theſe ſeeds are ſometimes employed externally in ſinapiſms as a ſtimulant.

SIUM [*Lond.*] *Herba.*
Sium nodiflorum Lin.
Creeping ſkerrit, or water parſnip; the herb.

The London pharmacopœia is the only modern one in which this article has at preſent a place. It is an indigenous vegetable in Britain, growing abundantly in rivers and ditches. It was formerly allowed to be not only a diuretic, but alſo an emmenagogue and lithontriptic. With theſe intentions, however, it is not now employed. Dr. Withering mentions, that a young lady of ſix years old was cured of an obſtinate cutaneous diſeaſe by taking three large ſpoonfuls of the juice twice a day; and he adds, that he has repeatedly given to adults three or four ounces every morning, in ſimilar complaints. In ſuch doſes it neither affects the head, ſtomach, nor bowels. And children take it readily when mixed with milk.

SODA. See BARILLA.

SOLANUM LETHALE. See BELLADONNA.

SPERMA CETI [*Lond.*] *Sevum Ceti cryſtalliſatum.*
SEVUM CETI [*Edin.*] *Sperma Ceti.*
Phyſeter macrocephalus Lin. [*Ed.*]
Spermaceti.

Spermaceti is a peculiar animal fat obtained from the head of a ſpecies of whale. It is an unctuous flaky ſubſtance, of a ſnowy whiteneſs, a ſoft butyraceous taſte, and without any remarkable ſmell. The virtues of this concrete are thoſe of a mild emollient: It is of conſiderable uſe in pains and eroſions 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 obtunded. For external purpoſes, it readily diſſolves in oils; and for internal ones, it may be united with aqueous liquors into the form of an emulſion, by the mediation of almonds, gums, or the yolks of eggs. Sugar does not render it perfectly miſcible with water; and alkalies, which change other oils and fats into ſope, have little effect on ſpermaceti. This drug ought to be kept very cloſely from the air; otherwiſe its white colour ſoon changes into a yellow, and its mild unctuous taſte into a rancid and offenſive one. After it has ſuffered this diſagreeable alteration, both the colour and quality may be recovered again by ſteeping it in alkaline liquors, or in a ſufficient quantity of ſpirit of wine.

SPIGELIA [*Lond. Ed.*] *Radix.*
Spigelia marilandica Lin.
Indian pink; the root.

This plant grows wild in the ſouthern parts of North America.

The roots are celebrated as an anthelmintic, particularly for the expulſion of lumbrici. Some order it in doſes of ten or fifteen grains; and allege that it occaſions nervous affections if given in larger doſes; while others order it in drachm doſes, alleging that the bad effects mentioned more readily happen from ſmall doſes, as the larger ones often purge

purge or puke; ſome prefer the form of infuſion. An emetic is generally premiſed; and its purgative effect aſſiſted by ſome ſuitable additions.

SPINA CERVINA [*Lond.*] *Bacca.*

RHAMNUS CATHARTICUS [*Edin.*] *Baccarum ſuccus.*

Rhamnus catharticus Lin.

Buck thorn; the berries.

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 black berry bearing alder, and the dog berry tree, have of late often been mixed with or ſubſtituted for thoſe of buck thorn. This abuſe may be diſcovered by opening the berries, thoſe of buck thorn have generally four ſeeds, the berries of the alder two, and thoſe of the dog berry only one. Buck thorn berries, bruiſed 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.

Buck thorn berries have a faint diſagreeable ſmell, and a naufeous bitter taſte. They have long been in conſiderable eſteem as cathartics; and celebrated in dropſies, rheumatiſms, and even in the gout; though in theſe caſes they have no advantage above other purgatives, and are more offenſive, and operate more ſeverely, than many which the ſhops are furniſhed with: 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 ſubſtance, and twice or thrice this number in decoction; an ounce of the expreſſed juice, or a drachm of the dried berries. A ſyrup prepared from the juice is kept in the ſhops: In this preparation the naufeous flavour of the buck thorn is ſomewhat corrected by the ſugar, and the addition of aromatics.

SPIRITUS CORNU CERVI; [*Ed.*] *Ammoniæ ex oſſibus vel cornubus animalium paratæ, portio volatilior liquida diſtillatione purificata ut decolor ſit.*

Spirit of harts horn.

This is the more volatile liquid part of the alkaline ſalt, obtained from the bones and horns of animals, well rectified by diſtillation ſo as to become colourleſs.

The volatile alkali, as got by diſtillation with a ſtrong fire from any animal matter, from ſoot, &c. is, when pure, one and the ſame thing.

Of the mode of obtaining it we ſhall afterwards have occaſion to ſpeak, under the head of preparations, when we come to mention the *Liquor volatilis, ſal, et oleum, cornu cervi*, which, although they derive their name from hartſhorn, may be obtained from any animal ſubſtance, excepting fat.

As firſt diſtilled from the ſubject, this liquor is impregnated with oil, rendered fetid or empyreumatic by the proceſs. The oily volatile alkali has been chiefly prepared by diſtillation in large iron pots, with a fire increaſed by degrees to a ſtrong red heat: A watery liquor riſes firſt, then the volatile ſalt, along with a yellowiſh, and at length a dark reddiſh oil; a part of the ſalt diſſolves in the water and forms the ſpirit, which is conſiderably ſeparated from the oil by

filtration

filtration through wet paper. It is rectified by repeated diſtillations with a very gentle heat. Greateſt part of the ſalt always comes over before the water; a little of the ſalt is generally allowed to remain undiſſolved as a teſt of the ſtrength of the ſpirit. However colourleſs the ſalt or ſpirit of hartſhorn may be thus rendered; yet by keeping they become yellow and nauſeous, owing to the quantity of oil which they ſtill retain. The Edinburgh college order this article to be got from the manufacturer, rather than prepared by the apothecary himſelf, who cannot do it to any advantage.

The volatile alkali is got in its pureſt ſtate from ſal ammoniac. It is uſed externally, held to the noſe, on account of its pungent odour, in caſes of faintneſs and ſyncope; and mixed with unctuous matter as a rubefacient. It is uſed internally to obviate ſpaſm in hyſteria, torpor in hypochondriaſis, and with a view to excite the vis vitæ.

It has alſo been ſaid, that in ſome inſtances intermittents have been ſucceſsfully cured by it, even after the Peruvian bark had failed. With this view, fifteen drops of the ſpirit are given in a tea cupful of cold ſpring water, and repeated five or ſix times in each intermiſſion.

SPIRITUS VINOSUS RECTIFICATUS [*Lond.*] *Continet alkoholis partes* 95 *et aquæ diſtillatæ partes* 5 *in partibus* 100; *hujus pondus ſpecificum eſt ad pondus aquæ diſtillatæ ut* 835 *ad* 1000.

SPIRITUS VINOSUS RECTIFICATUS ſive PURISSIMUS [*Ed.*] *Spiritus diſtillatus ex vino vel aliis liquoribus fermentis ab odore ingrato purificatur, cujus libra menſura ſit ponderis unciarum decem.*

Rectified ſpirit of wine. By the direction of the London college it is ſaid to contain 95 parts of pure alkohol and 5 of water in the 100, and to be of the ſpecefic gravity of 835, water being 1000.

The Edinburgh college does not mention the quantity of alkohol which it contains, and determines its ſpecific gravity by ſaying the pound meaſure of it ought to weigh ten ounces, i. e. its ſpecific gravity is to that of water as 10 to 12 or as 833⅓ to 1000.

The purification of the ſpirit is effected by one or more repeated diſtillations in a very gentle heat, with certain additions to keep down the phlegm and the groſs oil, in which the ill flavour reſides. Theſe ſpirits, whatever vegetable ſubjects they have been produced from, are, when perfectly pure, one and the ſame. They have a hot pungent taſte, without any particular flavour; they readily catch flame, and burn entirely away, without leaving any marks of an aqueous moiſture behind: Diſtilled by a heat leſs than that of boiling water, they totally ariſe, the laſt runnings proving as flavourleſs and inflammable as the firſt: They diſſolve eſſential vegetable oils and reſins into an uniform tranſparent fluid.

The uſes of vinous ſpirits, as menſtrua for the virtues of other medicines, will be mentioned hereafter. Pure ſpirit coagulates all the fluids of animal bodies, except urine, and it alſo hardens the ſolid parts. Applied externally, it ſtrengthens the veſſels, and thus may reſtrain paſſive hemorrhagies.

It

It inſtantly contracts the extremities of the nerves it touches, and deprives them of ſenſe and motion. Hence employing ſpirituous liquors in fomentations, notwithſtanding the ſpecious titles of vivifying, heating, reſtoring mobility, reſolving, diſſipating, and the like, uſually attributed to them, may ſometimes be attended with unhappy conſequences. Theſe liquors received undiluted into the ſtomach, produce the ſame effects, contracting all the ſolid parts which they touch, and deſtroying at leaſt for a time, their uſe and office: If the quantity be conſiderable, a palſy or apoplexy follows, which ends in death. Taken in ſmall quantity, and duly diluted, they brace up the fibres, raiſe the ſpirits, and promote agility: If farther continued, the ſenſes 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, while in larger ones they act as a poiſon of a particular kind. And they generally prove deleterious from long continued uſe to ſuch a degree as frequently to intoxicate.

SPIRITUS VINOSUS TENUIOR [*Lond.*] *Continet alkoholis partes* 55, *et aquæ diſtillatæ partes* 45 *in partibus* 100 *Hujus pondus ſpecificum eſt ad pondus aquæ diſtillatæ ut* 930 *ad* 1000.

SPIRITUS VINOSUS TENUIOR, ſive DILUTUS [*Ed.*] *Spiritus rectificatus cui immixta fuerit aquæ pars æqua, quæ em lingua vernacula vocamus PROOF SPIRIT.*

Proof ſpirit of wine. It contains, according to the London college, 55 parts of alkohol and 45 of diſtilled water in 100. Its ſpecific gravity is to that of diſtilled water as 930 to 1000.

The Edinburgh college direct proof ſpirit to be made by mixing equal parts of water and rectified ſpirit.

The ſpirits uſually called *proof*, are 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 eaſily determined from the taſte, eſpecially if the ſpirit be firſt 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 ſeveral medical preparations, particularly the tinctures: For as pure ſpirit diſſolves the reſin and volatile oil, and water only the gummy and ſaline 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 conſequently the virtue of the preparation; and from this circumſtance, apothecaries would do better by preparing it themſelves, according to the directions of the Edinburgh college than by purchaſing it from dealers.

SPONGIA [*Lond. Ed.*] *Spongia officinalis Lin.* Sponge.

Sponge is a ſoft, light, very porous and compreſſible ſubſtance, readily imbibing water, and diſtending thereby. It is found adhering to rocks, particularly in the Archipelago. It is generally ſuppoſed to be a vegetable production: But is in reality of animal origin, for

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it yields the ſame principles with animal ſubſtances in general: Volatile ſalt is obtained from it in larger quantity than from almoſt any animal matter, except the bags of the ſilk worm. On this ſalt ſeem to depend the virtues of the officinal *ſpongia uſta*, which has been ſtrongly recommended in ſcrophulous affections; and particularly celebrated for removing that large ſwelling of the neck, termed *bronchocele*, which is probably of a ſcrophulous nature.

Crude ſponge from its property of imbibing, and being diſtended by, moiſture, is ſometimes uſed as a tent for dilating wounds; and to fit it for theſe intentions the ſponge is immerſed in melted wax, and ſubjected to preſſure till cool: In this ſtate it may be eaſily formed into proper tents, ſo as to be introduced where neceſſary; and from the gradual melting of the wax, in conſequence of the heat of the part, a dilatation of courſe takes place.

It adheres ſtrongly to the mouths of wounded veſſels; and when retained by proper compreſſion, it has prevented conſiderable bleedings preferably to agaric, or puff-ball.

STANNUM [*Lond. Ed.*] *Limatura et Pulvis.*

The filings and powder of tin.

Tin is the lighteſt and moſt fuſible of all metals. Heated, it becomes ſo brittle as to fall in pieces by a blow; and by agitation (when juſt ready to melt) it is formed into a powder: Hence the officinal method of pulveriſing this metal, to be deſcribed in its place. The proper menſtruum of tin is aqua regia. 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.

This metal 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 theſe are virtues to which it certainly has little claim. It has been celebrated as an anthelmintic; and is ſaid to deſtroy ſome kinds of worms which elude the force of other medicines, particularly the tænia: Poſſibly the cauſe of this effect may be from an admixture of a portion of arſenic. Tin has a ſtrong affinity with arſenic; inſomuch, that when once united therewith, the arſenic, notwithſtanding its volatility in other circumſtances, cannot be totally expelled, either by ſlow calcination or by a vehement fire. Almoſt all the ores of tin contain more or leſs of this poiſonous mineral, which is not entirely ſeparable in the common proceſſes by which the ores are run down, or the metal farther purified. Filings of tin held in the flame of a candle, emit a thick fume, ſmelling of garlic; which ſmell is univerſally held in mineral ſubſtances to be a criterion of arſenic. Mr. Henckel has diſcovered a method of ſeparating actual arſenic from tin, by ſolution in aqua regia and cryſtalliſation. Mr. Margraff has given a farther account of this proceſs: And relates, that from the tins uſually reputed pure, he has obtained one eighth of their weight of cryſtals of arſenic.

But notwithſtanding theſe obſervations, *ſtannum pulveriſatum*, afterwards to be mentioned, is every day taken internally with perfect impunity, even in ounce doſes, although, unleſs in caſes of tænia, it

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is in general employed in much ſmaller doſes.

STAPHISAGRIA [*Lond. Ed.*] *Semen.*

Delphinium Staphiſagria Lin.

Staveſacre; the ſeeds.

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 ſevereſt colds. They have a diſagreeable ſmell, and a very nauſeous, bitteriſh, burning taſte. Staveſacre was employed by the antients as a cathartic; but it operates with ſo much violence both upwards and downwards, that its internal uſe has been, among the generality of practitioners, for ſome time laid aſide. It is chiefly employed in external applications, for ſome kinds of cutaneous eruptions, and for deſtroying lice and other inſects; inſomuch, that from this virtue it has received its name, in different languages; *herba pedicularis, herbe aux poux, lauſskraut, louſewort*, &c.

STIBIUM. See ANTIMONIUM.

STŒCHAS [*Brun.*] *Flos.*

Lavendula ſtœchas Lin.

Arabian ſtechas, or French lavender flowers.

This is a ſhrubby plant, conſiderably ſmaller than the common lavender. The flowery 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 ſtechas which we receive from abroad, has no great ſmell or taſte: Pomet affirms, that ſuch as the ſhops of Paris are ſupplied with is entirely deſtitute of both; while that of our own growth, either when freſh or when carefully dried, has a very fragrant ſmell, and a warm, aromatic, bitteriſh, ſubacrid taſte; diſtilled with water, it yields a conſiderable 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 was admitted, were the mithridate and theriaca.

There is another ſort 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 attention; this is the *Gnaphalium arenarium Lin.* the golden ſtechas, goldilocks, or yellow caſſidony; its flowers ſtand in umbels on the tops of the branches; they are of a deep ſhining yellow colour, which, when they are properly dried, they retain in perfection for many years; their ſmell is fragrant and agreeable, ſomewhat of the muſky kind; their taſte warm, pungent, and ſubaſtringent: They impart their flavour to water in diſtillation, and by infuſion to rectified ſpirit.

STRAMONIUM [*Ed.*] *Herba.*

Datura Stramonium Lin.

Thorn apple; the herb.

The ſtramonium was commonly conſidered

conſidered as a ſtrong narcotic poiſon; but has been highly recommended to the attention of practitioners by Dr. Stoerk of Vienna. It grows indigenous in ſome parts of Britain, among rubbiſh and on dunghills. It has been uſed internally, under the form of an extract or inſpiſſated juice from the leaves. This extract has been chiefly employed in maniacal caſes; and when given in doſes of from one to ten grains or upwards in the courſe of the day, it has been alleged to be attended with ſurpriſing effects, on the authority not only of Dr. Stoerk, but of Dr. Odhelius, Dr. Wedenberg, and others. Dr. Odhelius in particular informs us, that of fourteen patients to whom he gave it, eight were completely cured, five were relieved, and only one received no benefit. We have not, however, heard of its being equally ſucceſsful in Britain; and it is here ſo little employed as to have ſtill no place in the pharmacopœia of the London college. It certainly deſerves the attention of practitioners, and well merits a trial, in affections often incurable by other means. The powder of the leaves or ſeeds promiſes to furniſh a more certain or convenient formula than the inſpiſſated juice. Beſides maniacal caſes, the ſtramonium has been alſo employed, and ſometimes with advantage, in convulſive and epileptic affections. It is not only taken internally, but has alſo been uſed externally. An ointment prepared from the leaves of the ſtramonium has been ſaid to give eaſe in external inflammations and in hæmorrhoids.

STYRAX CALAMITA [*Lond. Ed.*] *Reſina.*

Styrax officinalis Lin.

Storax.

This is an odoriferous reſinous ſubſtance, exuding from a tree growing in the warmer climates.

It has been cuſtomary to diſtinguiſh three ſorts 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 large maſſes compoſed of ſuch.

2. *Storax in the lump*, or *red ſtorax*. This is in maſſes of an uniform texture, of a yellowiſh red or browniſh colour; though ſometimes likewiſe interſperſed with a few whitiſh grains. Of this ſort there has been ſome to be lately met with in the ſhops under the name of *ſtorax in the tear*.

3. The *common ſtorax* of the ſhops is in large maſſes, conſiderably lighter and leſs compact than the foregoing: It appears on examination to be compoſed of a fine reſinous juice, mixed with a quantity of ſaw duſt. For what purpoſe this addition is made, is difficult to ſay, but it can ſcarcely be ſuppoſed to be done with any fraudulent view, ſince the ſaw duſt appears at ſight. This common ſtorax is much leſs eſteemed than the two firſt ſorts; though, when freed from the woody matter, it proves ſuperior in point of fragrance to either of them. Rectified ſpirit, the common menſtruum of reſins, diſſolves the ſtorax, leaving the wood behind; nor does this tincture conſiderably loſe its valuable parts on being inſpiſſated to a ſolid conſiſtence; while aqueous liquors elevate

almoſt

almoſt all the fragrancy of the ſtorax.

Storax is one of the moſt agreeable of the odoriferous reſins, and may be exhibited to great advantage in languors, and in debilities of the nervous ſyſtem; it is not, however, much uſed in modern practice.

STYRAX LIQUIDA [*Dan.*]
Liquidambra ſtyraciſlua Lin.
Liquid ſtorax.

The genuine liquid ſtorax, according to Petiver's account, is obtained from a tree growing in the iſland Cobros in the Red Sea: The preparers of this commodity yearly clear off the bark of the tree, and boil it in ſea water to the conſiſtence of bird lime; the reſinous matter which floats on the ſurface is taken off, liquified in boiling water, and paſſed through a ſtrainer. 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; from whence they are ſometimes, though very rarely, brought to us. The firſt is of the conſiſtence of honey, tenacious, of a reddiſh or aſh brown colour, an acrid unctuous taſte; and approaches in ſmell to the olid ſtorax, but ſo ſtrong as to be diſagreeable: The other is full of woody matter, and much weaker in ſmell.

The genuine liquid ſtorax is even at Moco a rare commodity and ſold at a very high price, and it has ſeldom entered the ſhops of our apothecaries. A reſinous juice, poſſeſſing ſomewhat of the ſame ſenſible qualities, brought from the Spaniſh provinces in South America, and perhaps the product of the ſame tree, is ſometimes ſold in place of it. But much more frequently what we meet with under this name is an artificial compound of ſolid ſtorax, common reſin, wine, and oil, beat up together to a proper conſiſtence. Concerning the real virtues of liquid ſtorax, obſervations are altogether wanting: Hence the London and Edinburgh colleges have expunged it from the catalogue of officinals.

SUCCINUM [*Lond. Ed.*]
Amber.

This is a ſolid, brittle, bituminous ſubſtance, dug out of the earth, or found upon the ſea-ſhores: The largeſt quantities are met with along the coaſts of Poliſh Pruſſia and Pomerania. It is of a white yellow, or brown colour, ſometimes opake, and ſometimes very clear and tranſparent. The dark coloured and opake ſorts, by digeſtion with certain expreſſed oils and animal fats, become clearer, paler coloured, more pellucid, and conſiderably harder. Amber boiled in water, neither ſoftens nor undergoes any ſenſible alteration: Expoſed to a greater heat, without addition, it melts into a black maſs like ſome of the more common bitumens: Set on fire, its ſmell reſembles that which ariſes from the finer kinds of pit-coal: Diſtilled in a retort, it yields an oil and a volatile acidulous ſalt.

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 ſuch had a place in the compound powder of crabs claws: It certainly has no title to this claſs of medicines, as not being acted

on by any acid. It is ſuppoſed to be of ſervice in the fluor albus, gleets, hyſteric affections, &c.; and with theſe intentions is ſometimes given in the form of impalpable powder, to the quantity of a drachm. A tincture of amber made in rectified ſpirit, to which it imparts a bitteriſh aromatic taſte and a fragrant ſmell, promiſes to be of ſervice in theſe diſorders. 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 balſam, which is perhaps one of the moſt uſeful preparations obtainable from this concrete.

Amber in the ſtate of powder formerly entered ſeveral officinal compoſitions, from all which it is now rejected: But it is the baſis of an oil and ſalt to be afterwards mentioned among the preparations, which are ſometimes uſed in the ſtate in which they are at firſt obtained, but more frequently in a purified or rectified ſtate.

SULPHUR [*Lond.*]

SULPHURIS FLORES [*Lond. Ed.*] *Sulphur ſublimatum.*

Sulphur; and flowers of ſulphur.

Sulphur, or brimſtone, is a yellow ſubſtance, of the mineral kingdom, fuſible in a ſmall degree of heat, totally volatile in a ſtronger, readily inflammable, burning with a blue flame, which is accompanied with a ſuffocating acid fume. It diſſolves in alkaline liquors and in oils; not in acids, water, or vinous ſpirits.

It is uſually brought to us in large irregular maſſes, which are afterwards melted and caſt into cylindrical rolls with the addition of ſome coarſe reſin, flour, or the like; whence the paler colour of the rolls. Sulphur is frequently found native in the earth, ſometimes 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 ſort which is called *ſulphur vivum*; though that met with under this name in the ſhops, is no other than the droſs remaining after the ſublimation of Sulphur. All the ſorts of ſulphur are, when perfectly pure, in no reſpect different from each other. Notwithſtanding the preference given by ſome to the more uncommon foſſil ſorts, theſe laſt are the leaſt proper for medicinal purpoſes, as being the moſt ſubject to an admixture of foreign matter both of the metallic and arſenical kind.

Pure ſulphur looſens the belly, and promotes inſenſible perſpiration: It paſſes 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 from ſilver being ſtained in their pockets of a blackiſh colour, which is the known effect of ſulphureous fumes. It is a celebrated remedy againſt cutaneous diſeaſes, both given internally and applied externally. It has likewiſe been recommended in coughs, aſthmas, and other diſorders of the breaſt and lungs; and particularly in catarrhs of the chronic kind. But probably, the benefit derived from it in theſe caſes, is principally, if not entirely, to be attributed to its operation as a gentle laxative; and with this

 intention

intention it is frequently uſed with great advantage in hæmorrhoidal affections, and many other diſeaſes in which it is proper to keep the belly gently open. Though ſulphur be not ſoluble in water, yet boiling water poured upon it in a cloſe veſſel, obtains ſome impregnation. This water has by ſome been highly extolled as a very effectual remedy for preventing returns of gout and rheumatiſm.

The common doſe of ſulphur rarely exceeds a ſcruple, though Geoffroy goes as far as two drachms.

Sulphur is the baſis of two formulæ in our pharmacopœias, troches and an ointment: The former intended for internal uſe, the latter to be employed externally.

It is remarkable of this ſubſtance that though a medicine of conſiderable efficacy, it nevertheleſs reſtrains that of ſome others of the moſt powerful kind. Mercury and regulus of antimony are rendered, by the admixture of ſulphur, inactive. Hence, when antimonial and mercurial medicines exceed in operation, ſulphur has been given for abating their violence: But the influence it has probably depends on its operating as a gentle laxative.

SUS ADEPS [*Lond.*]
AXUNGIA PORCINA [*Edin.*]

Sus ſcrofa Lin.

Hogs lard.

In hogs lard we have a very pure animal fat, almoſt entirely free from any peculiar impregnation, and of a ſoft conſiſtence. Hence it is a very uſeful emollient for relaxing thoſe parts to which it is applied; and it is alſo a very covenient article for giving the proper conſiſtence to ointments, plaſters, and liniments. Indeed this, and the ſevum ovillum or mutton ſuet, are the only fats now retained by the London and Edinburgh Colleges, although formerly more than twenty different fats entered ſome liſts of the materia medica. Each particular fat was then ſuppoſed to poſſeſs peculiar properties; but for this there was probably no foundation: Even thoſe retained are now leſs employed than before, as it has been imagined that a proper conſiſtence of any kind may be more certainly obtained by determined proportions of wax and oil; but as theſe articles are more expenſive, hogs lard and mutton ſuet are often ſubſtituted for them by the apothecaries.

TACAMAHACA [*Brun.*] *reſina.*

Populus balſamifera Lin.

Tacamahaca; the reſin.

This reſinous ſubſtance is obtained from a tall tree which grows ſpontaneouſly on the continent of America, and in a ſheltered ſituation bears the winters of our climate. Two ſorts of this reſin are ſometimes to be met with. The beſt, called from its being collected in a kind of gourd ſhells, *tacamahaca in ſhells*, is ſomewhat unctuous and ſoftiſh, of a pale yelloviſh or greeniſh colour, an aromatic taſte and a fragrant delightful ſmell, approaching to that of lavender and ambergris. This ſort is very rare: That commonly found in the ſhops is in ſemitranſparent grains or glebes, of a whitiſh, yelloviſh, browniſh, or greeniſh colour of a leſs grateful ſmell than the foregoing. The firſt is ſaid to exude from the fruit of the tree

tree, the other from incisions made in the trunk. This resin is employed among the Indians, externally, for discussing and maturating tumours, and abating pains and aches of the limbs. The fragrance of the finer sort sufficiently points out its being applicable to different purposes.

TAMARINDUS [*Lond. Ed.*] *Fructus.*

Tamarindus indica Lin.

Tamarinds; the fruit.

Tamarinds are the fruit of a tree growing in the East and West Indies. It resembles a bean pod, including several hard seeds, together with a dark coloured viscid pulp of a pleasant acid taste: The East India tamarinds are longer than the West India sort; the former containing six or seven seeds each, the latter rarely above three or four. The pulp of these fruits, taken in the quantity of from two or three drachms to an ounce or more, proves gently laxative and purgative; and at the same time, by its acidity, quenches thirst and allays immoderate heat. It increases the action of the purgative sweets, cassia and manna, and weakens that of the resinous 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 electuary of cassia, the lenitive electuary, and decoction of tamarinds with senna.

TANACETUM [*Lond. Ed.*] *Flos, herba.*

Tanacetum vulgare Lin.

Tansy; the flower and herb.

Tansy grows wild by road sides and the borders of fields, and is frequently also cultivated in gardens both for culinary and medicinal uses: It flowers in June, and July. Considered as a medicine, it is a moderately warm bitter, accompanied with a strong, not very disagreeable flavour: Some physicians have had a great opinion of it in hysteric disorders, particularly those proceeding from a deficiency or suppression of the uterine purgations. The leaves and seeds have been of considerable esteem as anthelmintics; the seeds are less bitter, and more acrid and aromatic than those of rue, to which they are reckoned similar; or of santonicum, for which they have been frequently substituted.

An infusion of tansy, drank in a manner similar to tea, has been strongly recommended as a preventative of the return of gout.

THAPSUS BARBATUS. See VERBASCUM.

TARAXACUM [*Lond. Ed.*] *Radix, herba.*

Leontodon Taraxacum Lin.

Dandelion; the leaves and root.

This plant is very common in grass fields and uncultivated places. The root, leaves, and stalk, contain a large quantity of a bitter milk juice. There is reason to believe that they possess very considerable activity; and with that intention they have sometimes been employed with success. Boerhaave esteems them capable, if duly continued, of opening very obstinate obstructions of the viscera. A spirit obtained from them by distillation, after previous fermentation, has been strongly recommended by Professor Delius of Erlang

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in aſthmatic diſorders, in coughs, proceeding from glandular obſtructions, and in hydropic affections.

TARTARI CRYSTALLI [*Ed.*] *Tartarum purificatum.*

Tartar is a ſaline ſubſtance, conſiſting of the vegetable alkali ſuper ſaturated with acid. It is thrown off from wines to the ſides and bottom of the caſk: In this ſtate it is mixed with earthy, oily, and colouring matter: And when it has a deep brown colour, as that from red wine, it is commonly called *red*, and when of a paler colour *white tartar*. It is purified by diſſolving it in boiling water, and ſeparating the earthy part by filtring the boiling ſolution. On cooling the ſolution, it depoſites irregular cryſtals, containing the oily and colouring matters, which are ſeparated by boiling the maſs with a white clay. The tartar thus purified, is called when cryſtalliſed *cryſtals of tartar*, and when in powder *cream of tartar*. If tartar be expoſed to a red heat, its acid flies off; and what remains is the vegetable alkali, or ſalt of tartar. If we add lime to a boiling ſolution of pure tartar, the lime falls down with the acid, in the form of an inſoluble precipitate, and the alkali remains diſſolved in the water. To this precipitate well waſhed, diluted vitriolic acid is added; which having a ſtronger attraction for the lime than the acid of tartar has, takes hold of the lime with which it forms an inſoluble compound, and the acid of tartar is held diſſolved in the water. This acid may be had in a ſolid cryſtalline form by evaporating the water.

The virtues of tartar are thoſe of a mild, cooling, aperient, laxative medicine. It is much uſed in dropſy; and ſome allege that it has good effects as a deobſtruent. From half an ounce to an ounce of 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 ſix drachms of the crude tartar, after many other medicines had been tried in vain.

The cryſtals of tartar are in daily uſe, merely by themſelves, either taken in powder or diſſolved in water; and there are perhaps few medicines more commonly employed.

This ſalt is an ingredient in the compound infuſion of ſenna, compound powders of ſenna, of jalap, and of ſcammony: And it is uſed for diſſolving or corroding ſome metallic bodies, particularly antimony, from which it receives a ſtrong emetic impregnation, as in the preparation formerly called *emetic tartar*, but now more properly ſtyled *antimonium tartariſatum*.

TEREBINTHINA.

Turpentine.

The turpentines are reſinous juices extracted from trees of the pine tribe. Four kinds of it are diſtinguiſhed in the ſhops.

TEREBINTHINA CHIA [*Lond.*] *Piſtacia Terebinthus Lin.*

Chian, or Cyprus turpentine.

This juice is generally about the conſiſtence of thick honey, very tenacious, clear, and almoſt tranſparent, of a white colour, with a caſt of a yellow, and frequently of blue: It has a warm, pungent, bitteriſh taſte; and a fragrant ſmell, more agreeable than any of the other turpentines.

The turpentine brought to us, is extracted in the iſlands whoſe names

names it bears, by wounding the trunk and branches a little after the buds have come forth; the juice iſſues limpid, and clear as water, and by degrees thickens into the conſiſtence in which we meet with it. A like juice exuding from this tree in the eaſtern countries, inſpiſſated by a flow fire, is of frequent uſe as a maſticatory, among the Perſian ladies, who, as Kœmpfer informs us, are continually chewing it, in order to faſten and whiten the teeth, ſweeten the breath, and promote appetite.

TEREBINTHINA VENETA. [*Ed.*] *Reſina et oleum eſſentiale.*

Pinus Larix Lin.

Venice turpentine.

This is uſually thinner than any of the other ſorts, of a clear, whitiſh, or pale yellowiſh colour, a hot, pungent, bitteriſh, diſagreeable taſte, and a ſtrong ſmell, without any thing of the fine aromatic flavour of the Chian kind.

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 finer kinds of it are in appearance and quality not conſiderably different from the true ſort above deſcribed.

TEREBINTHINA ARGENTORATENSIS.

Straſburgh turpentine.

This, as we generally meet with it, is of a middling conſiſtence between 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.

TEREBINTHINA VULGARIS [*Lond.*]

Pinus Abies Lin.

Common turpentine.

This is the coarſeſt, heavieſt, and in taſte and ſmell the moſt diſagreeable of all the ſorts: It is about the conſiſtence of honey, of an opake browniſh white colour.

It is obtained from the white fir, common in different parts of Europe. This tree is extremely reſinous, 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.

All theſe juices yield in diſtillation with water an highly penetrating eſſential oil; a brittle reſin remaining behind. With regard to their medical virtues, they promote urine, cleanſe the urinary paſſages and deterge internal ulcers in general; and at the ſame time, like other bitter hot ſubſtances, ſtrengthen the tone of the veſſels: They have an advantage above moſt other acrid diuretics that they gently looſen 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 the ſand or gravel, formed into a maſs by viſcid mucous matter, the turpentines, by diſſolving the mucus, promote the expulſion of the ſand; 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 increaſed, and frequently occaſioned, by them. It is obſervable, that the turpentines impart, ſoon after taking them, a violent ſmell to the urine; and have this effect though applied only externally to remote parts: Particularly the Venice ſort. This is accounted the moſt powerfully as a diuretic and detergent; and the Chian and Straſburgh as corroborants. The common turpentine, as being the moſt offenſive is rarely given internally; its principal uſe is in plaſters and ointments among farriers, and for the diſtillation of the oil, or ſpirit, as it is called. The doſe of theſe juices is from a ſcruple to a drachm 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, oftentimes greatly heats the conſtitution, and requires the utmoſt caution in its exhibition. Taken internally, when mixed with honey, it has been alleged to prove a powerful remedy in obſtinate rheumatic caſes, particularly in iſchias.

TERRA JAPONICA. See CATECHU.

THEA [*Brun.*] *Folium.*
Thea bohea et viridis Lin.
Tea the leaf.

The ſeveral ſorts of tea met with among us, are varieties of two ſpecies of trees the one called Green and the other Bohea. The taſte of both ſorts is ſlightly bitteriſh, ſubaſtringent, and ſomewhat aromatic. The medical virtues attributed to theſe leaves are ſufficiently 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 for which they have been celebrated, depend more on the quantity of warm fluid, than any particular qualities which it gains from the tea. Nothing ariſes in diſtillation from either ſort of tea with rectified ſpirit; water elevates the whole of their flavour.

Good tea, in a moderate quantity, ſeems to refreſh and ſtrengthen; but if taken in conſiderable quantity, its uſe is apt to be ſucceeded by weakneſs and tremors, and other ſimilar conſequences reſulting from the narcotic vegetables. Yet it is highly probable, that many of the bad, as well as good, effects ſaid to reſult from it, are the conſequences of the warm water.

THUS MASCULUM. See OLIBANUM.

THUS [*Lond.*] *Reſina.*
Common frankincenſe.

This is 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

ſoon after it has iſſued from the plant. It gives name to one plaſter, the *emplaſtrum thuris*, and is a principal ingredient in another, *emplaſtrum laduni*.

THYMUS [*Ed.*] *Herba.*
Thymus vulgaris Lin.
Common thyme; the herb.

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 an eſſential oil, extremely hot and pungent, alſo ariſes. This oil is often ſold in the ſhops for that of origanum. It frequently gives eaſe in caſes of odontalgia, when topically applied to a caries tooth.

TILIA [*Suec.*] *Flores.*
Tilia europæa Lin.
The lime, or linden tree; its flowers.

The lime tree has been much valued on account of its quick growth and pleaſant ſhade; it flowers in July, and loſes its leaves ſoon after. The flowers are chiefly uſed 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 kinds of ſpaſms and pains. Frederick Hoffman relates, that he knew a chronical epilepſy cured by the uſe of an infuſion of theſe flowers drank as tea.

TINCAR. See BORAX.

TORMENTILLA [*Lond. Ed.*] *Radix.*
Tormentilla erecta Lin.
Tormentil, or ſeptfoil; the root.

Tormentil is found wild in wood and on commons: It has long ſlender ſtocks, 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 outſide, and a reddiſh within. This root has an auſtere ſtyptic taſte, accompanied with a ſlight kind of aromatic flavour; it is one of the moſt agreeable and efficacious of the vegetable aſtringents, and is employed with good effect 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 ſtrong vegetable aſtringents: It is an ingredient in the London compound powders of chalk. A tincture made from it with rectified ſpirit poſſeſſes the whole aſtringency and flavour of the root, and loſes nothing of either in inſpiſſating.

TRAGACANTHA, [*Lond. Ed.*] *Gummi.*
Aſtragalus Tragacanthus Lin.
Gum tragacanth.

The gum tragacanth is obtained from a thorny buſh growing in Crete, Aſia, and Greece. This gum is of a much ſtronger body than gum arabic and does not ſo perfectly diſſolve in water. A drachm will give to a pint of water the conſiſtence of a ſyrup, which a whole ounce of gum arabic is ſcarcely ſufficient to do. Hence its uſe for forming troches, and the like purpoſes, in preference to the other gums. It gives name to an officinal powder, and is an ingredient in the compound powder of ceruſs.

TRICHOMANES

TRICHOMANES [*Ed.*] *Herba.*

Aſplenium Trichomanes Lin.

Maidenhair; the herb.

This is one of the herbs called, from the ſmallneſs of their ſtalks, capillary: It is found wild in different parts of Britain, upon old walls, and in ſhady places. The leaves have a mucilaginous, ſweetiſh, ſubaſtringent taſte, without any particular flavour; they are eſteemed uſeful in diſorders of the breaſt, and are ſuppoſed to promote the expectoration of tough phlegm, and to open obſtructions of the viſcera. They are uſually directed in infuſion or decoction, with the addition of a little liquorice. A ſyrup prepared from them, though it has now no place in our pharmacopœias, is frequently to be met with in our ſhops, under the name of Capillaire. A little of this ſyrup mixed with water makes a very pleaſant draught. The ſyrup brought from abroad has an admixture of orange flower water.

TRIFOLIUM PALUDOSUM [*Lond.*] *Herba.*

MENYANTHES [*Edin.*] *Folia.*

Menyanthes trifoliata Lin.

Buck bean, or marſh trefoil; the herb.

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 naſeous. Marſh trefoil is an efficacious aperient and deobſtruent, promotes the fluid ſecretions, and if liberally taken, gently looſens the belly. Some recommend it in ſcrophulous and other ill conditioned ulcers; inveterate cutaneous diſeaſes have been removed by an infuſion of the leaves drank to the quantity of a pint a day at intervals, and continued for ſome weeks. Boerhaave relates, that he was relieved of the gout by drinking the juice mixed with whey.

TRITICUM [*Lond.*] *Farina, amylum.*

Triticum hybenum Lin.

Wheat; the flour and ſtarch.

Wheat, a common article of food, is more nutritious than moſt other kinds of grain. The flour, or the ſtarch prepared from it, form with water a ſoft viſcid ſubſtance, which has been taken with good ſucceſs in diarrhœas and dyſenteries. Starch is an ingredient in the common powder of gum tragacanth, and the white pectoral troches, which are now more properly ſtyled ſtarch troches.

Bran contains, beſides the huſks or ſhells of the wheat, a portion of its farinaceous matter. This is leſs glutinous than the flour, and is ſuppoſed to have a detergent quality. Infuſions of bran are not unfrequently employed with this intention externally, and ſometimes likewiſe taken internally.

Bread, carefully toaſted, and infuſed, or ſlightly 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 vomitting 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. It is alſo a very common and a very proper drink

drink in diſeaſes of the febrile kind.

When a farinaceous powder is ſteeped in cold water and ſtrained through a cloth, a glutinous part remains in the cloth, which ſome ſuppoſe to be the nutrient principle, as it is quite ſimilar to animal jelly; a ſtarch paſſes through with the water, ſettles at the bottom, and a ſweet mucilage is kept diſſolved in the water. It is probably the juſt proportion of theſe three ingredients in wheat which gives that grain a preference in diet over the reſt. The gluten is inſoluble in water; but when mixed with the other two, and ſeaſoned with ſalt, and in that ſtate made to ferment by yeaſt or leaven, and this fermentation, checked by the heat of the oven, the ingredients become ſo intimately united, that they cannot be ſeparated; the viſcidity of the gluten is diminiſhed, and the whole thus forms a very ſoluble and nutritious bread.

TURPETHUM [*Brun.*] *Radicis cortex.*

Convolvulus Turpethum Lin.

Turbith; the cortical part of the root.

The cortical part of this root is brought to us in oblong pieces, of a brown or aſh colour, on the outſide, and whitiſh within. The beſt is ponderous, not wrinkled, eaſy to break, and diſcovers a large quantity of reſinous matter to the eye: Its taſte is at firſt ſweetiſh; chewed for a little time, it becomes acrid, pungent, and nauſeous. This root is a cathartic, not of the ſafeſt or moſt certain kind. The reſinous matter, in which its virtue reſides, appears to be very unequally diſtributed, inſomuch that a ſcruple of ſome pieces purge violently, while larger doſes, of other pieces have ſcarce any effect at all. An extract made from the root is more uniform in ſtrength, though not ſuperiour, or equal, to purgatives more common in the ſhops.

TUSSILAGO [*Lond. Ed.*] *Herba, flores.*

Tuſſilago Farfara Lin.

Colt's foot; the herb and flowers.

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, phthiſis, and other diſorders of the breaſt and lungs, and ſome uſe it in ſcrophula. It is chiefly directed to be taken with milk; and upon this probably, more than on the Tuſſilago itſelf, any benefit derived from it in practice is to be explained.

TUTIA [*Ed.*]

Tutty.

This is an impure ſublimate of zinc, or an argillaceous ſubſtance 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 ſmall protuberances on the outſide, ſmooth and yellowiſh within; ſome pieces have a blueiſh caſt, from minute globules of zinc being thrown up by the heat in its metallic form. Tutty is celebrated as an ophthalmic, and frequently employed as ſuch in unguents and collyria: It gives name to an officinal ophthalmic ointment.

VALERIANA SYLVESTRIS [*Lond. Ed*] *Radix.*

Valeriana officinalis Lin.

Wild valerian; the root.

This root consists 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 fetids; the taste unpleasantly warm, bitterish, and subacrid. There is a wild valerian, with broader leaves, of a deeper and shining green colour, met with in watery places, Both sorts have been used indiscriminately; and Linné has joined them into one species: But the first is considerably the strongest, and loses its quality if transplanted into such soils as the other naturally delights in. The roots, produced in low watery grounds, have a remarkable faint smell in comparison of the others, and sometimes scarcely any at all. The roots taken up in autumn or winter, have also much stronger sensible qualities than those collected in spring and summer. Wild valerian is a medicine of great use in nervous disorders, and is particularly serviceable 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 epilepsy, after many other medicines had been tried in vain. Repeated experience has since confirmed its efficacy in this disorder; and the present practice lays considerable stress upon it. It can, however, by no means be represented as uniformly, or even frequently successful, and that too although employed in very large doses. In the Edinburgh Dispensary, in cases of epilepsy in which there was no evidence of local affection, it has been given to the extent of two ounces a day without effect.

Some authors recommend it as useful in procuring sleep, particularly in fever, even when opium fails. But it is principally useful in affections of the hysterical kind.

The common dose is from a scruple to a drachm in powder; and in infusion, from one to two drachms. Its unpleasant flavour is most effectually concealed by a suitable addition of mace.

A tincture of valerian in proof, and in volatile spirit are kept in the shops.

VERATRUM. See HELLEBORUS ALBUS.

VERBASCUM [*Ed.*] *Folium.*

Verbascum Thapsus Lin.

Mullein; the leaf.

This plant is met with by road sides and under hedges. It is clothed with soft downy leaves, and produces long spikes of yellow flowers in July. To the taste it manifests a glutinous quality, and has been recommended as an emollient. Some hold it in esteem in consumptions, others have recommended it strongly in dysenteric affections; but most practitioners are disposed to put little dependence on it in either. It has sometimes, although perhaps still less frequently, been employed externally in ill conditioned ulcers.

VINCETOXICUM [*Suec.*] *Radix.*

Asclepias

Aſclepias Vincetoxicum Lin.

Swallow wort, or tame poiſon; the root.

This is a native of the warmer climates; it is ſometimes met with in our gardens, but rarely perfects its ſeeds. The root has a ſtrong ſmell eſpecially when freſh, approaching to that of valerian, or nard; the taſte is at firſt ſweetiſh and aromatic, but ſoon becomes bitteriſh, ſubacrid, and nauſeous. This root is eſteemed ſudorific, diuretic, and emmenagogue, and frequently employed by the French and German phyſicians as an alexipharmac, ſometimes as a ſuccedaneum for contrayerva; whence it has received the name of *contrayerva Germanorum*. Among us it is very rarely uſed. It appears from its ſenſible qualities to be a medicine of much the ſame kind with valerian, which is probably preferable to it.

VINUM [*Lond. Ed.*]

Wine; the fermented juice of the grape. Among the great variety of wines in common uſe among us, four are employed in the ſhops as menſtrua for medicinal ſimples.

Vinum album Hiſpanicum, Mountain.

Vinum Canarium, Canary or ſack.

Vinum Rhenanum, Rheniſh.

Vinum Rhubrum, Red port.

Wines conſiſt chiefly of water, alkohol, tartar, and an aſtringent gummy reſinous matter, in which the colour of red wines reſides, and which is ſqueezed out from the ſkins of the grapes. They differ from each other in the proportion of theſe ingredients, and particularly in that of the alkohol which they contain.

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 ſtimulate the ſtomach, cheer the ſpirits, warm the habit, promote perſpiration, render the veſſels full and turgid, raiſe the pulſe, and quicken the circulation.

Sweet wines are ſtronger than they appear from the taſte, becauſe two impreſſions ſtrike more feebly when combined than when ſeparate. Red port, and moſt of the red wines, have an aſtringent quality, by which they ſtrengthen the tone of the ſtomach and inteſtines, and are thus uſeful for reſtraining immoderate ſecretions. 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.

Wine is much uſed in fevers of the typhous kind, and often with great ſucceſs, particularly when the appetite ſeems to call for it, and when the ſtomach rejects all food. Claret, Madeira, and Port are thoſe commonly employed in Britain.

VIOLA [*Lond. Ed.*] *Flos recens.*

Viola odorata Lin.

The march violet; the freſh flower.

This is often found wild in hedges and ſhady places, and flowers in March; the ſhops are generally ſupplied from gardens. In our markets we meet with the flowers of different ſpecies; theſe may be diſtinguiſhed from the foregoing by their being larger,

of a pale colour, and of no ſmell. 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 ſyrup made from this infuſion has long maintained a place in the ſhops, and proves an agreeable and uſeful laxative for children.

VIPERA [*Ed.*]
Coluber Berus Lin.
The viper.

The viper is an amphibious reptile, without feet, about an inch thick, and twenty or thirty long. 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 ſaid to prevent the miſchiefs otherwiſe following from the bite, by rubbing olive oil warm on the part. The fleſh of the viper is perfectly innocent; and ſtrongly recommended as a medicine of extraordinary ſervice in ſcrophulous, leprous, rheumatic, and other obſtinate chronical diſorders. Its virtues, however, in theſe caſes, are probably too much exaggerated. The viper is doubtleſs an highly nutritious food, and hence in ſome kinds of weakneſſes, and emaciated habits, is not undeſervedly conſidered as a good reſtorative. To anſwer any valuable purpoſes, freſh vigorous vipers, not ſuch as have been long kept alive after they are caught, ſhould be liberally uſed as food. The wines and tinctures of them can ſcarcely be ſuppoſed to receive any conſiderable virtue from the animal; the dry fleſh brought to us from abroad is probably entirely inſignificant.

VIRGA AUREA [*Brun.*]
Herba.
Solidago Virga aurea Lin.
Golden root; the herb.

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.

VISCUS [*Suec.*] *Lignum.*
Viſcus albus Lin.
Miſſeltoe; the wood.

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 by fixing its berries on branches of other trees. This office has hitherto been performed by the thruſh (who feeds on the berries in the winter) in clearing his bill from the ſeeds 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. 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; but ſo little reliance is now put upon it, that it is entirely rejected both by the London and Edinburgh colleges.

VITIS [*Lond.*] *Fructus, Uva paſſa, Vinum, Tartarum, Tartari cryſtalli, Acetum.*
Vitis vinifera Lin.

The

The vine tree.

The leaves of this tree were formerly celebrated as aſtringents, but have for a long time been entirely diſregarded: Their taſte is herbaceous, with only a ſlight 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 ſore eyes; and by ſome recommended likewiſe in ardent and malignant fevers, and as a diuretic. The flowers have a pleaſant ſmell which water elevates from them in diſtillation; along with the water, a ſmall portion of an elegant eſſential oil is ſaid to ariſe, poſſeſſing in great perfection the fragrance of the flowers.—The unripe fruit is of a very harſh, rough, ſour taſte: Its expreſſed juice, called verjuice, was in great eſteem among the antients, and ſtill continues ſo in ſome places, as a cooling aſtringent medicine: A rob and ſyrup were formerly prepared from it.—The ripe fruit or grapes, of which there are ſeveral kinds, properly cured and dried, are the raiſins of the ſhops: The juice by fermentation affords wine, vinegar, and tartar; of all which mention has already been made. See the articles, VINUM, ACETUM, TARTARUM, &c.

VITRIOLUM ALBUM. See ZINCUM.

VITRIOLUM CÆRULEUM. See CUPRUM.

VITRIOLUM VIRIDE, See FERRUM.

ULMARIA [*Brun.*] *Radix.*
Spiræa Ulmaria Lin.

Meadow ſweet, or Queen of the Meadows; the root.

This herb is frequent in moiſt meadows, and about the ſides 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 infuſion, and elevates in diſtillation. The leaves are herbaceous. But neither of theſe at preſent enter any pharmacopœias. The roots are uſed in ſome plaſters, in which they have probably no influence.

ULMUS [*Lond. Ed.*] *Cortex interior.*
Ulmus campeſtris Lin.

The elm tree; the inner bark.

This bark has a mild aſtringent taſte. A decoction formed from it, by boiling an ounce with a pound of water, to the conſumption of one half, has been highly recommended by ſome, particularly by Dr. Letſome in obſtinate cutaneous eruptions.

URTICA [*Lond. Ed.*] *Herba.*
Uretica dioica Lin.

Common nettle; the herb.

The leaves of the freſh nettle ſtimulate, inflame, and raiſe bliſters on thoſe parts of the ſkin which they touch. Hence when a powerful rubefacient is required, ſtinging with nettles has been recommended. It has been alleged to have ſometimes ſucceeded in reſtoring ſenſe and motion to paralytic limbs. Both the herb and ſeed were formerly believed to be lithontriptic and powerfully diuretic; and many other virtues were attributed to them, to which the preſent practice pays no regard. The young leaves are by ſome uſed in the ſpring as a wholeſome pot herb.

UVA PASSA [*Lond.*]

Raiſins

Raiſins of the ſun; the dried grapes of the *vitis Damaſcena.*

UVÆ PASSÆ *Minores.*
Currants; the dried grapes of the *vitis Corinthiaca.*

The principal uſe of theſe is as an agreeable ſweet; they impart a very pleaſant flavour 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. The raiſins of the ſun are an ingredient in the compound decoction of barly, the tincture of ſenna, and the compound tincture of cardamoms.

UVA URSI [*Lond. Ed.*] *Folium.*
Arbutus uva urſi Lin.
Whortleberry; the leaf.

The uva urſi is a low ſhrub, ſomewhat reſembling the myrtle. It ſeems firſt to have been employed in medicine in Spain and the ſouth of France; it is an indigenous vegetable of theſe countries, but it grows alſo in northern climates, particularly in Sweden, and on the hills of Scotland. The leaves have a bitteriſh aſtringent taſte; and their latter quality is ſo conſiderable, that in certain places, particularly in ſome of the provinces of Ruſſia, they are uſed for tanning leather. A watery infuſion of the leaves immediately ſtrikes a very black colour with chalybeates.

The uva urſi ſeems firſt to have been employed in medicine with a view to its aſtringent power. With this intention, it was uſed under the form of decoction, for reſtraining an immoderate flow of the menſes, againſt other hæmorrhagies, in caſes of diarrhœa and dyſentery, and for the cure of cutaneous eruptions. But it had fallen much into diſuſe till its employment was again revived by Dr. de Haen of Vienna. He beſtowed very high encomiums on it, againſt ulcerations of the kidneys, bladder, and urinary paſſages. He repreſents it as capable of curing almoſt every caſe of that kind: And even aſſerts, that in caſes of calculous much benefit is derived from its uſe; patients after the employment of it paſſing their water eaſily and without pain. It has, however, by no means anſwered the expectations, which, on theſe grounds, other practitioners formed of it: But in many affections of the urinary organs, it has proved to be a remedy of ſome uſe; and it has been particularly ſerviceable in alleviating dyſpeptic ſymptoms in nephritic and calculous caſes. It has alſo been ſerviceable in cyſtirrhœa or catarrhus veſicæ; and it has been thought to be ſometimes productive of advantage in diabetes. It is ſometimes uſed in the form of decoction, but moſt frequently in that of powder, from a ſcruple to a drachm for a doſe, repeated twice or thrice a day.

WINTERANUS CORTEX. [*Brun.*]
Winterania aromatica Lin.
Winter's bark.

This is the produce of a tree growing about the ſouthern promontory of America. It was firſt diſcovered on the coaſt of Magellan by Captain Winter, in the year 1567: The ſailors then employed the bark as a ſpice, and afterwards found it ſerviceable in the ſcurvy; for which purpoſe it is at preſent ſometimes uſed in diet drinks. The true winter's bark is not often met with in the ſhops,

canella

canella alba being generally substituted for it, and by many it is reckoned to be the same: There is, however, a considerable difference between 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 tastes much warmer and more pungent.

ZEDOARIA [*Lond. Ed.*] *Radix.*

Kempferia rotunda Lin.

Zedoary; the root.

Zedoary is the root of a plant growing in the East Indies. It is brought over in oblong pieces about the thickness of the finger, or in roundish ones about an inch in diameter. Both sorts have an agreeable fragrant smell, and a warm bitterish, aromatic taste.

In distillation with water, it yields an essential oil, possessing the smell and flavour of the zedoary in an eminent degree; the remaining decoction is almost a simple bitter. Spirit likewise brings over some small share of its flavour: Nevertheless the spirituous extract is considerably more grateful than the zedoary itself.

ZIBETHUM [*Brun.*]

Viverra Zibetha Lin.

Civet.

This is a soft unctuous substance, of a white, brown, or blackish colour, brought from the Brazils, the coast of Guinea, and the East Indies. It is contained in certain bags, situated in the lower part of the belly of an animal, of the cat kind.

The chief use of this drug is in perfumes; it is rarely, if ever, employed for any medicinal purposes.

ZINCUM [*Lond.*] *Lapis calaminaris. Tutia, Vitriolum album,* [*Ed.*] *Zincum vitriolatum.*

Zinc.

This is a semimetal, inflammable *per se*; sublimable into flowers; soluble in every acid; not miscible in fusion with sulphur; changing copper into a metal, called brass. Several productions of this metal, though not generally known to be such, are keep in the shops; as its rich ore calamine, the white vitriol, the pure white flowers of zinc called *Pompolyx*, and the more impure tutty.

The preparations of zinc are employed principally in external applications as ophthalmics. The flowers levigated into an impalpable powder, form with oily substances an useful ointment, and with rose and other waters, elegant collyria, for defluxions of thin sharp humours on the eyes. They are moderately astringent; and act, if the levigation has been duly performed, without acrimony or irritation.

Internally, they have been recommended in epilepsy and other spasmodic affections, both alone and with the *cuprum ammoniacum*; and some think they prove an useful addition to the Peruvian bark in intermittents.

White vitriol is sometimes given, in doses of from five grains to half a drachm, as an emetic; it operates quickly, and, if pure, without violence. Externally, it is employed as an ophthalmic, and often made the basis of collyria, both in extemporaneous prescription and in dispensatories: Such as the *aqua zinci vitriolati cum camphora*

camphora of the London pharmacopœia.

ZINGIBER [*Lond. Ed.*] *Radix.*

Amomum zingiber Lin.

Ginger ; the root.

This root is brought from China, and the East and West Indies. It has a fragrant smell, and a hot, biting aromatic taste. Rectified spirit extracts its virtues by infusion, in much greater perfection than aqueous liquors ; the latter elevate its whole flavour in distillation, the former little or nothing. Ginger is a very useful spice in cold flatulent colics, and in laxity and debility of the intestines : It does not heat so much as those of the pepper kind, but its effects are more durable. It gives name to an officinal syrup, to the *Zingiber conditum*, or candied ginger brought from abroad ; enters the *Electuarium cardiacum*, and some other compositions.

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 seeds were sown : 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, airy place, till sufficiently dried ; and when thoroughly dry they ought to be kept in tin canisters with close covers, and in a dry room. The thicker roots require to be slit longitudinally, or cut transversely into thin slices and hung with pack thread in festoons, so that the slices do not touch each other. Such roots as lose their virtues by exsiccation, or are desired to be preserved in a fresh state, for the greater conveniency of their use in certain forms, are to be kept buried in dry sand, in a cool cellar.

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 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 pharmacopœias, directed them to be dug

dug in the ſpring, after the leaves are formed; in the third edition, the autumn was preferred. The generality of roots appear, indeed, to be moſt efficacious in the ſpring: But as at this time they are alſo the moſt juicy, and conſequently ſhrivel much in drying, and are rather more difficultly preſerved, it is commonly thought moſt adviſable 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 ſeaſons; while angelica root is inert during the ſummer, in compariſon of what it is 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.

For the gathering of leaves, there cannot perhaps be any univerſal rule, any more than for roots; for though moſt herbs appear to be in their greateſt vigour about the time of their flowering, 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 flowering 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 *heat*, but from its *light*; by which their colours are liable to be altered or deſtroyed. Slow drying of them in a cool place is far from being of any advantage: Both their colours and virtues are preſerved in greateſt perfection, when they are dried haſtily by the heat of the ſun, or of a common fire as great as that which they can bear without being ſcorched, eſpecially the more ſucculent, which are otherwiſe liable to turn black. Odoriferous herbs, dried by fire till they become friable, diſcover indeed, in this arid ſtate, very little ſmell: not that the odorous matter is diſſipated; but on account of its not being communicated from the perfectly dry ſubject to dry air; for as ſoon 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 drying herbs, we have an inſtance in the treatment of tea among the Chineſe. According to the accounts of travellers, the leaves, as ſoon as gathered, are brought into an apartment furniſhed with a number of little furnaces, or ſtoves, each of which is covered with a clean

ſmooth

ſmooth iron plate; the leaves are ſpread on the plates, and kept rolling with the hands till they begin to curl up about the edges; they are then immediately ſwept off on tables, on which one perſon continues to roll them, while another fans them that they may cool haſtily: This proceſs is repeated two or three times, or oftener, according as the leaves are diſpoſed to unbend on ſtanding.

Exsiccation of Herbs and Flowers.

Herbs and flowers are to be dried by the gentle heat of a ſtove or common fire, and only in that quantity at a time by which the exſiccation may be very ſoon finiſhed. By this means their ſtrength and native colour are beſt preſerved.

The leaves of hemlock, and ſome other herbs replete with a ſubtile volatile matter, are to be powdered immediately after the exſiccation, and preſerved in glaſs veſſels, well ſhut.

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 clipped off and thrown away.

The quick drying, above recommended for the leaves of plants, is more particularly proper for flowers; in moſt of which both the colour and ſmell are more perſhable than in leaves, and more ſubject to be impaired by ſlow exſiccation. Of the flowers which come freſh into the apothecaries' hands, the only ones employed dry in the London Pharmacopœia are red roſes; and there, in all the compoſitions in which they are uſed in a dry ſtate, are expreſsly ordered to be dried haſtily.

It may here be obſerved, that the virtues of flowers are confined to different parts of the flower in different plants. Saffron is a ſingular production being the end of the ſtyle or piſtil. The active part of chamomile 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 in any of theſe parts, its fragrance reſiding chiefly in the flower cup.

Fruits and Seeds.

Fruits are to be gathered when ripe, unleſs otherwiſe ordered. Seeds ſhould be collected when ripe and beginning to grow dry, before they fall off ſpontaneouſly.

Of 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 ſloe, whoſe virtue as a mild aſtringent is much diminiſhed by maturation.

The rule for collecting ſeeds is more general than any of the others, all the officinal ſeeds being in their greateſt perfection at the time of their maturity. As ſeeds contain little watery moiſture, they require no other warmth for drying them than that of the temperate air of autumn; ſuch as abound with a groſs expreſſible oil, ſhould never be expoſed to any conſiderable heat; for this would haſten

haſten their rancidity. Seeds are beſt preſerved in their natural huſks or coverings, which ſhould be ſeparated only at the time of uſing; the huſk, or cortical part, ſerving to defend the ſeed 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.

No woods of our own growth are now retained by the London or Edinburgh colleges.

It may be doubted, whether barks are not generally more replete with medicinal matter in ſummer and ſpring than in winter. The barks of many trees are in ſummer ſo much loaded with reſin and gum, as to burſt ſpontaneouſly, and diſcharge this 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 alſo fitteſt for medicinal purpoſes in the ſpring. It may be obſerved likewiſe, that, in this laſt ſeaſon, barks in general are moſt conveniently peeled off.

Animal Substances.

Animal ſubſtances are to be choſen in their moſt perfect ſtate, unleſs they be ordered otherwiſe.

Whatever virtues theſe bodies may have, they are ſuppoſed to be beſt when they have attained to their common full growth.

PART III.

Preparations and Compositions.

CHAP. I.

PREPARATIONES SIMPLICIORES.

THE MORE SIMPLE PREPARATIONS.

QUORANDUM AQUA NON SOLUBILIUM PRÆPARATIO.

Lond.

The preparation of some Substances not soluble in water.

REDUCE these substances first in a mortar to a fine powder; and pouring on a little water, levigate it on a hard and polished, but not calcareous, stone, that it may be made as fine as possible. Dry this fine powder on blotting paper laid on chalk, and set it in a warm, or at least a dry place, for some days.

In this manner are to be prepared,

Amber,
Antimony,
Calamine,
Chalk,
Coral.

Crabs claws, first broken into small pieces, must be washed with boiling water before they be levigated.

Oyster shells, first cleaned from adhering impurities.
Tutty.
Verdigris.

WHERE large quantities of the foregoing powders are to be prepared, it is customary, instead of the stone and mullet, to employ hand mills made for this purpose, consisting of two stones; the uppermost of which turns horizontally on the lower, and has an aperture in the middle for supplying fresh matter, or of returning that which has already passed, till it be reduced to a proper degree of fineness.

For the levigation of hard bodies, particular care should be taken, whatever kind of instruments be used, that they be of sufficient hardness, otherwise they will be abraded by the powders. The hæmatites, a hard iron ore, is most conveniently levigated between two iron planes; for if the common levigating stones be used, the preparation, when finished, will contain

contain almoſt as much foreign matter from the inſtrument as the hæmatites.

It has been cuſtomary to moiſten ſeveral powders in levigation, with roſe, balm, and other diſtilled waters: Theſe, nevertheleſs, have no advantage above 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 pure water.

Some few ſubſtances, indeed, are more advantageouſly levigated with ſpirit of wine than with water. A little ſpirit may be added to 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, ſometimes happens when they are levigated with water only. Crab's eyes, which abound with animal gelatinous matter, are particularly liable to this inconvenience.

The caution given above for reducing antimony, calamine, and tutty, to the greateſt ſubtility poſſible, 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 needle like ſpicula, wound the ſtomach, but likewiſe anſwers little valuable purpoſe as a medicine, proving either an uſeleſs load upon the viſcera, or at beſt paſſing off without any other ſenſible effect than an increaſe of the groſſer evacuations; while, 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 become fine enough to remain for ſometime ſuſpended in the fluid; this proceſs is received in the Edinburgh pharmacopœia, and there directed in the preparation of the following article.

ANTIMONIUM PRÆPARATUM.

Edinburgh.

Prepared Antimony.

Let the antimony be firſt pounded in an iron mortar, and then levigated on a porphyry with a little water. After this, put it into a large veſſel, and pour a quantity of water on it. Let the veſſel be repeatedly ſhaken that the finer part of the powder may be diffuſed through the water; the muddy liquor is then to be poured off, and ſet by till the fine powder ſettles.

The groſs part, which the water would not ſuſpend, is to be further levigated, and treated in the ſame manner.

By this method, 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 coarſer matter ſettles at firſt, and the finer powder continues ſuſpended in the water, longer and longer in proportion to the degree of its fineneſs. The ſame proceſs may likewiſe be advantageouſly

geously applied to other hard pulverisable bodies of the mineral kingdom, or artificial preparations of them; provided they be not soluble in, or specifically lighter than water. The animal and absorbent powders, crab's claws, crab's eyes, oyster shells, egg shells, chalk, coral, &c. are not well adapted to this treatment; nor indeed do they require it. These 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 they are disposed to form such concretions, and become liable to obstruct the orifices of the small vessels.

CALAMINARIS LAPIS PRÆPARATUS.

Edin.

Prepared Calamine.

Calamine, previously calcined by brass founders, is to be treated in the same manner as antimony.

As calamine is intended for external application, and often to parts very easily irritated, too much pains cannot be bestowed in reducing it to a fine powder.

CRETA PRÆPARATA.

Edin.

Prepared Chalk.

Chalk first triturated and then frequently washed with water, till it imparts to the water neither taste nor colour, is to be treated in the same manner as antimony.

CANCRORUM LAPILLI PRÆPARATI, VULGO OCULI CANCRORUM.

Edin.

Prepared Crab's Stones.

TUTIA PRÆPARATA.

Edin.

Prepared Tutty.

These are to be prepared like antimony.

TESTÆ OSTREARUM PRÆPARATÆ.

Edin.

Prepared Oyster Shells.

After being well cleaned from adhering impurities, they are to be prepared like antimony.

ADIPIS SUILLÆ, SEVIQUE OVILLI PRÆPARATIO.

Lond.

The preparation of hog's lard and mutton suet.

AUXUNGIA PORCINA PRÆPARATA.

Edin.

Prepared hog's lard.

Cut them into pieces, and melt them over a slow fire; then separate them from the membranes by straining.

The apothecary will in general find it more for his interest to purchase hog's lard and mutton suet ready prepared than to prepare them for himself: For the process requires to be very cautiously conducted, to prevent the fat from burning or turning black.

AMMONIACI

AMMONIACI GUMMI PURIFICATIO.

The purification of gum ammoniacum. Lond.

If gum ammoniac do not ſeem to be pure, boil it in water till it become ſoft; then ſqueeze it through a canvas bag, by means of a preſs. Let it remain at reſt till the reſinous part ſubſide; then evaporate the water; and towards the end of the evaporation reſtore the reſinous part, mixing it with the gummy.

In the ſame manner are purified aſſafœtida and ſuch like gum reſins.

You may alſo purify any gum which melts eaſily, ſuch as Galbanum, by putting it in an ox bladder, and holding it in boiling water till it be ſo ſoft that it can be ſeparated from its impurities by preſſing through a coarſe linen cloth.

In ſtraining all the gums care ſhould be taken that the heat be neither great, nor long continued; otherwiſe a conſiderable portion of their more active volatile matter will be loſt; an inconvenience, which cannot, by any care be wholly avoided. Hence the purer tears, unſtrained, are in general to be preferred, for internal uſe, to the ſtrained gums.

An additional reaſon for this preference is that ſome of the gum reſins, purified in the common way, by ſolution in water, expreſſion and evaporation, are not ſo eaſily ſoluble in aqueous menſtrua after, as before, ſuch depuration. On theſe accounts this proceſs is entirely omitted by the Edinburgh college; and in every caſe where a gummy reſinous ſubſtance, before it be taken, is to be diſſolved in water, it may be as effectually freed from impurities at the time of ſolution as by this proceſs, And when it is to be employed in a ſolid ſtate, care ſhould be taken that the purer parts alone be ſelected.

CORNU CERVI USTIO.

The burning of hartſhorn. Lond.

Burn pieces of hartſhorn till they become perfectly white; then reduce them to a very fine powder.

The pieces of horn generally employed in this operation are thoſe left after diſtillation.

In the burning of hartſhorn, a ſtrong fire and the free admiſſion of air are neceſſary. The potter's furnace was formerly directed for the ſake of convenience; but any common furnace or ſtove will do. If the pieces of horn be laid on ſome lighted charcoal ſpread on the bottom of the grate, they will be burnt to whiteneſs, ſtill retaining their original form.

Burnt hartſhorn is not now conſidered as a pure earth, having been found to be a compound of calcareous earth and phoſphoric acid. It is the weakeſt of the animal abſorbents, and is difficultly ſoluble in acids; but whether it be of equal or ſuperior uſe in diarrhœas to more powerful abſorbents, muſt be left to obſervation.

HERBARUM et FLORUM EXSICCATIO.

The drying of herbs and flowers.

Lond.

Let theſe, ſpread out lightly, be dried by a gentle heat.

Edin.

Herbs and flowers muſt be dried by the gentle heat of a ſtove or common fire, in ſuch quantities at a time, that the proceſs may be ſpeedily finiſhed; for by this means their medical powers are beſt preſerved. The teſt of which is the perfect preſervation of their natural colour. The leaves of cicuta, and of other plants containing a volatile matter, muſt be immediately pounded, after being dried, and afterwards kept in a phial with a ground ſtopper.

The directions given by the London college are here leſs explicit, and leſs proper than thoſe of the Edinburgh college: For there can be no doubt of the propriety of drying theſe ſubſtances haſtily, by the aid of artificial heat, rather than by the heat of the ſun. In the application of artificial heat, the only caution requiſite is to avoid burning; and of this a ſufficient teſt is afforded by the preſervation of colour. And the direction given with regard to cicuta may be followed in moſt caſes where flowers and herbs are kept and exhibited in powder.

MELLIS DESPUMATIO.

Lond.

The purifying of honey.

MEL DESPUMATUM

Edin.

Purified honey.

Melt the honey by the heat of a water bath, and remove the ſcum.

The intention of this proceſs is to purify the honey from wax, or other droſſy matters that adhere to it, or are ſometimes fraudulently mixed with it. When the honey is rendered liquid and thin by the heat, theſe lighter matters riſe freely to the ſurface.

MILLEPEDÆ PRÆPARATIO

Lond.

The preparation of millepeds.

MILLEPEDÆ PRÆPARATÆ.

Edin.

Prepared millepeds.

The millepeds are to be incloſed in a thin canvas cloth, and ſuſpended over hot proof ſpirit in a cloſe veſſel, till they be killed by the ſteam, and rendered friable.

This is a convenient way of rendering millepeds pulveriſable, without endangering any loſs of ſuch virtues as they may poſſeſs.

The directions given by both colleges are precisely the ſame, and delivered in almoſt the ſame words.

PULPARUM EXTRACTIO.

Edin.

The extraction of pulps.

Boil unripe pulpy fruits, and ripe ones if they be dry, in a ſmall quantity

quantity of water until they become ſoft: Then preſs out the pulp through a hair ſieve, and afterwards boil it down to the conſiſtence of honey in an earthen veſſel, over a gentle fire; taking care to keep ſtirring the matter continually.

The pulp of caſſia fiſtularis is in like manner to be boiled out from the bruiſed pod, and reduced afterwards to a proper conſiſtence, 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.

In the extraction of pulps, the direction of both colleges ſo nearly agree, that it is unneceſſary to give a ſeparate tranſlation of each. We may only obſerve, that the London college, inſtead of ſoftening the fruits by boiling them in a ſmall quantity of water, direct them to be put in a moiſt place. This direction, though proper in ſome caſes, is not generally the moſt ſuitable.

SCILLÆ EXSICCATIO.

Lond.

The drying of ſquills.

SCILLA EXSICCATA.

Edin.

Dried ſquill.

Let the ſquill, cleared from its outer ſkin, be cut tranſverſely into thin ſlices, and dried with a gentle heat. When properly managed, the ſquill is friable, and retains its bitterneſs and acrimony.

By this method the ſquill dries much ſooner than when its ſeveral coats are only ſeparated, as has been uſually directed; the internal part is here laid bare, but, in each of the entire coats, it is covered with a thin ſkin, which 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: Six grains of the dry root being equivalent to half a drachm of the freſh: A circumſtance to be particularly regarded in the exhibition of this medicine. In the preceding editions of our pharmacopœias, a particular caution was given, not to uſe an iron knife for cutting ſquills, but one of wood, ivory, or bone: The reaſon of this caution is ſaid to be, not ſo much that the ſquill 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: But as no danger is to be apprehended from ſuch an accident, the direction appears unneceſſary. Dried ſquills furniſh us with a medicine, ſometimes advantageouſly employed as an emetic, often as an expectorant, but ſtill more frequently as a powerful diuretic.

SPONGIÆ USTIO.

Lond.

The burning of ſponge.

Cut the ſponge in pieces, and bruiſe it, and when ſeparated from its gritty matter, burn it in a cloſe iron veſſel, until it becomes black and friable; afterwards rub it to a very fine powder.

SPONGIA

SPONGIA USTA.

Edin.

Burnt ſponge.

Put the ſponge, cut into ſmall pieces, and well freed from adhering earthy matters, into a cloſe earthen veſſel. Place it on the fire, and let it be ſtirred frequently till it become black and friable; then reduce it to a powder in a glaſs or marble mortar.

This medicine has been in uſe for a conſiderable time, and employed againſt ſcrophulous diſorders and cutaneous foulneſſes, in doſes of a ſcruple and upwards. Its virtues ſeem to depend on a volatile ſalt juſt formed and combined with its own oil. If the ſponge be diſtilled with a ſtrong heat, it yields a large proportion of that ſalt in its proper form. The ſalt is in this preparation ſo far extricated, that if the burnt ſponge be ground in a braſs mortar, it corrodes the metal, ſo as to contract a diſagreeable taint, and ſometimes an emetic quality.

Bees, earth worms, and other animal ſubſtances, have by ſome been prepared in the ſame manner, and recommended in different diſeaſes: But as theſe ſubſtances fall much ſhort of ſponge in the quantity of volatile ſalt producible from them by fire, they are probably inferior alſo in medicinal efficacy. Of all the animal matters that have been tried, raw ſilk is the only one which exceeds, or equals ſponge, in the produce of ſalt.

A good deal of addreſs is requiſite 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 ſometimes amount to a conſiderable quantity. The burning ſhould be diſcontinued as ſoon as the matter is become thoroughly black. If the quantity put into the veſſel at once be large, the outſide will be ſufficiently burnt before the inſide be affected; and the volatile ſalt of the former will in part eſcape, before that of the latter is begun to be formed. The beſt method of avoiding this inconvenience ſeems to be, to keep the ſponge continually ſtirring, in ſuch a machine as is uſed for the roaſting of coffee.

From this circumſtance the iron veſſel directed by the London college is preferable to the earthen one directed by that of Edinburgh. But the pounding in a glaſs or marble mortar, is a neceſſary caution which the London college have omitted.

STYRACIS PURIFICATIO.

Lond.

The purification of ſtorax.

Diſſolve the ſtorax in rectified ſpirit of wine, and ſtrain the ſolution: Afterwards reduce it to a proper thickneſs with a gentle heat.

Storax was formerly directed to be purified by means of water; hence it was ſtyled *styracis collatio*: But the method now adopted is much preferable, for the active parts of the ſtorax totally diſſolve in ſpirit of wine, the impurities alone being left. And as theſe active parts do not riſe in diſtillation, the ſpirit may be again recovered by diſtillation.

MUCILAGINUM

MUCILAGINUM EXTRACTIO.

Gen.

The extraction of mucilages.

Boil the gums or mucilaginous seeds in a sufficient quantity of water, till it becomes viscid, nearly resembling the white of an egg; and then strain it by pressure through a linen cloth.

Although this process be not given in either of our pharmacopœias, yet it might have been adopted with advantage: It is certainly a very good method for obtaining a pure mucilage from such vegetables as contain any.

CHAP.

CHAP. II.

CONSERVÆ.

CONSERVES.

CONSERVES are compoſitions of ſugar and recent vegetable matters beaten together into an uniform maſs.

This management is introduced for preſerving certain ſimples undried in an agreeable form, with as little alteration as poſſible of their native virtues: And to ſome ſubjects it is very advantageouſly applied. Vegetables, whoſe virtues are loſt or deſtroyed by drying, may in this form be long kept uninjured: For by carefully ſecuring the mouth of the containing veſſel, the alteration, as well as diſſipation of their active principles, is generally prevented; and the ſugar preſerves them from the corruption which juicy vegetables would otherwiſe undergo.

There are, however, ſeveral vegetables whoſe virtues are impaired by this treatment. Mucilaginous ſubſtances, by long lying with ſugar become leſs glutinous; and aſtringents become ſenſibly ſofter on the palate. Many of the fragrant flowers are of ſo tender and delicate a texture, as almoſt entirely to loſe their peculiar qualities on being beaten or bruiſed.

In general, it is obvious, that in this form, on account of the large admixture of ſugar, only ſubſtances of conſiderable activity can be taken to advantage as medicines; and indeed conſerves are at preſent conſidered chiefly as auxiliaries to medicines of greater efficacy, or as intermedia for joining them together. They are very convenient for reducing into boluſes or pills the more ponderous powders, as calomel, the calces of iron, and other mineral preparations; which, will not cohere with liquid, or leſs conſiſtent matters, as ſyrups.

The ſhops were formerly encumbered with many conſerves altogether inſignificant; the few now retained have in general either an agreeable flavour 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.

CONSERVÆ.

ABSINTHII MARITIMI, *Of ſea wormwood.*

CORTICIS EXTERIORIS AURANTII HISPALENSIS; *Of the outer rind of the Seville orange.*

LUJULÆ.

LUJULÆ.
Of wood sorrel.
ROSÆ RUBRÆ,
Of the red rose;
Lond.

Pluck the leaves from the stalks, and the unblown petals from the cups, taking off the heels. Rasp off the outer rind of the oranges by a grater; then beat each of them with a wooden pestle in a marble mortar, first by themselves, and afterwards with three times their weight of double refined sugar, until they be mixed.

CONSERVÆ.
MENTHÆ SATIVÆ FOLIORUM RECENTIUM,
Of the fresh leaves of mint;
ROSÆ RUBRÆ PETALORUM NONDUM EXPLICATORUM;
Of red rose buds.
AURANTIORUM HISPALENSIUM CORTICIS EXTERIORIS RECENTIS RADULA ABRASI.
Of the outer rind of Seville oranges rasped off by a grater.
CYNOSBATI FRUCTUS MATURI PULPÆ *a seminibus eorumque pube solicite purgatæ.*
Of the pulp of ripe hips freed from the seeds and down adhering to them.
Edin.

Beat each of these to a pulp, gradually adding during the beating three times their weight of double refined sugar.

The sugar should be pounded by itself, and passed through a sieve, before it be mixed with the vegetable mass, for without this it cannot be properly incorporated. Rose buds, and some other vegetables, are prepared for mixing with sugar by a small wooden mill contrived for that purpose.

In the same manner conserves may be prepared from many other vegetables. But besides the conserves for which general directions are given, there are others, for which our pharmacopœias have thought it necessary to give particular directions. But before taking notice of those, it is necessary to mention the medical properties of the conserves above enumerated.

CONSERVA LUJULÆ.
Lond.
Conserve of wood sorrel.

This is a very elegant and grateful conserve; in taste it is lightly acidulous, with a peculiar flavour, like that of green tea. It is taken occasionally for quenching thirst, and cooling the mouth and fauces, in distempers where the heat of the body is much increased.

CONSERVA ABSINTHII MARITIMI.
Lond.
Conserve of sea wormwood.

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 an elegant mild corroborant.

It

It is directed to be given in the dose of half an ounce about three hours before meals.

CONSERVA ROSÆ RUBRÆ.
Lond. Edinb.
Conserve of red roses.

This is a very agreeable and useful conserve. A drachm or two dissolved in warm milk, is frequently given as a slight restringent, in weakness of the stomach, and likewise in coughs and phthisical complaints. In the German ephemerides, examples are related of very dangerous phthisis 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. There is, however, much room for fallacy in such observations; as phthisis has not at all times been accurately distinguished from obstinate catarrhs, and some other affections: The antiseptic property of the sugar may perhaps have some share in the effect.

CONSERVA AURANTIORUM.
Lond. Edinb.
Conserve of Seville orange.

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 conveniency of taking. It is a pleasant warm stomachic; and with this intention is frequently used.

CONSERVA MENTHÆ.
Edinb.
Conserve of mint.

The conserve of mint retains the taste and virtues of the herb. It is given in weakness of the stomach and retchings to vomit: And frequently does service in some cases of this kind, where the warmer and more active preparations of mint would be less proper.

CONSERVA ARI.
Lond.
Conserve of arum.

Take
- The fresh root of arum bruised, half a pound;
- Double refined sugar, a pound and a half;

Beat them together in a mortar.

The root of arum, in its recent state, is a substance of great activity; but this activity is almost entirely lost on drying. Hence the compound powder which had formerly a place in our pharmacopœias is now rejected. And as neither water nor spirit extract its activity, this conserve is the best form in which it can be preserved in our shops. It may be given to adults in doses of a drachm.

CONSERVA CYNOSBATI.
Lond.
Conserve of hips.

Take of
- Pulp of ripe hips, one pound;
- Double refined sugar, powdered, twenty ounces.

Mix them into a conserve.

The conserve of hips is of some esteem

esteem as a soft cooling restringent; three or four drachms or more are given at a time, in bilious fluxes, 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 fibres, 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 PRUNI SYLVESTRIS.

Lond. Edinb.
Conserve of sloes.

Put the sloes in water upon the fire that they may soften, taking care that they be not broken; then the sloes being taken out of the water, press out the pulp, and mix it with three times its weight of double refined sugar into a conserve.

This preparation is a gentle astringent, and may be given as such in the dose of two or three drachms. The degree of its astringency will vary according to the maturity of the sloes, and length of time for which the conserve has been kept.

CONSERVA SCILLÆ.

Lond.
Conserve of squills.

Take of
Fresh squills, one ounce;
Double refined sugar, five ounces.
Beat them together in a mortar into a conserve.

This conserve is directed to be prepared in a small quantity, to guard against its varying in strength. It may be given, to adults, in doses of from half a drachm to two scruples, especially when fresh.

The conserve of squills is a more uncertain and less agreeable mode of exhibiting this article, than the powder of the dried root made into pills, or a bolus with any other conserve.

CONSERVA FOLIORUM CEREFOLII.

Suec.
Conserve of chervil.

Take of
Fresh leaves of chervil,
Double refined sugar, each equal parts.
Beat them together into a conserve.

Chervil has by some been extolled as an useful diuretic; and this is perhaps one of the most pleasant forms under which it can be exhibited.

CONSERVA MILLEPEDARUM.

Brun.
Conserve of millepeds.

Take of
Live millepeds, one pound;
Double refined sugar, two pounds and an half.
Beat them together into a conserve.

If the millepeds possess those virtues which some have alleged, this is one of the best forms in which they can be exhibited; and as they are frequently prescribed for children, it may be easily taken, when other forms cannot be introduced.

CONSERVA

CONSERVA ROSARUM VITRIOLATA.

Brun.

Vitriolated conſerve of roſes.

To each pound of the conſerve of roſes add two drachms of the diluted vitriolic acid.

This may be in ſome caſes an uſeful means of ſomewhat increaſing the aſtringency of the conſerve of roſes: But for theſe purpoſes, for which the vitriolic acid is in general employed, the quantity that can thus be introduced is too inconſiderable to be of much ſervice.

CHAP. III.

SUCCI.

JUICES.

JUICES are obtained from the ſucculent parts of plants, by including them, after being properly cut, bruiſed, &c. in a hair bag, and preſſing them, between wooden cheeks, in the common ſcrew preſs, as long as any liquor exudes.

The harder fruits require to be previouſly well beaten or ground: But herbs are to be only moderately bruiſed, for otherwiſe 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; their threads likewiſe ſwell by moiſture, ſo as to prevent in a great meaſure the free percolation of the juice.

The fluids thus extracted from ſucculent fruits, both of the acid and ſweet kind; from moſt of the acrid herbs, as ſcurvy graſs and water creſſes; from the acid herbs, as ſorrel and wood ſorrel; from the aperient lacteſcent plants, as dandelion and hawkweed; and from ſundry other vegetables, contain great part of the peculiar taſte 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 called *balm of Gilead*, have ſcarſely any thing of the flavour of the plants, and ſeem 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, hyacynth, not only impart nothing of their fragrance to their juice, but have it totally deſtroyed by the previous bruiſing. 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.

The juices, thus forcibly preſſed out from plants, differ from thoſe which flow ſpontaneouſly, or from inciſions: Theſe laſt conſiſting chiefly of ſuch fluids as are not diffuſed through the whole ſubſtance of the vegetable ſubject, but elaborated in diſtinct veſſels, or ſecreted into particular receptacles. From poppy heads, ſlightly wounded, there iſſues a thick milky liquor, which dries by a moderate warmth into opium; whilſt the juice obtained from them by preſſure is of a dark green colour, and far weaker in virtue.

Juices newly expreſſed are generally

ally thick, vifcid, and very impure: By colature, a quantity of groſs matter is ſeparated, the juice becomes thinner, limpid, and better fitted for medicinal purpoſes, though as yet not entirely pure; on ſtanding, it becomes again turbid and is apt to run into a fermentative or putrefactive ſtate. Clarification with whites of eggs renders the juices more perfectly fine; but there are few that will bear this treatment without a manifeſt injury to their flavour, taſte, and virtue.

The moſt effectual method of purifying and preſerving theſe liquors, is to let the ſtrained juices ſtand in a cool place till they have depoſited their groſſer feces, and then gently paſs them ſeveral times through a fine ſtrainer till perfectly clear; when about a fortieth part of their weight of good ſpirit of wine may be added, and the whole ſuffered 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 which have been waſhed with ſpirit and dried. A little oil is to be poured on the ſurface, ſo as very nearly to fill the bottles, and the mouths cloſed with leather, paper, or ſtopped with cotton, as the flaſks are in which florence oil is brought to us: This ſerves to keep out duſt, and ſuffers the air, which in proceſs of time ariſes from all vegetable liquors, to eſcape; which air would otherwiſe endanger the burſting of the bottles; 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 ſand. By this method ſome juices may be preſerved for a year or two, and others 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 ſubject. There are equal differences in regard to their preſerving thoſe virtues, and this independently of the volatility of the active matter, or its diſpoſition to exhale. Even the volatile virtue of ſcurvy graſs may, by the above method, be preſerved almoſt entire in its juice for a conſiderable time; while the active parts of the juice of the wild cucumber quickly ſeparate, and ſettle to the bottom, leaving the fluid part inert. Juices of arum root, iris root, bryony root, and ſundry other vegetables, throw down in like manner their medicinal parts to the bottom.

SUCCUS COCHLEARIÆ COMPOSITUS.

Lond. Edin.

Compound juice of ſcurvy graſs.

Take of

Juice of Brook lime
Water creſſes, of each one pint;
Seville orange, twenty ounces by meaſure;
Garden ſcurvy graſs, two pints;

Mix them, and, after the feces have ſubſided, pour off the liquor, or ſtrain it.

Edinb.

Take of

Juice of Scurvy graſs,
Water creſſes, preſſed from freſh gathered herbs,

Juice

Juice of Seville oranges, of each two pounds;
Spirit of nutmegs, half a pound.
Mix them, and let them ſtand till the feces have ſubſided, then pour off the clear liquor.

In this formula the Edinburgh college have rejected the brook lime and the ſugar of their former editions. The ſugar was certainly a very improper addition; for though it may preſerve dry vegetable matters, yet when added to juices largely impregnated with watery and mucilaginous matter, it would no doubt furniſh that very principle moſt favourable to the production of the vinous fermentation. For the compound horſe-radiſh water they have ſubſtituted the ſpirit of nutmegs: Beſides that this water has the ſame property of preſerving the juices from fermentation; it is alſo much more agreeable to the palate, and will make the juices ſit eaſier on the ſtomach.

The London college have retained nearly their former formula, giving it only a more proper name.

Both theſe compoſitions are of conſiderable uſe in ſcorbutic caſes. The orange juice is an excellent aſſiſtant to the ſcurvy grass, and other acrid 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 in doſes of from an ounce or two to a quarter of a pint, twice or thrice a day: They generally increaſe the urinary ſecretion, and ſometimes induce 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: And from the difficulty of preſerving them, they have of late been very much laid aſide, eſpecially ſince we have been provided with more convenient and uſeful remedies.

Inspissated Juices.

When vegetable juices, or watery or ſpirituous decoctions or infuſions, are expoſed to a continued heat, the fluid gradually evaporating, carries off with it ſuch volatile matters as it was impregnated with, and leaves the more fixed united together into one maſs. The maſs which remains from the evaporation of the expreſſed juice of a plant is called *inſpiſſated juice*; from watery decoctions or infuſions, 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 *roſs*; and ſpirituous tinctures, reduced to a light conſiſtence, are called *balſams*.

What relates to the expreſſion of juices, has already been delivered, with the moſt effectual means of preſerving them in their liquid ſtate, and a general account of what ſubſtances do or do not give out their virtues with their juices. In the inſpiſſation of juices there is farther to be conſidered the volatility or fixity of their medicinal parts: if a plant loſes its virtue, or part of its virtue, on being dried, it is obvious that the juice muſt loſe as much on being inſpiſſated to dryneſs, how gentle ſoever the heat be with which the inſpiſſation is performed.

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 fluid, 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 diffused through the liquor in the same manner as the feculencies are, and separate along with these on standing.

SUCCUS BACCÆ SAMBUCI SPISSATUS.

Lond.

Inspissated juice of the elder berry.

Take of
Expressed and depurated juice of elder berries, two pints.
Inspissate it in a water bath saturated with sea salt.

SUCCUS SPISSATUS BACCARUM SAMBUCI vulgo ROB SAMBUCI.

Edinb.

Inspissated juice of elder berries, commonly called *Elaer Rob.*

Take of
Juice of ripe elder berries, five pounds;
Purest sugar, one pound.
Evaporate with a gentle heat to the consistence of pretty thick honey.

This preparation, made with or without sugar, keeps well, and proves a medicine of considerable importance as an aperient, generally promoting the natural excretions by stool, urine, or sweat. The dose is from a drachm or two to an ounce or more. A spoonful diluted with water, is usually taken in common colds at bed time.

SUCCUS SPISSATUS ACONITI.

Edinb.

Inspissated juice of wolfsbane.

Bruise the fresh leaves of aconitum; and including them in a hempen bag, squeeze out their juice in a press: Let the juice be evaporated in flat vessels in a vapour bath, to the consistence of pretty thick honey: An empyreuma is to be avoided by constantly stirring the mixture towards the end of the process.

After the matter has become cold, let it be put up in glazed earthen vessels, and moistened with rectified spirit of wine.

In the same manner are prepared inspissated juices of
Belladonna, or deadly night shade,
Hyoscyamus, or henbane, and
Lactuca virosa, or wild lettuce.

In these inspissated juices, the active parts of the plant are obtained in a concentrated state, and in a condition which admits of preparation for a considerable length of time. They furnish therefore a convenient form for exhibiting these articles which, in the practice of medicine, are more frequently used in the place of inspissated juice than any other. This is particularly the case with the hyoscyamus, which may often be advantageously employed when opium is indicated, but disagrees with the patient. But aconite and belladonna may in general, with greater advantage, be exhibited under the form of powder made from the dried leaves.

Succus

SUCCUS SPISSATUS CICUTÆ. *Edin.*

Inspissated juice of hemlock.

Having expressed the juice of the leaves and stalks of hemlock when flowering, in the same manner as directed for that of the aconitum, evaporate it to the consistence of pretty thin honey; when it is cooled, add of the powder of the dried leaves of the plant as much as is sufficient to make it into a mass fit for forming pills. Care, however, is to be taken, that the evaporation proceed only to such length, that as much of the powder can be mixed with the inspissated juice as shall make up about a fifth part of the whole mass.

A preparation similar to this was published at Vienna by Dr. Stoerk, who recommends it as an efficacious resolvent in many obstinate disorders, where the common remedies avail nothing. He observes, that small doses 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 drachms a day, and continued in such quantities for several weeks: That it may be used in 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 increases the secretions, and renders the mouth moist; seldom purges; very rarely vomits; sometimes 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 scirrhous tumours, both internal and external; and cures dropsies and consumptions proceeding from scirrhosities: That it often dissolves cataracts, or stops their progress, and has sometimes removed the gutta serena: That inveterate cutaneous eruptions, scald heads, malignant ulcers, cancers, the malignant fluor albus and gonorrhœa 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 considerable time before the cure be effected, or much benefit perceived from it: That in some cases it failed of giving any relief; that he met with some persons who could not bear its effects: And that consequently there must be some latent difference in the habit, the diagnostic signs of which are at present unknown: That though it is by no means infallible any more than other medicines, yet the great number of deplorable cases which have been happily cured by it, is sufficient to recommend it to farther trials. The efficacy of this medicine is confirmed by many eminent practitioners abroad; though trials hitherto made of it in this country have not been attended with much success. Somewhat, perhaps, may depend on the time of the plant's being gathered, and the manner of the preparation of the extract. Dr. Stoerk 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;

inous; 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 conſiderable 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 ſpecifick ſmell of the plant. The extract, duly prepared, according to the above preſcription, is of a greeniſh brown colour, and a very diſagreeable ſmell, like that of mice. But though there be 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 not many inſtances of its diſcovering any valuable medicinal powers, there are ſeveral of its having activity enough even in ſmall doſes, to produce alarming ſymptoms.

Modern practice, however, ſeems to hold a middle place; being neither influenced by the extravagant encomiums of Dr. Stoerk, nor frightened by the wary ſuſpicions of Dr. Lewis. The inſpiſſated juice of the hemlock is accordingly given with freedom in a great variety of complaints, without our experiencing the wonderful effects aſcribed to it by the former, or the baneful conſequences dreaded by the latter. Like other preparations of this valuable herb, it is no doubt a very uſeful addition to our pharmacopœia; nor does its uſe ſeem to be more hazardous than that of opium and ſome other narcotics.

SUCCUS SPISSATUS RIBIS NIGRI.

Lond.

Inſpiſſated juice of black currants.

SUCCUS SPISSATUS LIMONIS.

Lond.

Inſpiſſated juice of lemons.

SUCCUS SPISSATUS CICUTÆ.

Lond.

Inſpiſſated juice of hem'ock.

These three are directed to be prepared in the ſame manner as the elder berry juice.

CHAP.

CHAP. IV.

EXTRACTA ET *RESINÆ.*

EXTRACTS AND RESINS.

Observations on 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 water all their virtues, and others scarce any. Those parts in which the sweet, glutinous, emollient, cooling, bitter, austere, astringent virtues reside, are for the most part totally extracted by the boiling water, and remain almost entire on evaporating it: While 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 taste 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 dissipated by this treatment, its astringency remaining; while an extract made from the flowers of lavender and rosemary, discovers nothing either of the taste, smell, or virtues of the flowers.

General Rules for making Extracts with Water.

1. It is indifferent, with 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. With regard to the facility of extraction, there is a very considerable difference; vegetables in general giving out their virtues more

more readily when moderately dried than when freſh.

2. Very compact dry ſubſtances ſhould be reduced into exceeding ſmall parts, previous to the affuſion 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 time will be requiſite for evaporating it, and conſequently the more volatile parts of the ſubject will be the more diſpoſed to 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 naufeous; 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 will depoſite 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.

5 The evaporation is moſt conveniently 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 agitation.

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 ſecured againſt, by carrying on the inſpiſſation after the common manner, no farther than to the conſiſtence of a ſyrup, 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 ſoon reduce it to any degree of conſiſtence required. This may likewiſe be more ſecurely done, by ſetting the evaporating veſſel in, or ſuſpending it over, boiling water; but the evaporation is in this way very tedious.

Obſervations on Extracts with Rectified Spirit.

Rectified ſpirit of wine diſſolves the eſſential oils and reſins of vegetables, and does not readily carry off the oil in its exhalation; the heat ſufficient to exhale pure ſpirit being much leſs than that in which the eſſential oils diſtil. Hence a reſinous 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 aſtringency; and one from lavender and roſemary 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 the spirit.

The spirit employed for this purpose should be perfectly free from any oily 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 impregnation, would promote the dissipation of the volatile parts of the subject. Hence, also, 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 impregnation should be performed from the beginning, in the gentle heat of a water bath. We need not suffer the spirit to evaporate in the air: Greatest part of it may be recovered by collecting the vapour in common distilling vessels. 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 grosser resinous matter of vegetables; and water of the mucilaginous and saline: yet these principles are, in almost all plants, so intimately combined together, that whichever of these liquors is applied at first, will take up a portion of what is directly soluble only in the other. Hence sundry vegetables, extremely resinous, and whose virtues consist chiefly in their resin, 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 resins; a part of the gummy matter, if the subject contained any such, is taken up along with the resin; an admixture of great advantage to it in a medicinal view. The spirituous extracts of several vegetable substances, as mint leaves, rheubarb, saffron, and others dissolve in water as well as in spirit.

Pure resins are prepared, by adding to spirituous tinctures 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 the plant as the spirit might have extracted at first along with it.

Observations on Extracts with Spirit and Water.

Sundry vegetables, particularly those of a resinous nature, are treated, to better advantage, with a mixture of water and spirit, than with either of them singly. The virtues of resinous 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 suffer a considerable injury from the continued heat necessary for the extraction,

traction, and for the subsequent evaporation of so large a quantity of the fluid. Rectified spirit of wine is not liable to this inconvenience; but the extracts obtained by it from the substances here in ended, being almost purely resinous, are less adapted to general use than 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 these compound, or gummy resinous extracts: One, by using proof spirit, that is, a mixture of 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 sufficiency of gummy matter is wanting in the subject, it may be artificially supplied, by inspissating the spirituous tincture to the consistence of a balsam, then thoroughly mixing with it a thick solution of any simple gum, as mucilage of gum arabic, and drying the compound with a gentle heat. By this method are obtained elegant gummy resins, extemporaneously miscible with water into milky liquors.

Observations on Extracts by long Digestion.

It has been observed, that the virtues of vegetable decoctions are altered by long boiling. Decoctions or infusions of drastic vegetables, by long continued boiling or digestion lose more and more of their virulence; and at the same time deposite more and more of a grosser sediment resulting probably from the decomposition of their active parts. On this foundation it has been attempted to obtain safe and mild preparations from sundry virulent drugs; and some of the chemists have strongly recommended the process, though without specifying, or giving any intimation of, the continuance of boiling requisite for producing the due mildness in different subjects. M. Baumé, in his *Elemens de Pharmacie*, has given a particular account of an extract of opium prepared on this principle; of which extract, as it is alleged to be very useful in practice, it may not be improper to give a short description: And this we shall accordingly subjoin to our account of the opium purificatum of the London college.

Observations on particular Extracts.

EXTRACTUM CACUMINIS GENISTÆ
Extract of Broom tops.
CHAMŒMELI.
Chamomile.
GENTIANÆ.
Gentian.
GLYCYRRHIZÆ.
Liquorice.
HELLEBORI NIGRI.
Black hellebore.
PAPAVERIS ALBI.
White poppy.
RUTÆ.
Rue.
SABINÆ.
Savin.
Lond.

Boil

Boil the article in diſtilled water, preſs out the decoction, ſtrain it and ſet it apart that the feces may ſubſide; then evaporate it in a water bath made of a ſaturated ſolution of ſea ſalt, to a conſiſtence fit for making pills.

The ſame kind of bath is to be uſed in the preparation of all the extracts, that the evaporation may be properly performed.

EXTRACTUM GENTIANÆ.

Edin.

Extract of Gentian.

Take of

Gentian root, as much as you pleaſe.

Having cut and bruiſed it, pour upon it eight times its quantity of water. Boil to the conſumption of one half of the liquor; and ſtrain it by ſtrong expreſſion. Evaporate the decoction to the conſiſtence of thick honey, in a vapour bath.

In preparing this and every other extract, it is neceſſary to keep up a conſtant ſtirring towards the end of the proceſs, in order to prevent an empyreuma, and that the extract may be of an uniform conſiſtence, and free of clots.

In the ſame manner are prepared extracts of the roots of

Black Hellebore.

Liquorice.

of the leaves of

Meadow anemony.

Rue.

Sennæ.

of the flowers of

Chamomile.

and the heads of

White poppy.

All the above extracts contain the virtues of the vegetable in a ſtate of tolerable perfection.

The mode of preparing theſe extracts directed by the London and Edinburgh Colleges is not eſſentially different: But ſome advantage will ariſe from employing the diſtilled water directed by the former; and the directions by the latter with regard to the quantity of water to be uſed, and the degree of boiling to be employed before the expreſſion, are not without uſe.

The extract of chamomile loſes in its formation the ſpecific flavour of the plant; but it is ſaid to furniſh a bitter remarkably antiſeptic, which may be given with advantage in different ſtomach complaints to the extent of a ſcruple or two, either by itſelf, or in conjunction with other remedies. The extract of broom tops is chiefly employed in hydropic caſes; and when taken to the quantity of about a drachm is ſaid to operate as a powerful diuretic. The extract is the only preparation of the pulſatilla nigricans or meadow anemone, and it ſeems ſufficiently well ſuited to be brought into this form. The extract of the white poppy heads is not perhaps ſuperior in any reſpect to opium; but to thoſe who may think otherwiſe, it is convenient to preſerve it in this form for preparing the ſyrup occaſionally.

EXTRACTUM COLOCYNTHIDIS COMPOSITUM.

Lond.

Compound extract of Colocynth.

Take of

Pith of colocynth, cut ſmall, ſix drachms;

Socotorine

Socotorine aloes, powdered, an ounce and a half;
Scammony, powdered, half an ounce;
Smaller cardamom seeds, husked and powdered, one drachm;
Proof spirit, one pint.

Digest the colocynth in the spirit, with a gentle heat, during four days. To the expressed tincture add the aloes and scammony: When these are dissolved, distil off the spirit and evaporate the water, adding the seeds towards the end of the process, so as to make a mass of a proper consistence for the formation of pills.

This composition answers very effectually as a cathartic, so as to be relied on in cases where the patient's life depends on that effect taking place: The dose is from fifteen grains to half a drachm. The proof spirit is a very proper menstruum for the purgative materials; dissolving nearly the whole substance of the aloes and scammony, except the impurities; and extracting from the colocynth, not only the irritating resin, but great part of the gummy matter. In former pharmacopœias three spices were employed in this composition, cinnamon, mace, and cloves: The cardamom seeds, now introduced, are preferable, on account of their aromatic matter being less volatile; though a considerable part of the flavour, even of these, is dissipated during the evaporation of the phlegmatic part of the proof spirit.

ELATERIUM.

Lond.
Elaterium.

SUCCUS SPISSATUS CUCUMERIS.

Ed.
Inspissated juice of wild cucumbers, commonly called *Elaterium.*

Slit ripe wild cucumbers, and pass the juice, very slightly pressed, through a fine hair sieve, into a glass vessel; boil it a little and set it by for some hours until the thicker part has subsided. Pour off the thinner part swimming at the top, and separate the rest by filtering: Cover the thicker part, which remains after filtration, with a linen cloth, and dry it with a gentle heat.

What happens in part in preparing the extract of hemlock, happens in this preparation completely, viz. 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 several other vegetables, as those of arum root, iris root, and bryony root. Preparations of this kind have been commonly called *fæculæ*. 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, which the liquid cannot pass through. 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 some moistened strips of woollen cloth, skeins of cotton, or the like, in the juice,

juice, and laying the other end over the edge of the veſſel, ſo as to hang on the outſide down lower than the ſurface of the liquor: By this management the ſeparation ſucceeds in perfection.

Elaterium is a very violent cathartic. Previous to its operation, it generally excites conſiderable ſickneſs, and frequently produces ſevere vomiting: Hence it is ſeldom employed till other remedies have been tried in vain. In ſome inſtances of aſcites it will produce a complete evacuation of water where other cathartics have had no effect. Two or three grains are in general a ſufficient dole. The beſt mode of exhibiting it is by giving only half a grain at a time, and repeating that doſe every hour till it begins to operate.

EXTRACTUM HÆMATOXYLI, ſive LIGNI CAMPECHENSIS.

Lond.

Extract of Logwood.

Take of

Shavings of logwood, one pound.

Boil it four times, or oftener, in a gallon of diſtilled water, to one half; then, all the liquors being mixed and ſtrained, boil them down to a proper conſiſtence.

Edin.

It is to be prepared in the ſame manner as extract of Jalap.

The extract of logwood has been uſed for a conſiderable time in ſome of our hoſpitals. It has an agreeable ſweet taſte, with ſome degree of aſtringency; and hence becomes ſerviceable in diarrhœas, for moderately conſtringing the inteſtines and orifices of the ſmaller veſſels. From a ſcruple to half a drachm of it may be given five or ſix time a day. During the uſe of this medicine, the ſtools are frequently tinged red, which has occaſioned the patient to be alarmed, as if the colour proceeded from blood: The practitioner therefore ought to caution him againſt any ſurpriſe of this kind.

The active parts of the logwood are difficultly extracted by means of water alone; hence the Edinburgh college call in the aid of ſpirit of wine, directing this extract to be prepared in the ſame manner as that of jalap, afterwards to be mentioned.

EXTRACTUM CINCHONÆ, ſive CORTICIS PERUVIANI.

Lond.

Extract of Peruvian bark.

Take of

Peruvian bark, coarſely powdered, one pound;

Diſtilled water, twelve pints.

Boil it for an hour or two and pour off the liquor, which, while hot, will be red and pellucid; but, as it grows cold, will become yellow and turbid. The ſame quantity of water being again poured on, boil the bark as before, and repeat this boiling until the liquor remains clear when cold. Then reduce all theſe liquors, mixed together and ſtrained, to a proper thickneſs, by evaporation.

This extract muſt be prepared under two forms; one *ſoft*, and fit for making pills; the other *hard*, that it may be reducible to a powder.

EXTRACTUM

EXTRACTUM CINCHONÆ sive CORTICIS PERUVIANI CUM RESINA.

Lond.

Extract of Peruvian bark with the resin.

Take of

Peruvian bark, reduced to coarse powder, one pound;

Rectified spirit of wine, four pints.

Digest it for four days, and pour off the tincture; boil the residuum in ten pints of distilled water to two; then strain the tincture and decoction separately, evaporating the water from the decoction, and distilling off the spirit from the tincture, until each begins to be thickened. Lastly, mix the spirituous with the aqueous extract, and by evaporation make it of a consistence fit for forming pills.

EXTRACTUM CORTICIS PERUVIANI, sive *Cinchonæ*.

Edinb.

Extract of Peruvian bark.

It is to be prepared in the same manner as the extract of jalap.

Peruvian bark is a resinous drug: The resin melts out by the heat, but is not perfectly dissolved by the water; hence, it separates as the decoction cools, renders the liquor turbid, and in part falls to the bottom, as appears manifestly on examining the sediment. This extract might be made to better advantage by the assistance of proof spirit. But most of the spirits which are generally employed for this process among us, are accompanied with some degree of a bad flavour: This adheres most strongly to the phlegmatic part of the spirit, which evaporating last, must communicate this ill flavour to the extract; which is a circumstance of very great consequence, as this medicine is designed for stomachs that are too weak to bear a due quantity of bark in substance. Ten or twelve grains of the extract are reckoned equivalent to about half a drachm of the bark itself.

In the Peruvian bark, we may readily distinguish two different kinds of tastes, an astringent and a bitter one; the former resides principally in the resinous matter, and the latter chiefly in the gummy. The watery extract is bitter, but has only a small degree of astringency. The pure resin, on the other hand, is strong in astringency, and weak in bitterness. Both qualities are united in the extract with the resin; which appears to be the best kind of extract that can be obtained from this valuable drug.

EXTRACTUM CASCARILLÆ.

Lond.

Extract of Cascarilla.

It is to be prepared in the same manner, as the extract of Peruvian bark with the resin.

This extract possesses in a concentrated state the active constituent parts of the cascarilla, and has accordingly been already received into several of the best foreign pharmacopœias. In some of these, as the Pharmacopœia Suecica, it is a mere watery extract: But in others, as the Pharmacopœia Rossica, spirits and water are conjoined.

EXTRACTUM

EXTRACTUM JALAPII.

Lond.

Extract of Jalap.

It is to be prepared in the same manner as the extract of Peruvian bark with the resin.

EXTRACTUM JALAPPÆ.

Edinb.

Extract of Jalap.

Take of

Jalap root, one pound;

Rectified spirit of wine, four pounds.

Digest four days, and pour out the tincture. Boil the remaining magma in ten pounds of water to two pounds; then strain the decoction, and evaporate it to the consistence of pretty thin honey. Draw off the spirit from the tincture by distillation till what remains becomes thick then mix the liquors thus inspissated; and keeping them constantly stirring, evaporate to a proper consistence.

If the spirituous tincture were inspissated by itself, it would afford a resinous mass, which, unless thoroughly divided by proper admixtures, occasions violent griping, and yet does not prove sufficiently cathartic; the watery decoctions yield an extract which operates very weakly: Both joined together, a in this preparation, compose an effectual and safe purge. The mean dose of this extract, is twelve grains.

This method of making extracts might be advantageously applied to several other resinous substances, as the dry woods, roots, barks &c.

EXTRACTUM SENNÆ.

Lond.

Extract of Senna.

Take of

Senna, one pound;

Distilled water, one gallon;

Boil the senna in distilled water, adding after its decoction a little rectified spirit of wine. Evaporate the strained liquor to a proper thickness.

This extract had no place in our former pharmacopœias, but may be considered as an useful addition.

The resinous parts of senna are in so small a proportion to the gummy, that they are readily boiled out together. The spirit may be added when the decoction is reduced to one half or to three pints.

This extract is given as a gentle purgative in a dose of from ten grains to a scruple; or, in less quantity, as an assistant to the milder laxatives.

OPIUM PURIFICATUM.

Lond.

Purified Opium.

Take of

Opium, cut into small pieces, one pound;

Proof spirit of wine, twelve pints.

Digest with a gentle heat, now and then stirring the liquor, till the opium be dissolved. Filter the tincture, and distil off the spirit, till the extract acquire a proper consistence.

Purified opium must be kept in two forms; one *soft*, proper for forming into pills; the other

hard,

hard, which may be reduced into powder.

Edin.

Take of

Opium cut into pieces, one pound;

Proof spirit twelve pounds,

Digest with a gentle heat till the opium be dissolved, stirring the mixture now and then. Strain the liquor through a bag, and reduce it by evaporation to a proper consistency.

Opium was formerly purified by means of water, and in this state it had the name in our pharmacopœias of *extractum thebaicum*. But proof spirit has been found, by experience, to be the best menstruum for opium, dissolving three fourths of dried opium, which is much more than is taken up either by rectified spirit or by water separately. Hence we obtain the constituents of opium entirely free from any adhering impurities. It has, however, been imagined that some particular advantages arise from the parts which are extracted by water, especially after long digestion; and accordingly the following extract of opium has been recommended by Mr. Baumé.

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 so much of the opium as is dissoluble in water may be got out. Evaporate the strained decoctions to about six quarts; which being put into a tin cucurbit, placed in a sand bath, keep up such a fire as may make the liquor nearly boil, for three months together if the fire is continued day and night, and for six months if it is intermitted in the night; filling up the vessel with water in proportion to the evaporation, and scraping the bottom with a wooden spatula from time to time, to get off the sediment which begins to precipitate after some days digestion. The sediment needs not to be taken out till the boiling is finished; 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 strongly boiling the tedious process may be considerably expedited, and the six months digestion reduced to four months; that in the beginning of the digestion, a thick, viscous, oily matter rises to the top, and forms a tenacious skin as the liquor cools; this is supposed to be analogous to essential oils, though wanting their volatility: That the oil begins to disappear about the end of the first month, but still continues sensible till the end of the third, forming oily clouds as often as the liquid cools: That the resin at the same times settles to the bottom in cooling, preserving for a long while its resinous form, but by degrees becoming powdery, and incapable of being any longer softened, or made to cohere by the heat: That when the process is finished, part of it still continues a perfect resin, dissoluble in spirit of wine, and part an in-

 dissoluble

diſſoluble powder: That when the digeſted liquor is evaporated to about a quart, and ſet in the cold till next day, it yields a browniſh earthy ſaline matter, called the eſſential ſalt of opium, in figure nearly like the ſedative ſalt obtained from borax, intermixed with ſmall needled cryſtals. He gives an account of his having made this preparation ſix or ſeven times. The veſſel he uſed 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 ſixty four ounces of opium, ſeventeen ounces remained undiſſolved 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 drachm 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 reſinous parts; and that the gummy extract, prepared by the above proceſs, is endowed with the calming, ſedative, or anodyne powers of the opium, diveſted of the narcotic quality as it is of the ſmell, 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 convulſive motions of the ſtomach, and vomitings, which at length happened after the extract had been continued daily in the above doſes for ſeveral years *(pluſieurs annees)*, cannot perhaps be aſcribed 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 is 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. The ſeparation 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 been inconteſtably aſcertained; but this much ſeems clear from experiment, that the pure gum, freed from all that ſpirit can diſſolve, does not differ eſſentially in its ſoporific power from the reſinous part.

There are grounds alſo to preſume, that by whatever means we deſtroy or diminiſh what is called the narcotic, ſoporific, virulent quality of opium, we deſtroy or diminiſh its ſalutary operation. For the ill effects which it produces in certain caſes, ſeem to be no other than the neceſſary conſequences of the ſame power, by which it proves ſo beneficial in others.

EXTRACTUM

EXTRACTUM ABSINTHII.

Succ.

Extract of Wormwood.

Take any quantity of the tops of wormwood, and pour upon it double its weight of water. Boil it for a ſhort time over a gentle fire, then preſs out the liquor. Boil the reſiduum again in a freſh quantity of water, and after expreſſion, ſtrain it. Let the ſtrained liquor be evaporated in a water bath to a proper conſiſtence.

In this extract we have one of the ſtrongeſt vegetable bitters in its moſt concentrated ſtate: And though it is not ſuperior to the extract of gentian, yet it furniſhes a good variety, and is a more agreeable form for exhibiting the wormwood than that of ſtrong tincture.

SUCCUS LIQUORITIÆ DEPURATUS.

Dan.

Refined Liquorice.

Take any quantity of Spaniſh liquorice, cut it into ſmall fragments, diſſolve it in tepid water, and ſtrain the ſolution. Let the liquor be poured off from the feculent part after it has ſubſided, and be inſpiſſated by a gentle heat.

The extract of liquorice already mentioned (page 293,) when it is prepared with due ſkill and attention, is unqueſtionably an article ſuperior to this; but it is very rarely met with in the ſhops of our druggiſts or apothecaries, as prepared by themſelves. In its place they very commonly employ either the extract brought from Spain, or that prepared by the makers of liquorice at home; both of which generally abound with impurities. It has even been ſaid, that a portion of ſand is not unfrequently mixed with it, to increaſe the weight: But whether the impurities aroſe from this cauſe, or from the ſlovenly mode of preparing it, conſiderable advantage muſt ariſe from freeing it from all theſe, before it be employed for any purpoſe in medicine. In modern practice, it is frequently uſed, in troches and pills, and for ſuſpending powders in water; ſuch as the powder of Peruvian bark: And the powder of bark when thus ſuſpended, is in general taken more readily by children than in any other form. Hence conſiderable advantage muſt ariſe from a proper and eaſy mode of purifying it, which the above proceſs affords.

The chapter on extracts and reſins in the London pharmacopœia is concluded with the two following general directions:

1. All the extracts, during their inſpiſſation, muſt be conſtantly or at leaſt frequently ſtirred.

2. On all the ſofter watery extracts, a ſmall quantity of ſpirit of wine muſt be ſprinkled.

CHAP. V.

OLEA EXPRESSA.

EXPRESSED OILS.

EXPRESSED oils are obtained chiefly from certain ſeeds and kernels of fruits, by 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 between 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 ſubject and preſſing out the oil, in the way of buſineſs. To facilitate the expreſſion, it is uſual to warm either the plates of the preſs, or the ſubject itſelf after the grinding, by keeping it ſtirring in a proper veſſel over the fire; the oil, liquefied by the heat, ſeparates more freely and more plentifully. When the oil is deſigned for medicinal purpoſes, this practice is not to be allowed; for heat eſpecially if its degree be ſufficient to be of any conſiderable advantage for promoting the ſeparation, renders the oil leſs ſoft and palatable, impreſſes a diſagreeable flavour, 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 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 inconveniences 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 pharmacopœias are the following:

OLEUM

OLEUM AMYGDALÆ
Lond.
Oil of Almonds.

Pound freſh almonds either ſweet or bitter in a mortar; and then preſs out the oil in a cold preſs.

OLEUM AMYGDALARUM.
Edin.
Oil of Almonds.

Having bruiſed almonds in a ſtone mortar put them in a hempen bag, and without heat, preſs out the oil with a ſcrew preſs.

In the ſame manner are to be expreſſed

OLEUM E SEMINIBUS LINI
Lond. Edin.
Oil of Lint ſeed.

OLEUM E SEMINIBUS RICINI prius cortice nudatis.
Lond. Edin.
Oil of Caſtor.

OLEUM E SEMINIBUS SENAPEOS.
Lond.
Oil of muſtard ſeed.

The oil of almonds is prepared from the ſweet and bitter almonds indifferently; the oils obtained from both ſorts being exactly the ſame. Nor are the differences of the other oils very conſiderable, the diſcriminating qualities of the ſubjects not reſiding in the oils that are thus obtained by expreſſion. The oil of lint ſeed acquires indeed ſome peculiarities from containing a proportion of vegetable mucilage; but the oil of muſtard ſeed is as ſoft, inſipid, and void of pungency as that of ſweet 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 each other; but in medicinal qualities they appear to be all nearly alike, and agree in one common emollient virtue. They ſoften and relax the ſolids, and obtund acrimonious humours; and thus become ſerviceable internally in pains, inflammations, heat of urine, hoarſeneſs, tickling coughs, &c. in glyſters, for lubricating the inteſtines, and promoting the ejection of indurated feces; and in external applications, for tenſion and rigidity of particular parts. Their common doſe 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 hereafter in the chapter on Emulſions.

Palma Chriſti, or caſtor oil, as has already been obſerved in the Materia Medica, under the article Ricinus, is a gentle and uſeful purgative: It generally produces its effects without griping, and may be given with ſafety where acrid purgatives are improper. With adults, from half an ounce to an ounce is generally requiſite for a doſe. This article, however, is very ſeldom prepared by our apothecaries, being in general imported from the Weſt Indies.

The Edingburgh College have added the following note.

Caſtor oil may alſo be prepared by boiling the bruiſed ſeeds in water.

During the boiling the oil ſeparates and ſwims at the ſurface. The oil thus obtained is much purer and is capable of being kept longer than the other obtained by expreſſion becauſe the water detains the mucilage which is in large quantity

quantity in the expreſſed oil, and which diſpoſes it to ſpoil ſooner.

OLEUM CACAO.

Suec.
Oil of Chocolate Nuts.

Expreſs the oil from the nuts ſlightly toaſted, and freed from their coverings.

In this oil we have the nutritious part of chocolate, free from thoſe aromatics with which it is united in the ſtate in which it is kept in our ſhops. Although under the form of chocolate it ſits perhaps more eaſily on the ſtomach than in moſt other forms; yet where, from any particular circumſtance, aromatics are contraindicated, the oil in its pure ſtate gives us an opportunity of employing in different ways this mild nutritious article.

OLEUM E SEMINIBUS HYOSCYAMI.

Suec.
Oil of Hyoſcyamus.

This oil is directed to be obtained by expreſſion from the ſeeds of the hyoſcyamus, in the ſame manner as that of almonds.

Of the narcotic powers of the hyoſcyamus ſome obſervations have already been offered. This oil, although an expreſſed one is ſaid to retain theſe virtues; and accordingly it has entered the compoſition of ſome anodyne ointments and plaſters. When however the ſedative power of hyoſcyamus is wanted under the form of oil, it may be beſt obtained from impregnating olive oil by the leaves of the plant.

OLEUM OVI.

Suec.
Egg oil.

Take any quantity of freſh eggs, boil them till they be quite hard, then take out the yolks, break them in pieces, and roaſt them gently in a frying pan, till they feel greaſy when preſſed between the fingers; put them, while warm, into a hair bag, and expreſs the oil.

The yolk of the egg is well known to be a mild nutritious ſubſtance: But notwithſtanding the many virtues at one time attributed to it, of being paregoric and ſtyptic, when externally applied; and of being uſeful in ſtomach complaints, dyſentery, and different affections of the alimentary canal, when taken internally: It is however much to be doubted whether any particular purpoſe in medicine will be anſwered by this expreſſed oil: But as it holds a place in moſt of the foreign pharmacopœias of modern date, it may juſtly be conſidered as deſerving ſome attention.

Notwithſtanding the juſtice of the obſervation reſpecting the great ſimilarity of expreſſed oils in general, yet there can be no doubt, that in ſome inſtances they obtain a peculiar impregnation. This manifeſtly appears in the oleum ricini, and ſome of the others. Indeed oils expreſſed from aromatic ſubſtances, in general retain ſome admixture of the eſſential oil of the ſubject from which they are expreſſed. Nor is this ſurpriſing when we conſider that in ſome caſes the eſſential oils exiſts in a

ſeparate

ſeparate ſtate even in the growing plant.

The rinds of oranges, lemons, and citrons, yield by a kind of expreſſion, their eſſential oils almoſt pure, and nearly ſimilar to thoſe which are obtained from them by diſtillation. The eſſential oils, in which the fragrance and aromatic warmth of theſe fruits reſide are contained in numerous little veſicles, which may be diſtinguiſhed by the naked eye, ſpread all over the ſurface of the peel. If the rind be cut in ſlices, and the ſlices ſeparately doubled or bent in different parts, and ſqueezed between the fingers, the veſicles burſt at the bending, and diſcharge the oil in a number of fine ſlender jets. A glaſs plate being ſet upright in a glaſs or porcelain veſſel, and the ſlices ſqueezed againſt the plate, the little jets unite into drops upon the plate, and trickle down into the veſſel beneath Although this proceſs affords the true native oil, in the ſame 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 of ſugar. The ſugar, by the inequality of its ſurface, produces the effect of a raſp, in tearing open the oily veſicles and in proportion as the veſicles are opened, the ſugar imbibes the oil. When the outward part of the lump is ſufficiently moiſtened, it is ſcraped off, and the operation continued 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 fluid ſtate; and indeed the pure eſſential oils, obtained by diſtillation, are often purpoſely mixed with ſugar to render their uſe the more commodious.

CHAP.

CHAP. VI.

OLEA ESSENTIALIA.

ESSENTIAL OILS.

ESSENTIAL oils are obtained only from odoriferous ſubſtances; but not equally from all of this claſs, nor in quantity proportional to their degree of odour. Some, which, if we were to reaſon from analogy, ſhould ſeem very well fitted for this proceſs, yield extremely little oil, and others none at all. Roſes and chamomile flowers, whoſe ſtrong and laſting ſmell promiſes abundance, are found to contain but a ſmall quantity of oil: The violet and jeſſamine flower, which perfume the air with their odour, loſe their ſmell upon the gentleſt coction, and do not afford the leaſt oil on being diſtilled, unleſs immenſe quantities are ſubmitted to the operation at once; while ſavin, whoſe diſagreeable ſcent extends to a great diſtance, gives out the largeſt proportion of oil of almoſt any vegetable known.

Nor are the ſame plants equally fit for this operation, when produced in different ſoils or ſeaſons, 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. Of this we have examples in lavender and rue; others, as ſage, afford the largeſt quantity when young, before they have ſent 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 ſoils and warm ſummers, than in oppoſite circumſtances. On the other hand, ſome of the diſagreeable ſtrong ſcented ones, as wormwood, are ſaid to contain moſt oil in rainy ſeaſons, and when growing in moiſt rich grounds.

SEVERAL of the chemiſts have been of opinion, that herbs and flowers moderately dried, yield a greater quantity of eſſential 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 diperſed, run together into globules, which have little diſpoſition to mix with

with watery fluids, and eaſily ſeparate from the water employed in the diſtillation.

This theory, however does not appear to be quite ſatisfactory; for though the oil be collected in the ſubject into diſtinct globules, it does not riſe in that form, but is reſolved into vapour, and is blended and cogitated by the heat with the vapour of the water; and if the oil in a dry plant was leſs diſpoſed to unite with aqeous 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, it is difficult to conceive any 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 Hoffman, which has probably been miſunderſtood: "A pound (he ſays) "of dry ſpike flowers yields an "ounce of oil; but if they were "diſtilled freſh, they would ſcarce-"ly yield above half an ounce; "and the caſe is the ſame in balm, "ſage, &c. The reaſon is, that "in drying the watery humidity "exhales; and as from two "pounds of a freſh plant we do "not obtain above one pound of "dry, and little of the ſubtile "oil evaporates in the drying, it "follow, that more oil ought to "be afforded by the dry than "by the freſh." The meaning of which ſeems to be no more than this, that if two pounds of a freſh plant are 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 late writer quotes an experiment of Neumann, which appears to be miſunderſtood in the ſame manner; for Neumann, in the place referred to, ſays only, that dry wormwood is found to yield much more oil than an equal weight of the freſh plant. Trials are yet wanting in which freſh and dry plants have been brought to a fair compariſon, by dividing a quantity of the ſubject into two equal weights, and diſtilling one while freſh, and the other after it has been carefully and moderately dried.

But whatever may be the effect of moderate exſiccation, it is certain, that if the drying be long continued, the produce of oil will be diminiſhed, its colour altered, and its ſmell impaired.

With regard to the proportion of water to be employed, if whole plants, moderately dried, are 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 fill two thirds of it. The water and ingredients, altogether, ſhould never take up more than three fourths of the full; there ſhould be liquor enough to prevent any danger of an empyreuma, but not ſo much as to be apt to boil over into the receiver.

The maceration ſhould be continued ſo long, that the water may fully penetrate the parts of the ſubject. To promote this effect, woods ſhould be thinly ſhaved across the grain, or ſawn, roots cut tranſverſely into thin ſlices, barks, reduced into coarſe powder, and ſeeds ſlightly bruiſed. Very compact and tenacious ſubſtances require the maceration to be continued

tinued a week or two, or longer; for thoſe of a ſofter and looſer texture, two or three days are ſufficient; while ſome tender herbs and flowers not only ſtand in no need of maceration, but are even injured by it.

Whether the addition of ſea ſalt, which has been recommended, be of any real ſervice, is much to be doubted. The uſes generally aſſigned to it, are to penetrate and unlock the texture of the ſubject more effectually than ſimple water could do; and to prevent the fermentation or putrefaction; which the matter is apt to run into during the length of time for which the maceration is often continued. But ſea ſalt ſeems rather to harden and conſtringe, than to ſoften and reſolve, both vegetable and animal ſubjects: And if it prevents putrefaction, it muſt, on that very account, be injurious rather than of ſervice. The reſolution here aimed at, approaches near to a beginning putrefaction; and ſaline 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 diſtillation; by this 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 are equally neceſſary in either caſe, be ſtrictly complied with.

Some chemiſts pretend, that by the addition of ſalts and acid ſpirits, they have been enabled to gain more oil from certain vegetable matters than could poſſibly be got from them without ſuch aſſiſtance. 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 produce greater than uſual, the quality of the oil is proportionally injured. The quantity of true eſſential oil in vegetables can by no means be increaſed; and what is really contained in them may be eaſily ſeparated without any addition of this kind. All that ſaline matters can do in this reſpect, is, to make the water ſuſceptible of a greater degree of heat than it can ſuſtain by itſelf, and thus enable it to carry up a groſs unctuous matter, not volatile enough to riſe with pure water: This groſs matter, mixing with the pure oil, increaſes the quantity, but at the ſame time muſt neceſſarily debaſe its quality. Indeed, when water alone is uſed, the oil which comes over about the end of the operation is remarkably leſs fragrant and of a thicker conſiſtence, than that which riſes at the beginning; and if it be diſtilled a ſecond time, with a gentle heat, it leaves a large quantity of groſs almoſt inſipid reſinous matter behind.

The choice of proper inſtruments is of great conſequence for 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 eaſily be made to riſe ſo high. For obtaining the 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 ſufficiently obvious.

With regard to the fire, the operator

erator ought to be expeditious in raiſing it at firſt, and to keep it up, during the whole proceſs, of ſuch a degree only, 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 diſagreeable impregnation, as is evident from their being much leſs grateful when newly diſtilled, than after they have ſtood for ſome time in a cool place; and the longer the heat is continued, the more alteration it muſt produce in them.

The greater number of oils require for their diſtillation the heat of water ſtrongly boiling: But there are many alſo which riſe with a heat conſiderably leſs; ſuch as thoſe of lemon and citron peel, of the flowers of lavender and roſemary, and of almoſt all the more odoriferous kinds of flowers. We have already obſerved, that theſe flowers have their fragrance much injured, or even deſtroyed, by beating or bruiſing them; it is impaired alſo by the immerſion in water in the preſent proceſs, and the more ſo in proportion to the continuance of the immerſion and the heat; hence oils, diſtilled in the common manner, prove much leſs agreeable in ſmell than the ſubjects themſelves. For the diſtillation of ſubſtances of this claſs, another method has been contrived; inſtead of being immerſed 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 ſize 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 ſteam, 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 ſubject in an exquiſite degree, and have nothing of the diſagreeable ſcent 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*. We have avoided theſe expreſſions, as they might be thought to relate to the comparative gravities of the oils; with which the volatility or fixedneſs have no connexion. Olive oil is lighter than moſt of the eſſential oils; but the heat requiſite to make it diſtil exceeds that in which the heavieſt eſſential oil diſtils, conſiderably more than the heat of boiling water exceeds that of ice.

The water employed in the diſtillation of eſſential oils always imbibes ſome portion of the oil; as is evident from the ſmell, taſte, and colour which it acquires. It cannot, however retain above a certain quantity; and therefore ſuch as has been already uſed and conſequently ſaturated with oil, 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 ſecond time. This can be of no ſervice; as containing only ſuch parts of the vegetable as are incapable of

ariſing

arising in distillation, and which serve only to impede the action of the water as a menstruum, and to endanger an empyreuma.

After the distillation of one oil, particular care should be taken to clean the worm before it be employed in the distillation of a different plant. Some oils, those of wormwood and aniseeds for instance adhere to it so tenaciously, as not to be melted out by heat, or washed off by water: In these cases the best way of cleaning the worm is to run a little spirit of wine through it.

Essential oils, after they are distilled, should be suffered to stand for some days in vessels loosely covered with paper, till they have lost their disagreeable fiery odour and become limpid: Then put them up in small bottles, which are to be kept quite full, closely stopped, in a cool place: With these cautions they will retain their virtues in perfection for many years.

When carelessly kept, they gradually lose their flavour, and become gross and thick. Some chemists endeavour to recover them after they have undergone this change, by grinding them with about thrice their weight of common salt, 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. This rectification, as it is called successfully, equally well without the salt: 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 either by part or entirely lost their smell they may be put into the still with fresh ingredients for distilling the same oil by which means they are said to saturate themselves anew with the odorous matter, and become entirely renovated.

Essential oils, medicinally considered, agree in the general qualities of pungency and heat; in particular virtues, they differ as much as the subject from which they are obtained, the oil being the direct principle in which the virtues, or at least a considerable part of the virtues of the several subjects reside. Thus the carminative virtue of the aromatic seeds, the diuretic of juniper berries, the emmenagogue of savin, the nervine of rosemary, the stomachic of mint, the anticorbutic of scurvygrass, the cordial of aromatics, &c. are supposed to be concentrated in their oil.

There is another remarkable difference in essential oils; the foundation of which is less obvious, viz. the degree of their pungency and heat. These are by no means in proportion, as might be expected, to those of the subject they were drawn from. The oil of cinnamon, for instance, is very pungent and fiery; in its undiluted state it is almost caustic; whereas cloves, a spice which in substance is far more pungent than the other, yields an oil which is far less so. This difference seems to depend partly on the quantity of oil afforded, cinnamon yielding much less than cloves, and consequently having its active matter concentrated into a smaller volume; partly, on a difference in the nature of the active parts themselves; for though essential oils contain always the specific odour and flavour of their subjects, whether grateful or ungrateful,

grateful, they do not always contain the whole pungency; this resides frequently in a more fixed resinous matter, and does not arise with the oil. After the distillation of cloves, pepper, and some 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 essential oils.

The more grateful oils are frequently used for reconciling disgustful medicines to the stomach. It has been customary to employ them as correctors for the resinous purgatives; an use which they do not seem to be well adapted to. All the service they can here be of, is, to make the resin sit more easily at first on the stomach: For from abating the irritating quality on which the virulence of its operation depends, these pungent oils superadd a fresh stimulus.

Essential oils are never given alone, on account of their extreme heat and pungency; which in some is so great, that a single drop let fall upon the tongue, produces a gangrenous eschar. They are readily imbibed by pure dry sugar, and in this form may be conveniently exhibited. Ground with eight or ten times their weight of sugar, they become soluble in aqueous liquors, and may be thus diluted to any assigned degree. Mucilages also render them miscible with water into an uniform milky liquor. They dissolve likewise in spirit of wine; the more fragrant in equal weight, and almost all of them in less than four times their own quantity; these solutions may be either taken on sugar, or mixed with syrups, 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-ache is sometimes relieved by a drop or two of these more fixed caustic oils, received on cotton, and cautiously introduced into the hollow tooth.

OLEUM ESSENTIALE.

Lond.

Essential oil.

Anisi,	of	Anise
Cari,		Caraway
Lavendulæ,		Lavender
Mentæ piperitidis,		Peppermint
Mentha sativæ,		Spearmint
Origani,		Origanum
Pulegii,		Pennyroyal
Rorismarini,		Rosemary
Baccæ juniperi,		Juniper berry
Radicis sassafras,		Sassafras root.

Let these oils be drawn off by distillation, from an alembic with a large refrigeratory; but, to prevent an empyreuma, water must be added to the ingredients; in which they must be macerated before distillation.

The water which comes over with the oil in distillation is to be kept for use.

OLEA ESSENTIALIA.

Edinb.

Essential oils.

Menthæ sativæ,	of	Spearmint
Menthæ piperitidis,		Peppermint
Sabinæ,		Savin
Rorismarini,		Rosemary
Lavendulæ,		Lavender

Anisi,

Anisi, Anise
Baccarum juniperi, Juniper berries
Radicis sassafras, Sassafras root
Pimentæ, Jamaica pepper.

These are prepared almost in the same manner as the simple distilled waters, excepting that for procuring the oil a somewhat less quantity of water is to be used. Seeds and woody matters are first to be bruised or rasped. The oil rises with the water; and as it is lighter or heavier, swims on the surface, or sinks to the bottom, and is afterwards to be separated.

It is, however, to be remarked, that, in preparing these distilled waters and oils, so many varieties must necessarily take place from the goodness of the subject itself, its texture, the time of the year, and such like circumstances, that a certain and general rule, which should strictly apply to each, can scarcely be laid down; wherefore we have only explained the general method, leaving particular circumstances to be varied by the judgement of the operator.

To the directions for preparing these essential oils given by the London and Edinburgh colleges, we shall here next join a few remarks on their medical properties.

OLEUM ESSENTIALE SEMINUM ANISI.

Lond. Edin.

Essential Oil of Aniseeds.

This oil possesses the taste and smell of the aniseeds in perfection. It is one of the mildest of the distilled oils; 15 or 20 drops may be taken at a time without danger, though common practice rarely goes so far as half this number. Its smell is extremely durable and diffusive; milk drawn from the breast 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.

It is remarkable of this oil, that it congeals, even when the air is not sensibly cold, into a butyraceous consistence: And hence, in the distillation of it, the operator ought not to be over solicitous 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 worm, as to endanger blowing off the head of the still, or at least a considerable quantity of oil will remain in it.

OLEUM ESSENTIALE SEMINUM CARUI.

Lond.

Essential Oil of Caraway Seeds.

The flavour of this exactly resembles that of the caraway itself. It is a very hot and pungent oil; a single drop is a moderate dose, and five or six is a very large one. It is frequently used as a carminative; and has been generally supposed to be peculiarly serviceable for promoting urine, to which it communicates some degree of its smell.

OLEUM ESSENTIALE FLORUM LAVENDULÆ.

Lond. Edin.

Essential Oil of Lavender.

This oil, when in perfection, is very limpid, of a pleasant yellowish colour, extremely fragrant, possessing

ing in an eminent 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 system. The dose is from one drop to five or six.

Lavender flowers yield the most fragrant oil, and considerably the largest quantity of it, when they are ready to fall off spontaneously, and the leaves begin to shew themselves: The seeds 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 a heat would not only change the colour of the oil, but likewise make a disagreeable alteration in its smell.

OLEUM ESSENTIALE MENTHÆ PIPERITIDIS.

Lond. Edinb.

Essential oil of Peppermint.

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 diffuses, 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 ESSENTIALE MENTHÆ SATIVÆ.

Lond. Edinb.

Essential oil of common Mint.

This oil smells and tastes strongly of the mint, but is in both respects somewhat less agreeable than the herb itself. It is an useful stomachic medicine; and not unfrequently exhibited in want of appetite, weakness of the stomach, retchings to vomit, and other like disorders, when not accompanied with heat or inflammation: Two or three drops, or more, are given for a dose. It is likewise employed externally for the same purposes; and is an useful ingredient in the stomachic plaster of the shops.

OLEUM ESSENTIALE ORIGANI.

Lond.

Essential oil of Origanum.

This oil has a very pungent acrimonious taste, and a penetrating smell. It has been chiefly employed externally as an errhine and for easing pains of the teeth.

OLEUM ESSENTIALE PULEGII.

Lond.

Essential oil of Pennyroyal.

This oil, in smell and taste, resembles the original plant; the virtues of which it likewise possesses. It is given in hysteric cases, from one to four or five drops.

OLEUM

OLEUM ESSENTIALE ROSMARINI.

Lond. Edinb.

Essential oil of Rosemary.

The oil of rosemary is drawn from the plant in flower. When in perfection, it is very light and thin, pale, and almost colourless; of great fragrancy, though not quite so agreeable as the rosemary itself. It is recommended, in the dose of a few drops, in nervous and hysteric complaints. Boerhaave holds it in great esteem against epilepsies, and suppressions of the uterine purgations occasioned by weakness and inactivity.

OLEUM ESSENTIALE BACCARUM JUNIPERI.

Lond. Edinb.

Essential oil of Juniper.

This oil is a very warm and pungent one; of a strong flavour, not unlike that of the berries. In the dose of a drop or two, it proves a serviceable carminative and stomachic; in one of six, eight, or more, a stimulating, detergent diuretic and emmenagogue: It seems to have somewhat of the nature of the turpentines or their distilled oil; like which it communicates a violet smell to the urine.

The oil of these berries resides partly in vesicles spread through the substance of the fruit, and partly in little cells contained in the seeds: When the berry is dry, and the oil hardened into a resinous substance, it becomes visible, on breaking the seeds, in form of little transparent drops. In order therefore to obtain this oil to advantage, we ought, previous to the distillation, to bruise the berry thoroughly, so as to break the seeds, and entirely lay open the oily receptacles.

OLEUM ESSENTIALE SASSAFRAS.

Lond Edinb.

Essential oil of Sassafras.

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 sassafras. It stands greatly commended as a sudorific, and for purifying the blood and juices: It is likewise supposed to be of service in humoral asthmas and 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, affords by inspissation an useful extract, of a mild bitterish, subastringent taste. Hoffman says, he has given it with great benefit, in doses of a scruple, as a corroborant in cachetic cases, in the decline of intermitting fevers, and for abating hypocondriacal spasms.

OLEUM ESSENTIALE SABINÆ.

Lond. Edinb.

Essential oil of Savin.

Savin is one of the plants which, in former editions of the Edinburgh Pharmacopœia, were directed to be slightly fermented before the distillation: This, however, is not very necessary; for savin yields, without fermentation, and even without any such maceration, a very large quantity of oil. The oil of savin is a celebrated uterine and

and emmenagogue: In cold phlegmatic habits it is undoubtedly a medicine of great service, though not capable of performing what it has been often represented to do. The dose is, two or three drops, or more.

OLEUM ESSENTIALE PIMENTHÆ.

Edinb.

Essential oil of Jamaica Pepper.

This is a very elegant oil, and may be used as a succedaneum for those of some of the dearer spices. It is of a fine pale colour; in flavour more agreeable 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 PETROLEI.

Lond.

Oil of fossil Tar.

Distil fossil tar, i. e. *petroleum*, in a sand heat.

The oil obtained from this tar will be more or less thin according to the continuance of the distillation; and by its continuance the tar will at last be reduced to a black coal; and then the oil will be pretty deep in colour, though perfectly fluid. This oil has a property similar to that of the tincture of nephritic wood in water, appearing blue when looked upon, but of an orange colour when held between the eye and the light. By long keeping it loses this property. It is less disagreeable than some of the other empyreumatic oils which had formerly a place in our pharmacopœia, such as the oleum lateritium, though very acrid and stimulating.

OLEUM TEREBINTHINÆ.

Lond.

Oil of Turpentine.

Take of

Common turpentine, five pounds;
Water, four pints.

Distil the turpentine with the water in a copper alembic. After the distillation of the oil, what remains is yellow resin.

OLEUM TEREBINTHINÆ RECTIFICATUM.

Lond. Edinb.

Rectified oil of Turpentine.

Take of

Oil of turpentine, one pound;
Water, four pints.

Distil. The Edinburgh pharmacopœia says, "as long as any "oil comes over."

The process here proposed for rectifying this oil, is not only tedious but accompanied with danger. For unless the luting be very close, some of the vapour will be apt to get through; and if this catch fire, it will infallibly burst the vessels. This rectified oil, which in many pharmacopœias is styled ethereal, does not considerably differ in specific gravity, smell, taste, or medical qualities, from the former.

The spirit of turpentine, as this essential oil has been styled, is frequently taken internally as a diuretic and sudorific, and it has sometimes a considerable effect when taken even to the extent of a few drops only. It has however, been given in much larger doses, especially when mixed with honey. Recourse has principally been had to such doses in cases of chronic rheumatism, particularly in those modifications of it which

are ſtyled *ſciatica* and *lumbago*. But they have not often been ſucceſsful, and ſometimes they have had the effect of inducing bloody urine.

OLEUM ANIMALE.

Lond.

Animal oil.

Take of

Oil of hartſhorn, one pound.

Diſtil three times.

OLEUM E CORNUBUS RECTIFICATUM, ſive OLEUM ANIMALE.

Edinb.

Rectified oil of Horns, or *animal oil.*

Take of

Empyreumatic oil, newly diſtilled from the horns of animals, as much as you will.

Diſtil with a gentle heat, in a matras furniſhed with a head, as long as a thin colourleſs oil comes over, which is to be freed from the volatile alkali that it contains by means of water. That this oil may remain limpid and good, it ought to be put up in ſmall phials completely filled and inverted, having previouſly put into each phial a few drops of water, that on inverting the phial the water may interpoſe itſelf between the oil and the ſtopper of the phial.

It is ſaid, that the product is rendered more limpid, by mixing the oil with quick lime into a ſoft paſte; the lime keeping down more of the groſs matter than would remain without ſuch an addition.

This oil was firſt introduced by Dippelius, whoſe name it has ſince generally borne.

Animal oil thus rectified, is thin and limpid, of a ſubtile, penetrating, not diſagreeable ſmell and taſte. It is ſtrongly recommended as an anodyne and antiſpaſmodic in doſes from 15 to 30 drops. Hoffman reports, that it procures a calm and ſweet ſleep, which continues often for 20 hours, without being followed by any languor or debility, but rather leaving the patient more alert and cheerful than before: That it procures likewiſe a gentle ſweat, without increaſing the heat of the blood: That given to 20 drops or more, on an empty ſtomach, ſix hours before the acceſſion of an intermittent fever, it frequently removes the diſorder; and that it is likewiſe a very general remedy in inveterate and chronical epilepſies, and in convulſive 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, ſuffer a change ſimilar to that which the animal oils do; loſing their dark colour and offenſive ſmell, and becoming limpid, penetrating, and agreeable: In this ſtate they are ſuppoſed, like the animal oil, to be anodyne, antiſpaſmodic, and diaphoretic. It is obſervable, that all the empyreumatic oils diſſolve in ſpirit of wine, and that the oftener they are rectified or rediſtilled, they 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

poſſeſs the virtues that have been aſcribed to them, has not yet been ſufficiently determined by experience; the tedioufneſs and trouble of the rectification having prevented their coming into general uſe, or being often made. They are liable alſo to more material inconvenience in regard to their medicinal uſe, namely precarioufneſs in their quality; for how perfectly ſoever they may be rectified, they gradually loſe, in keeping, the qualities they had received from that proceſs, and return more and more towards their original fetid ſtate.

SAL ET OLEUM SUCCINI.

Lond.

Salt and Oil of Amber.

Take of
Amber, two pounds.
Diſtil in a ſand heat, gradually augmented: An acid liquor, oil, and ſalt impregnated with oil, will aſcend.

OLEUM ET SAL SUCCINI.

Edinb.

Oil and ſalt of Amber.

Take
Equal parts of amber reduced to a powder, and of pure ſand.
Mix them, and put them into a glaſs retort, of which the mixture may fill one half: Then adapt a large receiver, and diſtil in a ſand bath with a fire gradually increaſed. At firſt a ſpirit will come over, with ſome yellow oil; then a yellow oil, with the ſalt; and laſtly, a reddiſh and black coloured oil.
When the diſtillation is finiſhed, pour the liquor out of the receiver, and ſeparate the oil from the water. Scrape off the ſalt adhering to the neck of the retort and ſides of the receiver, and dry it by gentle preſſure between folds of blotting paper; then purify it by ſolution in warm water and cryſtalliſation.

OLEUM SUCCINI RECTIFICATUM, ſive PURISSIMUM.

Edinb.

Diſtil the oil in a glaſs retort with ſix times its quantity of water, till two thirds of the water have paſſed into the receiver; then ſeparate the rectified oil from the water, and keep it for uſe in well ſtopped phials.

OLEUM SUCCINI RECTIFICATUM.

Lond.

Rectified oil of Amber.

Take of
Oil of amber, one pound.
Diſtil three times.

SAL SUCCINI PURIFICATUS.

Lond.

Purified ſalt of Amber.

Take of
Salt of amber, half a pound;
Diſtilled water, one pint.
Boil the ſalt in the diſtilled water, and ſet aſide the ſolution to cryſtallize.

In the diſtillation of amber, the fire muſt for ſometime be continued gentle, ſcarcely exceeding the degree at which water boils, till the aqueous phlegm and thin oil have ariſen; after which it is to be ſlowly increaſed. If the fire were urged haſtily, the amber would ſwell up, and riſe in its whole ſubſtance into the receiver, without

without undergoing the required decomposition or separation of its parts. When sand or similar intermedia are mixed with it, it is less subject to this accident, and the fire may be raised somewhat more expeditiously.

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; from whence it is every now and then scraped out to prevent the oil from carrying it down into the receiver. When a gross thick oil begins to arise, and no more salt appears, the distillation is stopt, though it might, perhaps, be continued longer to advantage.

Mr. Pott informs us (in a curious dissertation on the salt of amber, published in the ninth volume of the Memoirs of the Academy of Sciences of Berlin,) that the Prussian workmen, who prepare large quantities of this salt for exportation, from cuttings and small pieces of amber, perform the distillation without any intermedium, and in an open fire: That sweeping out the salt from the neck of the retort being found too troublesome, they suffer the oil to carry it down into the receiver, and afterwards separate it by means of bibulous paper which imbibes the oil, and leaves the salt dry; which paper is afterwards squeezed and distilled; that they continue the distillation till all that can be forced over has arisen, taking 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 crystallising 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 crystallisation.

The salt, freed from as much of the oil as spongy paper will imbibe, retains so much as to appear of a dark brown colour. Mr. Pott says, the method he has found to succeed best, and with least loss, is, to dissolve the salt in hot water, and put into the paper through which the solution is to be filtered, a little cotton slightly moistened with oil of amber: This, he says, detains a good deal of the oil of the salt, and the solution passes through the more pure. The liquor being evaporated with a very gentle fire, as that of a water bath, and set to shoot, the first crystals prove transparent, with a slight yellowish tinge; but those which follow are brown, oily, and bitter, and are therefore to be farther depurated in the same manner. The whole quantity of crystals amounts to about one thirtieth of the weight of the crude amber employed. By sublimation with the addition of sea salt, as directed in former editions of the Edinburgh Pharmacopœia, the salt is thought to be more perfectly and more expeditiously purified: Mr. Pott objects to sublimation, that a part of the salt is decomposed by it, a coaly matter being left behind, even though the salt was previously purified by crystallisation: 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 salt of amber has a penetrating, subastringent acid taste. It dissolves

diffolves both in water and in rectified fpirit; though not readily in either, and fcarcely at all in the latter without the aſſiſtance of heat: Of cold water in ſummer, it requires for its ſolution about twenty times its own weight: Of boiling water, only about twice its weight. Expoſed in a glaſs veſſel to a heat 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 effervefces, with alkalies both fixed and volatile, and forms with them neutral compounds, much reſembling thoſe compoſed of the ſame alkalies and vegetable acids. Mixed with acid liquors, it makes no ſenſible commotion. Ground with fixed alkaline ſalts, it does not exhale any urinous odour. By theſe characters, it is conceived this ſalt may be readily diſtinguiſhed from all the other matters that have been mixed with, or vended for it. With regard to its virtue, it is accounted aperient, diuretic, and, on account of its retaining ſome portion of the oil, antihyſteric: Boerhaave gives it the character of *diureticorum et antihyſtericorum 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 ſecretions: 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 ſoluble, 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.

OLEUM VINI.

Lond.

Oil of Wine.

Take of

Alcohol,

Vitriolic acid, of each one pint.

Mix them by degrees, and diſtil; taking care that no black foam paſſes into the receiver. Separate the oily part of the diſtilled liquor from the *volatile vitriolic acid*.—To the oily part add as much water of *pure kali* as is ſufficient to correct the ſulphureous ſmell; then diſtil the *æther* with a gentle heat. The oil of wine remains in the retort, ſwimming on the watery liquor; from which it is to be ſeparated.

Some caution is requiſite in mixing the two liquors, that the conſequent heat and ebullition (which would not only diſſipate a part of the mixture, but hazard the breaking of the veſſel and hurt the operator,) may be avoided. The ſecureſt way is to add the vitriolic acid to the ſpirit of wine by a little at a time, waiting till the firſt addition be incorporated before another quantity be put in. By this the enſuing heat is inconſiderable, and the mixture is effected without inconvenience.

OLEUM

OLEUM ABSINTHII DESTILLATUM.

Ross.

Essential Oil of Wormwood.

Let the fresh leaves of wormwood slightly dried be macerated with a sufficient quantity of water, and then subjected to distillation; and let the oil which comes over be separated from the water which accompanies it.

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 drachm 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 this oil ground first with a drachm of sugar, then with two drachms of the salt of wormwood, and afterwards dissolved in six 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 this means, he says, all cases of this kind are generally cured with ease and safety, provided there be no schirrhosity or suppuration. The oil of wormwood is employed chiefly as a vermifuge; and for this purpose is sometimes applied both externally to the belly, and taken internally; it is most conveniently exhibited in the form of pills, into which it may be reduced by mixing it with crumb of bread.

In the same manner with the oleum absinthii, the following oils mentioned on the authority of the Pharmacopœia Rossica, are also directed to be prepared.

OLEUM AURANTII CORTICUM.

Ross.

Essential Oil of Orange peel.

OLEUM CORTICUM LIMONUM.

Essence of Lemons.

Of these essential oils, as existing in a separate state in the growing vegetable, we have already offered some observations. They are obtained in a very pure state by distillation. They are now rejected from our pharmacopœias, being employed rather as perfumes than as medicines. This is particularly the case with the essence of lemons, which is a pleasant oil of a fine smell, nearly as agreeable 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 doses of two or three drops, as a cordial, in weakness of the stomach &c. though more frequently used as a perfume. It gives a fine flavour to the officinal *Spiritus ammoniæ compositus* When sope is given in the form of pills, the addition

dition of a few drops of this oil is thought to make it fit more eafily on the ftomach.

OLEUM CARYOPHYLLORUM AROMATICORUM ESSENTIALE.

Roff.

Effential Oil of Cloves.

This oil is fo ponderous as to fink in water, and is not eafily elevated in diftillation: If the water which come over be returned on the remaining cloves, and the diftillation repeated, fome more oil will generally be obtained, though much inferior in quality to the firft. The oil of cloves is ufually defcribed as being "in "taſte exceſſively hot and fiery, "and of a gold yellow colour," *(Boerh. proceſſ.)* 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 carelefsly kept, or diftilled by two violent a fire: When in perfection it is limpid and colourleſs, of a pleafant, moderately warm and pungent taſte, and a very agreeable fmell, much refembling that of the fpice itſelf. The Dutch oil of cloves contains a large quantity of expreſſed oil, as evidently appears upon examining it by diftillation. This, however, cannot be the addition to which it owes its acrimony. A mean proportion of a refinous extract of cloves communicates to a large one of oil a deep colour, and a great degree of acrimony.

OLEUM CHAMÆMELI FLORUM.

Roff.

Effential Oil of Chamomile.

An oil of chamomile had formerly a place in our pharmacopœias made by infufion of the recent plant, and its flowers in olive oil; and again feparating it by preſſure after impregnating it with the active parts of the plant by heat. This, however, was intended only for external application; but the effential oil is meant to be uſed internally.

It is a very pungent oil, of a ſtrong not ungrateful ſmell, 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.

OLEUM CINNAMOMI CORTICIS.

Roff.

Oil of Cinnamon.

This valuable oil is extremely hot and pungent, of a moſt agreeable flavour, like that of the cinnamon itſelf. In cold languid caſes, and debilities of the nervous ſyſtem, 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 ſugar, &c.; for ſo great is the pungency of this oil, that a ſingle drop let fall upon the tongue, undiluted, produces a gangrenous eſchar. In the diſtillation of this oil, a ſmart fire is required; and the low head, with

a channel round it recommended for the diſtillation of the leſs volatile oils, is particularly neceſſary 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 ſtanding for two or three weeks in a cool place.

OLEUM SEMINUM FŒNICULI ESSENTIALE.

Roſſ.

Eſſential Oil of Fennel Seeds.

The oil obtained from ſweet fennel ſeeds 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 ſame degree of warmth with that of aniſeeds; to which it is likewiſe ſimilar in flavour though far more grateful. From two or three drops to ten or twelve of it are given as a carminative, in cold indiſpoſitions of the ſtomach; and in ſome kinds of coughs as an expectorant.

OLEUM DISTILLATUM MACIS.

Roſſ.

Eſſential Oil of Mace.

The eſſential oil of mace is moderately pungent, very volatile, and of a ſtrong aromatic ſmell, 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 bottom. This oil taken internally to the extent of a few drops, is celebrated in vomiting, ſingultus and colic pains; and in the ſame complaints it has alſo been adviſed to be applied externally to the umbilical region. It is, however, but rarely to be met with in the ſhops.

OLEUM MAJORANÆ ESSENTIALE.

Roſſ.

Eſſential Oil of Marjoram.

This oil is very hot and penetrating, in flavour not near ſo agreeable as the marjoram itſelf; when in perfection, it is of a pale yellow colour; by long keeping, it turns reddiſh: If diſtilled with too great a heat, it riſes of this colour at firſt. It is ſuppoſed by ſome to be peculiarly ſerviceable in relaxations, obſtructions, and mucous diſcharges of the uterus: The doſe is one or two drops.

OLEUM NUCIS MOSCHATÆ ESSENTIALE.

Roſſ.

Eſſential Oil of Nutmegs.

The eſſential oil of nutmegs poſſeſſes the flavour 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 RUTÆ ESSENTIALE.

Roſſ.

Eſſential Oil of Rue.

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 uſed in hyſteric diſorders and as an anthelmintic; and alſo in epilepſies proceeding from a relaxed ſtate of the nerves.

Rue yields its oil very ſparingly. The largeſt quantity is obtained

tained from it when the flowers are ready to fall off, and the seeds begin to shew themselves: Suitable maceration, previous to the distillation, is here extremely necessary.

OLEUM DISTILLATUM SATUREIÆ.
Ross.
Essential Oil of Savory.

Savory yields on distillation a small quantity of essential oil, of great fluidity and volatility; and it is unquestionably an active article, but among us it is not employed in medicine.

OLEUM DISTILLATUM TANACETI.
Ross.
Essential Oil of Tansy.

Tansy yields on distillation an oil of a greenish colour inclining to yellow. It smells strongly of the herb, and possesses at least its aromatic property in a concentrated state.

OLEUM CERÆ.
Dan.
Oil of Wax.

Melt yellow bees wax with twice its quantity of sand, and distil in a retort placed in a sand-furnace. At first an acid liquor rises and afterwards a thick oil, which sticks in the neck of the retort, unless it be heated by applying live coals. This may be rectified into a thin oil, by distilling it several times, without addition, in a sand heat.

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 sand may be poured on it as will fill the remaining half. This is a neater, and much less troublesome way, than melting the wax, and mixing it with the sand before they are put into the retort. The author above mentioned highly commends this oil against roughness and chaps of the skin, and other like purposes: The college of Strasburgh speak also of it being given internally, and say it is a powerful diuretic *(ingens diureticum)* in doses of from two to four or more drops; but its disagreeable smell has prevented its coming into use among us.

OLEUM LIGNI RHODII ESSENTIALE.
Ross.
Essential Oil of Rhodium.

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 aromatic wood into internal use among us.

The number of essential oils which have now a place in the London and Edinburgh pharmacopœias, and likewise in the foreign ones of modern date, is much less considerable than formerly; and perhaps those still retained afford a sufficient variety of the more active and useful oils. Most of the oils mentioned above, particularly those which have a place in the London and Edinburgh pharmacopœias, are prepared by our chemists in Britain, and are easily procurable in a tolerable degree of perfection: But the oils from the more expensive spices, though still introduced among the preparations in the foreign pharmacopœias, are, when employed among us usually imported from abroad.

These are frequently so much adulterated, that it is not an easy matter to meet with such as are at all fit for use. Nor are these adulterations 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 gentle heat, the turpentine will be betrayed by its smell. But the more subtile artifis have contrived other methods of sophistication, which elude all trials of this kind.

Some have considered the specific gravity of oils as a certain criterion of their genuineness. This, however, is not to be absolutely depended on: For the genuine oils, obtained from the same subjects, often differ in gravity as much as those drawn from different ones. Cinnamon and cloves, whose oils usually sink in water, yield, if slowly and warily distilled, an oil of great fragrancy, which is nevertheless specifically lighter than the aqueous fluid employed in the distillation of it; while, on the other hand, the last runnings of some of the lighter oils prove sometimes so ponderous as to sink in water.

As all essential oils agree in the general properties of solubility in spirit of wine, and insolubility 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 each other, or the dearer sophisticated with the cheaper, without any probability of discovering the abuse by any trials. 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 genuine oils, from inattentive distillation and long and careless keeping, are often weaker both in smell and taste than the common sophisticated ones.

The smell and taste seem to be the only certain tests of which the nature of the thing will admit. 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 flavour, or has 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 tasted with safety; and the smell of the subject is so much concentrated in them, that a small variation in this respect is not easily distinguished: But we can readily dilute them to any assignable degree. A drop of the oil may be dissolved in spirit of wine, or received on a bit of sugar, and dissolved 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.

We shall here subjoin the result of some experiments, shewing *the*

quantity

quantity of essential oil obtained from 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 of which was submitted to the distillation; and the third, the quantity of oil obtained. To each article is affixed the author's name from whom the experiment was taken. The different distillations of one subject, several of which are inserted in the table, shew how variable the product 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.

This table was drawn up by Doctor Lewis, and was first inserted in the first edition of his dispensatory. In consulting it the reader must observe, that the weights of the substances distilled are avoirdupois pounds and ounces: The weights of the oils obtained when expressed in ounces are also avoirdupois ounces: But the drachm, scruples, and grains are Troy weight.

TABLE *of the Quantity of* ESSENTIAL OIL *obtained from different* VEGETABLES.

			yielded of essential oil			
Agallochum wood -	10	lb.		4	drachms	*Hoffman.*
Angelica root -	1	lb.		1	drachm	*Cartheuſer.*
Aniſeed -	1	lb.		4	drachms	*Neuman.*
Aniſeed -	3	lb.		1	ounce	*Lewis.*
Aniſeed - -	4	lb.		1	ounce	*Lewis.*
Aſafœtida -	4	oz.		1	drachm	*Neuman.*
Calamus aromaticus -	50	lb.		2	ounces	*Hoffman.*
Calamus aromaticus -	1	lb.		2	ſcruples	*Neuman.*
Caraway ſeeds -	4	lb.		2	ounces	*Lewis.*
Caraway ſeeds -	2	lb.		9	drachms	*Lewis.*
Caraway ſeeds -	1	cwt.		83	ounces	*Lewis.*
Caroline thiſtle roots	1	lb.		2½	ſcruples	*Neuman.*
Cardamom ſeeds -	1	oz.		1	ſcruple	*Neuman.*
Carrot ſeeds -	2	lb.		1½	drachm	*Lewis.*
Caſcarilla - -	1	lb.		1	drachm	*Cartheuſer.*
Chamomile flowers -	1	lb.		30	grains	*Cartheuſer.*
Common chamomile flowers	6	lb.		5	drachms	*Lewis.*
Wild chamomile flowers	1	lb.		20	grains	*Cartheuſer.*
Wild chamomile flowers	6	lb.		2½	drachms	*Lewis.*
Chervil leaves, freſh	9	lb.		30	grains	*Neuman.*
Cedar wood -	1	lb.		2	drachms	*Margraff.*
Cinnamon -	1	lb.		1	drachm	*Sala.*
Cinnamon -	1	lb.		2½	ſcruples	*Neuman.*
Cinnamon -	4	lb.		6	drachm	*Lemery.*
Cinnamon -	1	lb.		2	drachms	*Cartheuſer.*
Cinnamon -	1	lb.		8	ſcruples	*Cartheuſer.*
Clary ſeeds -	4	lb.		2	drachms	*Lewis.*
Clary in flower, freſh	130	lb.		3½	ounces	*Lewis.*
Cloves - -	1	lb.		1½	ounce	*Teichmeyer.*
Cloves - -	1	lb.		2½	ounces	*Cartheuſer.*
Cloves - -	2	lb.		5	ounces	*Hoffman.*
Copaiba balſam -	1	lb.		6	ounces	*Hoffman.*
Copaiba balſam -	1	lb.		8	ounces	*Lewis.*
Cummin ſeed -	1	buſh		21	ounces	*Lewis.*
D ſtamnus Creticus	1	lb.		30	grains	*Lewis.*
Dill ſeed - -	4	lb.		2	ounces	*Lewis.*
Elecampane root -	2	lb.		3½	ſcruples	*Neuman.*
Elemi -	1	lb.		1	ounce	*Neuman.*
Fennel ſeed, common	2	oz.		1	ſcruple	*Neuman.*
Fennel ſeed, ſweet	1	buſh		18	ounces	*Lewis.*
Galangal root -	1	lb.		1	drachm	*Cartheuſer.*
Garlic root, freſh -	2	lb.		30	drachm	*Neuman.*
Ginger - -	1	lb.		1	drachm	*Neuman.*
Horſe radiſh root, freſh	8	oz.		15	grains	*Neuman.*
Hyſſop leaves -	2	lb.		1½	drachm	*Neuman.*

Hyſſop

Hyssop leaves	1	lb.	yielded of essential oil	$1\frac{1}{2}$ drachm	*Cartheuser.*
Hyssop leaves	1	lb.		2 drachm	*Cartheuser.*
Hyssop leaves, fresh	2	cwt.		6 ounces	*Lewis.*
Hyssop leaves, fresh	10	lb.		3 drachm	*Lewis.*
Hyssop leaves, fresh	30	lb.		9 drachm	*Lewis.*
Juniper berries	8	lb.		3 ounces	*Hoffman.*
Juniper berries	1	lb.		3 drachms	*Cartheuser.*
Lavender in flower, fresh	48	lb.		12 ounces	*Lewis.*
Lavender in flower, fresh	30	lb.		$6\frac{3}{4}$ ounces	*Lewis.*
Lavender in flower, fresh	$13\frac{1}{2}$	cwt.		60 ounces	*Lewis.*
Lavender flowers, fresh	2	lb.		4 drachms	*Hoffman.*
Lavender flowers, dried	4	lb.		2 ounces	*Lewis.*
Lavender flowers, dried	2	lb.		1 ounce	*Hoffman.*
Lavender flowers, dried	4	lb.		3 ounces	*Hoffman.*
Broad leaved lavender flowers, dry	4	lb.		1 ounce	*Hoffman.*
	1	lb.		2 drachms	*Cartheuser.*
Lovage root	1	lb.		1 drachm	*Cartheuser.*
Mace	1	lb.		5 drachms	*Neuman.*
Mace	1	lb.		6 drachms	*Cartheuser.*
Marjoram in flower, fresh	81	lb.		$3\frac{3}{4}$ ounces	*Lewis.*
Marjoram in flower, fresh	$13\frac{1}{2}$	lb.		$3\frac{1}{2}$ drachms	*Lewis.*
Marjoram in flower, fresh	34	lb.		$1\frac{1}{2}$ ounce	*Lewis.*
Marjoram leaves, fresh	$18\frac{1}{2}$	lb.		4 drachms	*Lewis.*
Marjoram leaves, dried	4	lb.		1 ounce	*Hoffman.*
Masterwort root	1	lb.		30 grains	*Neuman.*
Milfoil flowers, dried	14	lb.		4 drachms	*Neuman.*
Mint in flower, fresh	6	lb.		$4\frac{1}{2}$ drachms	*Neuman.*
Mint leaves, dried	4	lb.		$1\frac{1}{2}$ ounce	*Hoffman.*
Peppermint, fresh	4	lb.		3 drachms	*Hoffman.*
Myrrh	1	lb.		2 drachms	*Hoffman.*
Myrrh	1	lb.		3 drachms	*Neuman.*
Nutmegs	1	lb.		1 ounce	*Hoffman.*
Nutmegs	1	lb.		1 ounce	*Geoffroy.*
Nutmegs	1	lb.		4 drachms	*Neuman.*
Nutmegs	1	lb.		6 drachms	*Sala.*
Nutmegs	1	lb.		5 drachms	*Cartheuser.*
Parsley seeds	2	lb.		1 drachm	*Cartheuser.*
Parsley leaves, fresh	238	lb.		2 ounces	*Cartheuser.*
Parsnip seeds	8	lb.		2 drachm	*Cartheuser.*
Penny royal in flower, fresh	13	lb.		6 drachms	*Cartheuser.*
Black pepper	2	lb.		6 drachm	*Cartheuser.*
Black pepper	1	lb.		$2\frac{1}{2}$ drachm	*Neuman.*
Black pepper	1	lb.		4 scruples	*Carebruser.*
Black pepper	1	lb.		1 drachm	*Heister.*
Black pepper	6	lb.		3 drachm	*Geoffroy.*
Pimento	1	oz.		30 grains	*Neuman.*
Rhodium wood	1	lb.		3 drachm	*Neuman.*
Rhodium wood	1	lb.		2 drachm	*Sala.*
Rhodium wood	1	lb.		3 drachms	*Sala.*
Rhodium wood	1	lb.		3 drachms	*Cartheuser.*

Rhodium

Rhodium wood -	1	lb.	yielded of essential oil	4 drachms	*Cartheuser.*
Rosemary in flower	1	cwt.		8 ounces	*Lewis.*
Rosemary leaves	1	lb.		2 drachms	*Sala.*
Rosemary leaves	1	lb.		3 drachms	*Sala.*
Rosemary leaves -	3	lb.		3$\frac{1}{6}$ drachm	*Neuman.*
Rosemary leaves	1	lb.		1 drachm	*Cartheuser.*
Rosemary leaves	1	lb.		1$\frac{1}{2}$ drachm	*Cartheuser.*
Rosemary leaves, fresh	70	lb.		5 ounces	*Lewis.*
Roses - -	100	lb.		4 drachms	*Tackenius.*
Roses - -	100	lb.		1 ounce	*Homberg.*
Roses - -	12	lb.		30 grains	*Hoffman.*
Rue - -	10	lb.		2 drachms	*Hoffman.*
Rue - -	10	lb.		4 drachms	*Hoffman.*
Rue in flower	4	lb.		1 drachm	*Hoffman.*
Rue in flower	60	lb.		2$\frac{1}{2}$ ounces	*Hoffman.*
Rue with the seeds	72	lb.		2$\frac{1}{2}$ ounces	*Hoffman.*
Saffron -	1	lb.		1$\frac{1}{2}$ drachm	*Vogel.*
Sage leaves	1	lb.		5 scruples	*Cartheuser.*
Sage in flower, fresh	34	lb.		1$\frac{1}{2}$ ounce	*Lewis.*
Sage of virtue, in flower	27	lb.		6 drachms	*Lewis.*
Sage of virtue, in flower	8	lb.		1$\frac{1}{2}$ drachm	*Lewis.*
Sassafras	6	lb.		1$\frac{1}{4}$ ounce	*Hoffman.*
Sassafras	6	lb.		2 ounces	*Neuman.*
Savin -	2	lb.		5 ounces	*Hoffman.*
Saunders, yellow	1	lb.		2 drachms	*Cartheuser.*
Smallage seeds -	1	lb.		2$\frac{1}{2}$ scruples	*Neuman.*
Stechas in flower, fresh	5$\frac{1}{2}$	lb.		2 drachms	*Lewis.*
Thyme in flower, fresh	2	cwt.		5$\frac{1}{2}$ ounces	*Lewis.*
Thyme in flower, dry	3$\frac{3}{4}$	lb.		1$\frac{1}{2}$ drachm	*Lewis.*
Lemon thyme in flower, fresh	51	lb.		1$\frac{1}{4}$ ounce	*Lewis.*
Lemon thyme in flowers, fresh	98	lb.		2$\frac{1}{2}$ ounces	*Lewis.*
Lemon thyme, a little dried	104	lb.		3 ounces	*Lewis.*
Wormwood leaves, dry	4	lb.		1 ounce	*Lewis.*
Wormwood leaves, dry	18	lb.		1$\frac{1}{2}$ ounce	*Lewis.*
Wormwood leaves, dry	25	lb.		3$\frac{1}{2}$ ounces	*Lewis.*
Zedoary -	1	lb.		1 drachm	*Newman.*

CHAP. VII.

SALIA.

SALTS.

IN former parts of this work we have offered ſome general remarks on the nature of ſaline ſubſtances, *ſee* p. 9 10, 16, 30, *and ſeveral parts of the Materia Medica.* Little therefore remains to be ſaid on this ſubject here. For the ſake of perſpicuity, however, it may not be unacceptable to the reader to give a ſyſtematic arrangement of ſalts.

Salts are either ſimple or compound. The ſimple ſalts are either alkaline or acid. The compound ſalts are formed by the union of an acid either with an alkali, or an earth, or a metal. Theſe compounds, occuring in nature more frequently than the alkalies and acids themſelves, were, by the earlier chemiſt, thought to be ſimple bodies, as nitre, common ſalt, Epſom ſalt, vitriol, &c. When however their compoſition was known, the abſurdity of their uſual names became evident, and the neceſſity of forming new names was an object of great conſequence to the ſyſtematic chemiſt. This was firſt attempted by Bergman. Before his time the compound ſalts had been promiſcuouſly called by ſeveral chemiſts neutral ſalts, or middle ſalts. He divided the compounds ſalts into three kinds; calling thoſe ſalts which were compoſed of an acid and an alkali, *Neutral Salts*; thoſe compoſed of an acid and an earth, *Earthy Salts*; and theſe compoſed of an acid and a metal, *Metallic Salts.* The names which he gave to theſe compounds ſalts conſiſted of two words, a ſubſtantive and an adjective: The ſubſtantive was the alkali, earth, or metal; and the adjective was formed from the acid with which the alkali, earth, or metal was combined: Thus, nitre, which is a compound of the vegetable alkali and nitrous acid, was called *Alkali vegetabile nitratum*, in Engliſh *Nitrated vegetable alkali*; Epſom ſalt, which is a compound of magneſia and vitriolic acid, was called *Magneſia vitriolata, Vitriolated magneſia*; common vitriol, which is a combination of iron with the vitriolic acid, was called *Ferrum vitriolatum; vitriolated iron:* And ſo of the reſt, the name of the compound ſalt conveying a knowledge of its component parts.

The firſt of the following tables exhibits 49 neutral and earthy ſalts according to this beautiful ſyſtem

which

which has been univerſally adopted by ſubſequent ſyſtematic chemiſts: And although the original names uſed by Bergman have been changed by other chemiſts, yet the plan has remained the ſame; as may be ſeen by the ſecond table, which contains the neutral and earthy ſalts mentioned in the Edinburgh pharmacopœia; and by the third, which contains thoſe of the London pharmacopœia. The firſt table does not contain all the poſſible compound ſalts, but only thoſe formed by ſeven of the acids with the three alkalies and the four abſorbent earths: The plan is ſo ſimple that any reader of common capacity may extend it at pleaſure; and the reaſon why we have reſtricted it in the manner we have, is becauſe it contains *all* the neutral and earthy ſalts which are mentioned in our pharmacopœias, Bergmans original table, which he exhibited at his Lectures, contained the compound ſalts formed by the union of 25 acids with 3 alkalies, 4 earths, and 15 metals, amounting in all to 550 compound ſalts. Many of theſe compounds are however hitherto unknown, and ſome of them are even impoſſible; but they were put into the table to exhibit the whole plan in one view.

The table is ſo plain as to need little explanation: The acids are placed at the top; the alkalies and earths on the left hand; and the compound ſalts, reſulting from their union, in the reſpective interſections of the different columns.

TABLE

TABLE I. COMPOUND SALTS *according to* BERGMAN'S *Nomenclature.*

	Acidum vitriolicum.	Acidum nitrosum.	Acidum salis.	Acidum acetosum.	Acidum tartareum.	Acidum boracicum.	Acidum phosphoricum.
Alkali vegetabile	Alk. vegetab. vitriolatum.	Alk. vegetab. nitratum.	Alk. vegetab. salitum.	Alk. vegetab. acetatum.	Alk. vegetab. tartarisatum.	Alk. vegetab. boraxatum.	Alk. vegetab. phosphoratum.
Alkali minerale.	Alk. miner. vitriolatum.	Alk. miner. nitratum.	Alk. miner. salitum.	Alk. miner. acetatum.	Alk. miner. tartarisatum.	Alk. miner. boraxatum.	Alk. miner. phosphoratum.
Alkali volatile.	Alk. volat. vitriolatum.	Alk. volat. nitratum.	Alk. volat. salitum.	Alk. volat. acetatum.	Alk. volat. tartarisatum.	Alk. volat. boraxatum.	Alk. volat. phosphoratum.
Barytes.	Barytes vitriolata.	Barytes nitrata.	Barytes salita.	Barytes acetata.	Barytes tartarisata.	Barytes boraxata.	Barytes phosphorata.
Calx.	Calx vitriolata.	Calx nitrata.	Calx salita.	Calx acetata.	Calx tartarisata.	Calx boraxata.	Calx phosphorata.
Magnesia.	Magnesia vitriolata.	Magnesia nitrata.	Magnesia salita.	Magnesia acetata.	Magnesia tartarisata.	Magnesia boraxata.	Magnesia phosphorata.
Argilla.	Argilla vitriolata.	Argilla nitrata.	Argilla salita.	Argilla acetata.	Argilla tartarisata.	Argilla boraxata.	Argilla phosphorata.

TABLE II. COMPOUND SALTS, *according to the* EDINBURGH PHARMACOPŒIA.

	Acidum vitriolicum.	Acidum nitroſum.	Acidum muriaticum.	Acidum acetoſum.	Acidum tartareum.	Acidum boracicum.	Acidum phoſphoricum.
Lixiva.	Lixiva vitriolata. Lixiva vitriolata, ſulphurea.	Nitrum.		Lixiva acetata.	Lixiva tartariſata. Cryſtalli tartari.		
Soda.	Soda vitriolata.		Sal marinus.		Soda tartariſata.	Borax.	Soda phoſphorata.
Ammonia			Sal Ammoniacus.	Aqua ammoniæ acetatæ.			
Calx.							Oſſa ad albidinem cremata.
Magneſia.	Magneſia vitriolata.						
Argilla.	Alumen.						

TABLE III. Compound Salts, *according to the* London Pharmacopœia.

	Acidum vitriolicum.	Acidum nitrosum	Acidum muriaticum.	Acidum acetosum.	Acidum tartareum.	Acidum boracicum.	Acidum phosphoricum.
Kali.	Kali vitriolatum.	Nitrum.		Kali acetatum.	Crystallitartari K tartarisatum		
Natron.	Natrum vitriolatum.		Sal muriaticus.		Natron tartarisatum.	Borax.	
Ammonia			Sal ammoniacus.	Aqua ammoniæ acetatæ.			
Calx.							Cornu cervi ustum.
Magnesia.	Magnesia vitriolata.						
Argilla.	Alumen.						

Having now exhibited a ſyſtematic arrangement of the ſalts, we proceed to deſcribe the ſeveral ſaline preparations mentioned in the different Pharmacopœias.

ACIDUM VITRIOLICUM DILUTUM.

Lond.

Dilutea Vitriolic Acid.

Take of
Vitriolic acid, one ounce by weight;
Diſtilled water, eight ounces by weight;
Mix them by degrees.

ACIDUM VITRIOLICUM DILUTUM, vulgo SPIRITUS VITRIOLI TENUIS.

Edin.

Diluted vitriolic acid, commonly called *weak ſpirit of Vitriol.*

Take of
Vitriolic acid, one part;
Water, ſeven parts.
Mix them.

In the former editions of our pharmacopœias, directions were given for the preparation of the vitriolic acid by the apothecary himſelf, under the heads of *Spiritus et Oleum Vitrioli*, *Spiritus Sulphuris per campanam*, &c.: But as it is now found that all theſe modes are expenſive, and that this acid may be furniſhed at a cheaper rate from the trading chemiſts preparing it on a large ſcale, both colleges have with propriety rejected it from the preparations, and introduced it only into the liſt of the materia medica.

When, however, it is of the degree of concentration there required, it can only be uſed for very few purpoſes in medicine. The moſt ſimple form in which it can be advantageouſly employed internally, is that in which it is merely diluted with water: And it is highly proper that there ſhould be ſome fixed ſtandard in which the acid in this ſtate ſhould be kept. It is, however, much to be regretted, that the London and Edinburgh colleges have not adopted the ſame ſtandard with reſpect to ſtrength: For in the one, the ſtrong acid conſtitutes an eighth; and in the other only a ninth of the mixture. The former proportion, which is that of the Edinburgh college, is preferable, as it gives exactly a drachm of acid to the ounce: But the dilution by means of diſtilled water, which is directed by the London, is preferable to ſpring water; which, even in its pureſt ſtate, is rarely free from impregnations in part affecting the acid.

The acid 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, on 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. Strong vitriolic acid mixt with water, inſtantly creates great heat, inſomuch that glaſs veſſels are apt to crack from the mixture, unleſs it be very ſlowly performed: Expoſed to the air, it imbibes moiſture, and ſoon requires a remarkable increaſe of weight. In medicine, it is employed chiefly as ſubſervient to other preparations: It is alſo frequently mixed with juleps, in ſuch quantity as will be ſufficient to give the liquor an agreeable tartneſs, and it then is a cooling antiſeptic, and a ſtomachic; but its medical properties have already been mentioned under the article

article ACIDUM *Vitriolicum* in the Materia Medica.

ACIDUM NITROSUM.

Lond.

Nitrous acid.

Take of
Purified nitre, fixty ounces;
Vitriolic acid, by weight, twenty nine ounces,
Mix and diftil.
THE fpecific gravity of this acid, is to that of diftilled water, as 1,550 to 1,000.

ACIDUM NITROSUM, vulgo SPIRITUS NITRI.

Edin.

Nitrous acid, commonly called *fpirit of nitre.*

Take of
Pureft nitre, bruifed, two pounds;
Vitriolic acid, one pound.
Having put the nitre into a glafs retort, pour on it the acid; then diftil in a fand heat, gradually increafing the fire, till the fand pot becomes of a dull red colour.
The fpecific gravity of it, to that of water, ought to be as 1550 to 1000.

HERE the vitriolic acid expels the nitrous, in red corrofive vapours, which begin to iffue immediately on mixture; and which the operator ought cautioufly to avoid. A pound of acid 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 fame; the difference in this refpect, affecting only the refiduum. If two parts of nitre be taken to one of vitriolic acid, the remaining alkaline bafis of the nitre is completely faturated with the vitriolic acid; and the refult is a neutral falt, the fame with vitriolated tartar, as we fhall fee hereafter. If more nitre be ufed, a part of the nitre in fubftance will remain blended with this neutral falt: If lefs nitre, it cannot afford alkali enough to faturate the vitriolic acid, and the refiduum will not be a neutral falt, but a very acid one.

The nitrous acid is next in ftrength to the vitriolic, and diflodges all others from alkaline falts or earths. It differs from all the other acids in deflagrating with inflammable matters: The chief ufe of this acid is as a menftruum for certain minerals, and as the bafis of fome particular preparations to be mentioned hereafter. It has been given likewife diluted with any convenient vehicle, as a diuretic, in doles of from ten to fifty drops.

ACIDUM NITROSUM DILUTUM.

Lond. Edin.

Diluted nitrous acid.

Take of
Nitrous acid;
Diftilled water, each equal weights.
Mix them, taking care to avoid the noxious vapours.

IN the old editions both of the London and Edinburgh pharmacopœias, directions were given for the preparation of *aquafortis fimplex* and *duplex*; but thefe were no more than different forms of preparing an impure nitrous acid, unfit for medical purpofe. They are therefore, with propriety, fuperfeded by the more fimple formulæ of *acidum nitrofum*, and *acidum*

dum nitrosum dilutum mentioned above. In making the diluted acid, distilled water is preferable to common water.

The vapour separated during the mixing of nitrous acid and water, is the permanently elastic fluid called *nitrous air*, which is deleterious to animal life.

ACIDUM MURIATICUM.

Lond.

Muriatic acid.

Take of
Dry sea salt, ten pounds;
Vitriolic acid, by weight six pounds;
Water, by weight five pounds.
Add the vitriolic acid, first mixed by degrees with the water, to the salt; then distil.

The specific gravity of this acid is to that of distilled water as 1,170 to 1,000.

ACIDUM MURIATICUM, vulgo SPIRITUS SALIS MARINI.

Edin.

Muriatic acid commonly called *Spirit of sea salt.*

Take of
Sea salt two pounds;
Vitriolic acid,
Water, each one pound.
Let the salt be first put into a pot, and brought to a red heat, that the oily impurities may be consumed; then put it into the retort. Next mix the acid with the water and when the mixture has cooled, pour it upon the salt. Lastly, distil in a sand bath with a middling heat, as long as any acid comes over.

The specific gravity of this acid is to that of water as 1170 to 1000.

The muriatic 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 vapours being inconcensable without some adventitious humidity. The acid of vitriol is most conveniently mixed with the water in an earthen or stone ware vessel: For unless the mixture be made exceedingly slow, it grows so hot as to endanger breaking a glass one.

This is the weakest of the mineral acids, but stronger than any of the vegetable: It requires a greater fire to distil it than that of nitre, yet it is more readily dissipated by the action of the air. It is used chiefly as a menstruum for the making of other preparations; sometimes, likewise, it is given properly diluted, as an antiphlogistic, aperient, and diuretic, in doses of from ten to sixty or seventy drops.

ACETUM DISTILLATUM.

Lond.

Distilled vinegar.

Take of
Vinegar five pints.
Distil with a gentle fire, in glass vessels, so long as the drops fall free from empyreuma.

Edin.

Let eight pounds of vinegar be distilled in glass vessels with a gentle heat. Let the two first pounds that come over be thrown away as containing too much water; let the four pounds next following be reserved as the distilled vinegar. What remains is a still stronger acid, but being too much burnt is unfit for use.

This process may be performed either in a common still or in a retort.

tort. The better kinds of wine vinegar ſhould be uſed; thoſe prepared from malt liquors, however fine and clear they may ſeem to be, contain a large quantity of a viſcous ſubſtance, as appears from the ſlimyneſs and ropyneſs to which they are very much ſubject: This not only hinders the acid parts from riſing freely, but is apt to make the vinegar boil over into the recipient, and at the ſame time diſpoſes it to receive a diſagreeable impreſſion from the fire. 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 uſed, to place the ſand but a little way up its ſides, and when ſomewhat more than half the liquor is come over, to pour on the remainder a quantity of freſh vinegar equal to the liquor drawn off. This may be repeated three or four times; the vinegar ſupplied at each time being previouſly heated. The addition of cold liquor would not only prolong the operation, but alſo endanger the breaking of 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 farther: The diſtilled ſpirit muſt be rectified by a ſecond diſtillation in a retort or glaſs alembic; for although the head and receiver be of glaſs or ſtone ware, the acid will contract a metallic taint from the pewter worm.

The reſiduum of this proceſs is commonly thrown away as uſeleſs, although, 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 ſand, and committed to diſtillation in a retort, with a well regulated fire, it yields an exceeding ſtrong acid ſpirit, together with an empyreumatic oil, which taints the ſpirit with a diſagreeable odour. This acid is nevertheleſs, without any rectification, better for ſome purpoſes (as a little of it will go a great way) than the pure ſpirit; particularly for making the ſal diureticus or kali acetum of the London college; for there the oily matter, on which its ill flavour depends is burnt out by the calcination.

The ſpirit of vinegar is a purer and ſtronger acid than vinegar itſelf, with which it agrees in other reſpects. The medical virtues of theſe liquors may be ſeen in the Materia Medica, under the article Acetum, page 83. Their principal difference from the mineral acids conſiſts in their being milder, leſs ſtimulating, leſs diſpoſed to affect the kidneys and promote the urinary ſecretions, or to coagulate the animal juices. The matter left after the diſtillation in glaſs veſſels, though not uſed internally would doubtleſs prove a ſerviceable detergent.

ACETUM CONCENTRATUM.

Suec.

Concentrated Vinegar.

Let white wine vinegar be frozen in a wooden veſſel in cold winter weather; and let the fluid ſeparated from the ice be preſerved for uſe. It may be conſidered as ſufficiently ſtrong, if one drachm of it be capable of ſaturating

ſaturating a ſcruple of the fixed vegetable alkali.

This is a very eaſy mode for obtaining the acid of vinegar in a concentrated ſtate, and freed from a conſiderable portion of its water. But at the ſame time we do not thus obtain the acid ſo much concentrated, as by the following proceſs.

ACIDUM ACETOSUM.

Lond.

Acetous acid.

Take of

Verdigris, in coarſe powder, two pounds.

Dry it perfectly by means of a water bath ſaturated with ſea ſalt; then diſtil it in a ſand bath, and diſtil the liquor a ſecond time.

Its ſpecific gravity is to that of diſtilled water as 1,050 to 1,000.

By this proceſs, it may be readily concluded that we obtain the acetous acid in its moſt concentrated ſtate, and with the leaſt admixture of water; and after the rediſtillation, it may alſo be ſuppoſed to be free from all mixture of the copper. But the internal uſe of it has been objected to by ſome, on the ſuppoſition that it may ſtill retain a portion of the metal: And hitherto it has been but little employed.

We may however procure the acetous acid equally ſtrong, as this obtained from verdigris, by uſing acetated ſoda in a very dry ſtate; and the ſeparation of the acid will be promoted by the addition of ſome vitriolic acid.

ACIDUM TARTARI CRYSTALLISATUM.

Suec.

Cryſtalliſed acid of Tartar.

Take of

Prepared chalk, frequently waſhed with warm water, two pounds;

Spring water thirty two pounds.

After ſlight boiling by degrees add of cream of tartar ſeven pounds, or as much as is ſufficient for ſaturation. Removing the veſſel from the fire, let it ſtand for half an hour, then cautiouſly pour off the clear liquor into a glaſs veſſel. Waſh the reſiduum or tartareous ſelenites by pouring water on it three or four times. To this reſiduum afterwards add of weak vitriolic acid, (conſiſting of one part of ſtrong acid, and eight of water,) fifteen pounds, let it be digeſted for a day, frequently ſtirring it with a wooden ſpatula. After this pour the acid liquor into a glaſs veſſel: But with the reſiduum mix ſixteen pounds of ſpring water; ſtrain it through paper, and again pour water on the reſiduum till it become inſipid. Let the acid liquors mixed together in a glaſs veſſel be boiled to the conſiſtence of a thin ſyrup; which being ſtrained, muſt be put into earthen veſſels, and evaporated in a ſand heat, till the acid concretes into ſlender cryſtals; obſerving to break, every two hours the ſaline pellicle formed on the ſurface of the liquor, during the evaporation. The cryſtals being at length fully dried, muſt be kept in a well ſtopt glaſs phial.

If before cryſtalliſation a little of the inſpiſſated acid liquor be diluted with four times its quantity

tity of pure water, and a few drops of acetated lead be put into it, a white ſediment will immediately be depoſited. If a few drops of the diluted nitrous acid be then added, the mixture will become limpid if the tartareous liquor be pure and entirely free from the vitriolic acid; but if it be not, it will remain white. This fault, however, may be corrected, (if the acid of tartar be diluted with ſix pounds of water, and a few ounces of the tartareous ſelenite be added to it. After this it may be digeſted, ſtrained, and cryſtalliſed.

By this proceſs, the acid of tartar may be obtained in a pure ſolid form. It would, however, be an improvement of the proceſs, if quicklime were employed in place of chalk. For Dr. Black has found that quicklime abſorbs the whole of the tartareous acid, and then the ſupernatant liquor contains only the alkaline part of the tartar; whereas when chalk is employed, it contains a ſolution of ſoluble tartar, the chalk taking up only the ſuperabundant acid. By this method then a greater quantity of acid might be obtained from the tartar. The tartareous acid has not hitherto been much employed in its pure ſtate. But beſides being uſeful for ſome purpoſes in medicine, for which the cream of tartar is at preſent in uſe, and where that ſuperſaturated neutral may be leſs proper, there is alſo reaſon to ſuppoſe that from the employment of the pure acid, we ſhould arrive at more certainty in the preparation of the *Antimonium tartariſatum*, or tartar emetic, than by employing the cream of tartar, the proportion of acid in which varies very much from different circumſtances. The pure acid of tartar might alſo probably be employed with advantage for bringing other metallic ſubſtances to a ſaline ſtate.

ACIDUM TARTARI DISTILLATUM.

Succ.

Diſtilled Acid of Tartar.

Let pounded crude tartar be put into a tubulated earthen or iron retort till it fills about two thirds of it, and let diſtillation be performed by gradually increaſing the heat. Into the recipient which ſhould be very large, an acid liquor will paſs over together with the oil; which being ſeparated from the oil, muſt again be diſtilled from a glaſs retort.

If the reſiduum contained in the earthen or iron retort be diluted with water, ſtrained through paper, and boiled to dryneſs, it gives what is called the alkali of tartar. If this do not appear white, it may be made ſo by burning, ſolution, ſtraining, and evaporation.

This is another mode of obtaining both the acid and alkali of tartar in a pretty pure ſtate, and, as well as the former, it is not unworthy of being adopted into our pharmacopœias.

AQUA AERIS FIXI.

Roſſ.

Aerated water.

Let ſpring water be ſaturated with the fixed air, or aerial acid, ariſing from a ſolution of chalk in vitriolic acid, or in any ſimilar acid. Water may alſo be impregnated

pregnated by the fixed air rising from fermenting liquors.

The aerial acid, on which we have already had occasion to make some observations. (vide page 32), besides the great influence which it has in affecting different saline bodies into whose composition it enters, is also frequently employed in medicine, with a view to its action on the human body. There is no form under which it is at present more frequently had recourse to than that of aerated or mephitic water, as it is called; and although not yet received either into the London or Edinburgh pharmacopœias, it is daily employed in practice, and is justly intitled to a place among the saline preparations.

The most convenient mode of impregnating water with the aerial acid, and thus having it in our power to exhibit that acid as it were in a diluted state, is by means of a well known and sufficiently simple apparatus, contrived by Dr. Nooth. Such a machine ought to be kept in every shop for the more ready preparation of this fluid.

Water properly impregnated with the aerial acid, has an agreeable acidulous taste. It is often employed with great advantage in the way of common drink, by those who are subject to stomach complaints, and by calculous patients. But, besides this, it furnishes an excellent vehicle for the exhibition of many other medicines.

Besides the simple aerated water, the pharmacopœia Rossica contains also an *Aqua aeris fixi martialis* or ferruginous aerated water. This is prepared by suspending iron wires in simple aerated water till the water be fully saturated with the metal.

AQUA ALKALINA AERATA.

Aerated alkaline Water.

Let a solution of two ounces of vegetable alkali, in a gallon of water be saturated with fixed air.

This aerated alkaline water has been found very serviceable in calculous and gouty cases. It may be given in the quantity of half a pint, once, twice, or thrice a day; and if it offend the stomach a tea spoonful, but not more, of spirituous cinnamon water may be added to each dose.

FLORES BENZOES.

Lond.

Flowers of Benzoine.

Take of

Benzoine, in powder, one pound.

Put it into an earthen pot, placed in sand; and, with a slow fire, sublime the flowers into a paper cone fitted to the pot.

If the flowers be of a yellow colour, mix them with white clay, and sublime them a second time.

ACIDUM BENZOINICUM, vulgo FLORES BENZOINI.

Edin.

Benzoinic acid, commonly called *flowers of Benzoine.*

Put any quantity of powdered benzoine into an earthen pot, to which, after fitting it with a large conical paper cap, apply a gentle heat that the flowers may sublime. If the flowers be impregnated with oil, let them be purified

purified by ſolution in warm water and cryſtalliſation.

BENZOINE, expoſed in a retort to a gentle fire, melts and ſends up into the neck, white, ſhining cryſtalline flowers, 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, intermixed with an acid liquor, and afterwards a thick butyraceous ſubſtance: This laſt, liqueſied in boiling water, gives out to it a conſiderable quantity of ſaline matter (ſeparable by filtration and proper exhalation), which appears in all reſpects ſimilar to the flowers. The whole quantity of flowers which benzoine is capable of yielding, cannot therefore be obtained by the above proceſſes. The greateſt part of the flowers ariſe with a leſs degree of heat than what is neceſſary to elevate the oil; but if the operation be haſtily conducted, or if the fire be not exceedingly 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 requiſite whiteneſs and purity; the heat which becomes neceſſary, when large quantities of the benzoine are employed, being ſo great as to force over ſome of the oil along with them.

Beſides being inſufficient for obtaining the flowers in perfection, theſe operations are expenſive, requiring a large apparatus and much attendance. Hence the following proceſs is preferable.

SAL BENZOES.

Suec.

Salt of Benzoine.

Take of

Benzoine in fine powder,

Quicklime powdered, each half a pound;

Water, four pounds.

Boil them gently for a quarter of an hour, and filter the liquor while warm through paper. Add to the reſiduum four pounds more of water, boil and filter this liquor as the former. Mix theſe and boil them in a tin veſſel down to two pounds. When cold pour it into a glaſs veſſel, and drop into it ſome muriatic acid as long as any precipitate is formed. After ſtanding a while pour off the clear liquor, waſh the precipitate with cold water, and dry it on filtering paper.

THIS eaſy and cheap way of obtaining the flowers of benzoine is the invention of Mr. Scheele: The ſalt produced by it is not, like that produced by ſublimation, in a cryſtalline form; But it may eaſily be reduced to that form by diſſolving it in about four ounces of water with gently boiling, ſtraining the liquor while hot into a glaſs veſſel previouſly heated, and ſetting it by to cryſtalliſe; when the cryſtals are formed pour off the ſolution from above them, and by repeated gentle evaporations and cryſtalliſations ſeparate all the ſalt. As flowers of benzoine however are, on account of their lightneſs, not eaſily pulveriſed, it may be beſt to keep them in the form of a precipitate which is the fineſt powder. To this conſideration may be added, that a portion of the ſalt muſt conſequently

sequently be lost by the repeated crystallisations.

These flowers when made in perfection, have an agreeable taste and fragrant smell. They totally dissolve in spirit of wine; and likewise, by the assistance of heat, in water. By the mediation of sugar they remain suspended in cold water, and thus form an elegant balsamic syrup. Some have held them in great esteem as pectoral and sudorific, in the dose of half a scruple or more: But at present they are rarely used, on account of the offensive oil with which, as usually prepared, they are tainted.

They enter the composition of the paregoric elixir, or *tinctura opii camphorata*, as it is now called.

LIXIVA E TARTARO, vulgo SAL TARTARI.

Edinb.

Lixiva of tartar, commonly called *Salt of tartar*.

Take of

Tartar, what quantity you please.

Roll it up in a piece of moist bibulous paper, or put it into a crucible, and burn it to a coal; next, having beat this coal, calcine it in an open crucible with a moderate heat, taking care that it do not melt, and continue the calcination till the coal becomes of a white, or at least of an ash colour. Then dissolve it in warm water; strain the liquor through a cloth, and evaporate it in a clean iron vessel; diligently stirring it towards the end of the process with an iron spatula, to prevent it from sticking to the bottom of the vessel. A very white salt will remain, which is to be left a little longer on the fire, till the bottom of the vessel becomes almost red. Lastly, when the salt is grown cold, let it be put up in glass vessels well stopt.

Native tartar is a saline substance, compounded of an acid, of a fixed alkali, and of oily, viscous, and colouring matter. The purpose of the above process is, to free it from every other matter but the fixed alkali. From the mistaken notion, that tartar was essentially an acid mixed only with impurities, it has been generally supposed that the effect of this operation was the conversion of an acid into an alkali by means of heat. But since Mr. Scheele has discovered that the proper matter of tartar, freed from the oily and colouring parts, is really a salt compounded of an acid and fixt vegetable alkali, we have no farther need of such an obscure theory. The acid of the tartar by this process is dissipated by means of the heat; and the oily, viscous, and colouring matters, are partly dissipated, and partly brought to the state of insoluble earthy matter, easily separable by the future lixiviation from the alkali. But by the last of these processes, something farther is carried on than the separation of the more palpable foreign matters. By allowing the salt, freed from the water of the lixivium, to remain on the fire till the bottom of the vessel become almost red, an oily matter that may still be present seems to be decomposed by the action of the heat. Besides the complete discharge of the above principles, the remaining fixed alkali also suffers a considerable loss of its fixed air, or aerial acid: On this account it is somewhat caustic, considerably deliquescent, and in proportion to its possessing these properties

properties more or less, it more or less nearly approaches to the state of pure alkali. It is not, however, so effectually deprived of fixed air as to be sufficiently caustic, for a number of purposes. Where causticity is not required, the salt thus purified is abundantly fit for most pharmaceutical purposes, but as native tartar generally contains small portions of neutral salts besides the foreign matters already noticed, it is necessary, if we wish to have a very pure alkali for nice operations, to employ crystallisation, and other means beside the process here directed.

The white and red sorts of tartar are equally fit for the purpose of making fixt alkaline salt; the only difference is, that the white affords a somewhat larger quantity than the other; from sixteen ounces of this sort, upwards of four 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 furnace.

The calcination of the salt (if the tartar was sufficiently burnt at first) does not increase its strength so much as is supposed: Nor is the greenish or blue colour any certain mark either of its strength, or of its having been, as was formerly supposed, long exposed to a vehement fire: For if the crucible be perfectly clean, close covered, and has stood the fire without cracking, the salt will turn out white, though kept melted and reverberating ever so long; while, on the other hand, a slight crack happening in the crucible, or a spark of a coal falling in, will in a few minutes give the salt the colour admired. The colour in reality, is a mark rather of its containing some inflammable matter, than of its strength.

The vegetable alkali prepared from tartar has now no place in the London Pharmacopœia, or at least it is included under the following article.

KALI PRÆPARATUM.

Lond.

Prepared Kali.

Take of

Pot-ash, two pounds;

Boiling distilled water, three pints.

Dissolve and filter through paper; evaporate the liquor till a pellicle appears on the surface; then set it aside for 12 hours that the neutral salts may crystalize: After which pour out the liquor, and boil away the whole of the water, constantly stirring, lest any salt should adhere to the pot.

In like manner is purified impure kali from the ashes of any kind of vegetable.

The same salt may be prepared from tartar burnt till it becomes of an ash colour.

LIXIVA PURIFICATA, vulgo SAL ALKALINUS FIXUS VEGETABILIS PURIFICATUS.

Edinb.

Purified lixive, commonly called *purified fixed vegetable alkaline salt.*

Let the fixed alkaline salt, called in English *pearl ashes*, be put into a crucible, and brought to a somewhat red heat, that the oily impurities, if there be any, may be consumed: Then having powdered it, agitate it with an equal weight of water that they may be well mixed. After the feces have

have subsided, pour the ley into a very clean iron pot, and boil to dryness, stirring the salt towards the end of the process, to prevent its sticking to the vessel.

If this salt has been rightly purified, though it be very dry it may be dissolved into a liquor void of colour or smell, by rubbing it with an equal weight of water.

The potash used in commerce is an alkali mixed with a considerable quantity of remaining charcoal, sulphur, vitriolated tartar and oily matter. In large manufactures, the alkaline part is indeed considerably freed from impurities by mixing the ashes with water, evaporating the clear ley, and burning the residuum in an oven; but this process, besides being insufficient for the complete separation of the impurities, superadds a quantity of stoney matter, giving to the alkali the *pearl* appearance (whence its name.) and rendering it altogether unfit for pharmaceutical purposes. By the processes here directed, the alkali is effectually freed from all these heterogeneous matters, excepting perhaps a small proportion of vitriolated tartar, or other neutral salts, which may very generally be neglected.

The purified vegetable alkali has been known in our pharmacopœæ as under the different names of *sal absinthii*, *sal tartari*, &c. But all these being really the same, the terms as leading to confusion and error, have been with justice expunged; and it has been a desideratum to discover some short name equally applicable to the whole. This is at length accomplished by Dr. Black who adopts the substantive *Lixivia*, which is most probably the root of the adjective *Lixivius* used by Pliny. To the name *Kali* employed by the London college there are several objections. Besides the inconvenience which arises from its being an indeclinable word, the fossil alkali is equally entitled to the same appellation; and as a considerable portion of the fossil alkali is prepared from burning a vegetable growing on the sea coasts, which has the name of *kali* (the Kali spinosum of Linne) some apparent contradiction and ambiguity may thence arise.

The purified vegetable alkali is frequently employed in medicine, in conjunction with other articles; particularly for the formation of saline neutral draughts and mixtures: But it is used also by itself in doses of from three or four grains to fifteen or twenty; and it frequently operates as a powerful diuretic, particularly when aided by proper dilution and a warm regimen.

AQUA KALI PRÆPARATI.

Lond.

Water of prepared Kali.

Take of

Prepared kali, one pound.

Set it by in a moist place till it be dissolved, and then strain it.

This article had a place in former editions of our pharmacopœias under the title of *lixivium tartari*, *liquamen salis tartari*, *oleum tartari per deliquium*, &c. It is however, to be considered as a mere watery solution of the mild vegetable alkali formed by its attracting moisture from the air; and therefore it is with propriety styled *Aqua*.

The solutions of fixt alkaline salts, made by exposing them to

a

a moiſt air, are generally conſidered as being purer than thoſe made by applying water directly: For though the ſalt be repeatedly diſſolved in water, filtered, and exſiccated; yet on being liquefied by the humidity of the air, it will ſtill depoſit a portion of earthy matter; But it muſt be obſerved, that the exſiccated ſalt leaves always an earthy matter on being diſſolved in water, as well as on being deliquated in the air. Whether it leaves more in the one way than in the other, is not determined with preciſion. The deliquated lixivium is ſaid to contain nearly one part of alkaline ſalt to three of an aqueous fluid. It is indifferent, with regard to the lixivium itſelf, whether the white aſhes of tartar, or the ſalt extracted from them, be uſed; but as the aſhes leave a much greater quantity of earth, the ſeparation of the ley proves more troubleſome.

The aqua kali of the preſent edition of the London pharmacopœia, then, may be conſidered as an improvement of the lixivium tartari of their former edition. But the Edinburgh college conſidering this ſolution as being in no reſpect different from that made by pure water, have rejected this preparation from their pharmacopœia.

AQUA KALI PURI.

Lond

Water of pure kali.

Take of

Prepared kali, four pounds;
Quick lime, ſix pounds;
Diſtilled water, four gallons.

Put four pints of water to the lime, and let them ſtand together for an hour; after which, add the kali and the reſt of the water; then boil for a quarter of an hour; ſuffer the liquor to cool, and ſtrain it. A pint of this liquor ought to weigh ſixteen ounces. If the liquor effervesces with any acid, add more lime, and boil the liquor for five minutes, after which ſtrain it.

A preparation ſimilar to this had a place in the former edition of the London Pharmacopœia, under the title of *lixivium japonarium*. Quicklime, by depriving the mild alkali of its aerial acid, renders it cauſtic: Hence this ley is much more acrimonious, and acts more powerfully as a menſtruum of oils, fats, &c. than a ſolution of the mild fixed alkali does. The lime ſhould be uſed freſh from the kiln; by long keeping even in cloſe veſſels, it loſes its ſtrength: Such ſhould be choſen 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 it or communicate diſagreable qualities to it. If it ſhould be needful to filter or ſtrain the liquor, care muſt be taken that the filter or ſtrainer be of vegetable matter: Woollen, ſilk, and that ſort 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

marked with a diamond. A pint of the common leys of our soap-makers weighs more than sixteen ounces: It has been found that their soap ley will be reduced to the standard here proposed, by mixing it with something less than an equal measure of water.

AQUA LIXIVIA CAUSTICA, vulgo LIXIVIUM CAUSTICUM.

Edinb.
Caustic ley.

Take of
Fresh burnt quicklime, eight ounces;
Purified Lixive, six ounces.

Throw the quicklime into an iron or earthen vessel, with twenty eight ounces of warm water. The ebullition and extinction of the lime being perfectly finished, instantly add the alkaline salt; and having thoroughly mixed them, cover the vessel till it be cool. Stir the cooled matter, and pour out the whole into a glass funnel, whose throat must be stopt up with a piece of clean rag. Let the upper mouth of the funnel be covered, while the tube of it is inserted into a glass vessel, so that the ley may gradually drop through the rag into that vessel. When it first gives over dropping, pour into the funnel some ounces of water; but cautiously, so that the water may swim above the matter. The ley will again begin to drop, and the affusion of water is to be repeated in the same manner, until three pounds have dropped, which takes up the space of two or three days; then agitating the superior and inferior parts of the ley together, mix them, and put them up in a well stopt phial.

If the ley be rightly prepared, it will be void of colour or smell; nor will it raise an effervescence with acid, except, perhaps, a very slight one. Colour and odour denote the salt not sufficiently calcined; and effervescence, that the quicklime has not been good.

The reasons and propriety of the different steps in the above process will be best understood by studying the theory on which it is founded. The principle of mildness in all alkaline salts, whether fixt or volatile, vegetable or fossil, is fixed air, or the aerial acid: But as quicklime has a greater attraction for fixed air than any of these salts, so if this substance be presented to any of them, they are deprived of their fixed air, and become caustic. This is what happens in the above processes. The propriety of closely shutting the vessels through almost every step of the operation, is sufficiently obvious; viz. to prevent the absorption of fixed air from the atmosphere, which might defeat our intentions. When only a piece of cloth is put into the throat of the funnel, the operation is much more tedious, because the pores of the cloth are soon blocked up with the wet powdery matter. To prevent this, it may be convenient to place below the cloth a piece of fine wire-work; but as metallic matters are apt to be corroded, the method used by Dr. Black is the most eligible. The Doctor first drops a rugged stone into the tube of the funnel, in a certain place of which it forms itself a firm bed, while

while the inequalities on its surface afford interſtices of ſufficient ſize for the paſſage of the filtring liquor. On the upper ſurface of this ſtone he puts a thin layer of lint or clean tow; immediately above this, but not in contact with it, he drops a ſtone ſimilar to the former, and of a ſize proportioned to the ſwell in the upper part of the tube of the funnel. The interſtices between this ſecond ſtone and the funnel are filled up with ſtones of a leſs dimenſion, and the gradation uniformly continued till pretty ſmall ſand is employed. Finally, this is covered with a layer of coarſer ſand and ſmall ſtones to ſuſtain the weight of the matter, and to prevent its being inviſcated in the minute interſtices of the fine ſand. The throat of the funnel being thus built up, the ſtoney fabric is to be freed of clay and other adhering impurities, by making clean water paſs through it till the water comes clear and tranſparent from the extremity of the funnel. It is obvious, that in this contrivance the author has, as uſual, copied nature in the means ſhe employs to depurate watery matters in the bowels of the earth; and it might be uſefully applied for the filtration of various other fluids.

It is a very neceſſary caution to pour the water gently into the funnel; for if it be thrown in a forcible ſtream, a quantity of the powdery matter will be waſhed down, and render all our previous labour uſeleſs. That part of the ley holding the greateſt quantity of ſalt in ſolution, will no doubt be heavieſt, and will conſequently ſink loweſt in the veſſel: The agitation of the ley is therefore neceſſary, in order to procure a ſolution of uniform ſtrength through all its parts. If the ſalt has been previouſly freed of oily and other inflammable matters, this ley will be colourleſs and void of ſmell. If the quicklime has been ſo effectually deprived of its own fixed air, as to be able to abſorb the whole of that in the alkali, the ley will make no effervescence with acids, being now deprived of its fixed air.

It may be proper to obſerve, for the ſake of underſtanding the whole of the theory of the above proceſs, that while the alkali has become cauſtic, the lime has in its turn become mild and inſoluble in water, from having received the fixed air of the alkali.

The cauſtic ley, under various pompous names, has been much uſed as a lithontriptic; but its fame is now beginning to decline. In acidities in the ſtomach, attended with much flatulence and laxity, the cauſtic ley is better adapted than mild alkalies; as in its union with the acid matter it does not ſeparate air. When covered with mucilaginous matters, it may be ſafely taken into the ſtomach: And by ſtimulating, it coincides with the other intentions of cure. It has been employed with advantage in dyſpeptic caſes.

KALI PURUM.

Lond.

Pure kali.

Take of

Water of pure kali, one gallon.

Evaporate it to dryneſs; after which let the ſalt melt on the fire and pour it out.

CAUSTICUM COMMUNE ACERRIMUM.

Edin.

The strongest common caustic.

Take of

Caustic ley, what quantity you please

Evaporate it in a very clean iron vessel on a gentle fire, till, on the ebullition ceasing, the saline matter gently flows like oil, which happens before the vessel becomes red. Pour out the caustic, thus liquefied, on a smooth iron plate; let it be divided into small pieces before it hardens, which are to be kept in a well stopt phial.

These preparations may be considered as differing in no essential particular. But the directions given by the Edinburgh college are the most precise and distinct.

The effect of the above processes is simply to discharge the water of the solution, whereby the causticity of the alkali is more concentrated in any given quantity. These preparations are strong and sudden caustics. The caustic prepared in this way has an inconvenience of being apt to liquefy too much on 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.

CALX CUM KALI PURO.

Lond.

Lime with pure Kali.

Take of

Quicklime, five pounds and four ounces,

Water of pure kali, sixteen pounds by weight.

Boil away the water of pure kali to a fourth part; then sprinkle in the lime, reduced to powder by the affusion of water. Keep it in a vessel close stopped.

CAUSTICUM COMMUNE MITIUS.

Edin.

The milder common caustic.

Take of

Caustic ley, what quantity you please.

Evaporate it in an iron vessel till one third remains; then mix with it as much new flaked quicklime as will bring it to the consistence of pretty solid pap, which is to be kept in a vessel closely stopt.

These preparations do not essentially differ from each other, while the chief difference between the present formula and that which stood in the last edition of the London pharmacopœia is in the name. It was then styled the *causticum commune acerrimum.*

Here the addition of lime in substance renders the preparation less apt to liquefy than the foregoing, and consequently it is more easily confinable within the intended limits, but proportionally slower in its operation.

Exposed long to the air, these preparations gradually resume their power of effervescence, and proportionally lose their activity.

NATRON PRÆPARATUM.

Lond.

Prepared Natron.

Take of

Barilla, powdered, two pounds;

Distilled water, one gallon.

Boil

Boil the barilla in four pints of water for half an hour, and ſtrain. Boil the reſiduum with the reſt of the water, and ſtrain. Evaporate the mixed liquors to two pints, and ſet them by for eight days; ſtrain this liquor again; and, after due boiling, ſet it aſide to cryſtalliſe. Diſſolve the cryſtals in diſtilled water; ſtrain the ſolution, boil, and ſet it aſide to cryſtalliſe.

The name of *natron*, here uſed by the London college for the fixed foſſil alkali, has, as well as their name for the vegetable alkali, been objected to. This article differs in name only from the following.

SODA PURIFICATA, vulgo SAL ALKALINUS FIXUS FOSSILIS PURIFICATUS.

Edinb.

Purified Soda, commonly called *purified fixed Foſſil Alkaline Salt.*

Take of
Aſhes of Spaniſh kali, or barilla, as much as you pleaſe.
Bruiſe them; then boil in water till all the ſalt be diſſolved. Strain this through paper, and evaporate it in an iron veſſel, ſo that after the liquor has cooled the ſalt may concrete into cryſtals.

By the above proceſſes, the foſſil alkali is obtained ſufficiently pure, being much more diſpoſed to cryſtalliſe than the vegetable alkali.

It is with great propriety, that in this, as well as many other proceſſes, the London college direct the uſe of diſtilled water, as being free from every impregnation.

The natron, or foſſil alkali, is found native in ſome parts of Africa, and ſeems to have been better known to the antients than to late naturaliſts; and it is, with good reaſon, ſuppoſed to be the nitre of the Bible. How far the native natron may ſupercede artificial means to procure it from mixed bodies, we have not been able to learn with certainty.

The foſſil alkali is not only a conſtituent of different neutrals, but is alſo ſometimes employed as a medicine by itſelf. And in its purified ſtate it has been by ſome reckoned uſeful in affections of the ſcrophulous kind.

AMMONIA PRÆPARATA.

Lond.

Prepared Ammonia.

Take of
Sal ammoniac, powdered, one pound;
Prepared chalk, two pounds.
Mix and ſublime.

AMMONIA PRÆPARATA, vulgo SAL AMMONIACUS VOLATILIS.

Edinb.

Prepared ammonia, commonly called *Volatile ſal Ammoniac.*

Take of
Sal ammoniac, one pound;
Chalk, very pure and dry, two pounds;
Mix them well, and ſublime from a retort into a refrigerated receiver.

AQUA AMMONIÆ.

Lond.

Water of Ammonia.

Take of
Sal ammoniac, one pound;
Potaſh, one pound and a half;
Water, four pints.

Draw

Draw off two pints by distillation, with a slow fire.

AQUA AMMONIÆ, vulgo SPIRITUS SALIS AMMONIACI.

Edinb.

Water of ammonia, commonly called *Spirit of Sal Ammoniac.*

Take of
Sal ammoniac,
Purified lixive, of each sixteen ounces;
Water, two pounds.
Having mixed the salts, and put them into a glass retort, pour in the water; then distil to dryness with a sand bath, gradually raising the heat.

Sal ammoniac is a neutral salt, composed of volatile alkali and muriatic acid. In these processes the acid is absorbed by the fixt alkali or chalk; and the volatile alkali is of course set at liberty.

The volatile alkali is, however, in its mild state, being combined with the fixed air, discharged from the fixed alkali or chalk, on their uniting with the muriatic acid.

The fixt alkali begins to act on the sal ammoniac, and extricates a pungent urinous odour as soon as they are mixed. Hence it is most convenient not to mix them till put into the retort: The two salts may be dissolved separately in water, the solutions poured into a retort, and a receiver immediately fitted on. An equal weight of the fixt alkaline salt is fully, perhaps more than sufficient, to extricate all the volatile alkali.

Chalk does not begin to act on the sal ammoniac till a considerable heat be applied. Hence they may be without inconvenience, and indeed ought to be, thoroughly mixed together before they are put into the retort. The surface of the mixture may be covered with a little more powdered chalk, to prevent such particles of the sal ammoniac as may happen to lie uppermost from subliming unchanged. Though the fire must here be much greater than when fixt alkaline salt is used, it must not be strong, nor suddenly raised; for if it be, a part of the chalk (though of itself not capable of being elevated by any degree of heat) will be carried up along with the volatile salt. 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 salt, when a very strong fire was used in the sublimation, amount to more, sometimes one half more, than the weight of the crude sal ammoniac employed; and, although not three fourths of this concrete are pure volatile salt, yet the fixt earthy matter, when once volatilized by the alkali, arose along with it again on the gentlest resublimation, dissolved with it in water, and exhaled with it in the air.

When all the salt 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 appears lined with volatile salt to a considerable thickness; the vessel must then be broken, in order to get out the salt.

These preparations of volatile alkali procured from sal ammoniac are somewhat more acrimonious than those produced directly from animal substances, which always contain a portion of the oil of the subject, and receive from thence some

ſome degree of a ſaponaceous quality. The laſt may be reconciled to the ſame degree of purity by combining them with acids into ammoniacal ſalts; and afterwards recovering the volatile alkali from theſe compounds by the proceſſes above directed.

The matter which remains in the retort after the diſtillation or ſublimation of the volatile alkali is found to conſiſt of muriatic acid united with the fixt alkali or chalk employed. When vegetable fixt alkali has been uſed, the reſiduum, or *caput mortuum* as it is called, yields, on ſolution and cryſtalliſation, a muriated pot aſh to which extraordinary virtues were formerly attributed. It was called by the names of *ſal antihyſtericum, ant. hypochondriacum, febrifugum, digeſtivum Sylvii, &c.*

The *caput mortuum* of the volatile ſalt, where chalk is employed, expoſed to a moiſt air, runs into a pungent liquor preciſely the ſame with a ſolution of chalk made directly in the muriatic acid; it is called by ſome *oleum cretæ*, oil of chalk. It ought to be preſerved, as it is the beſt ſubſtance for the rectification of alkohol. For the manner of uſing it in that proceſs ſee ALKOHOL.

AQUA AMMONIÆ PURÆ.

Lond.

Water of pure Ammonia.

Take of
Sal ammoniac one pound;
Quicklime, two pounds;
Water one gallon.

Add to the lime two pints of the water. Let them ſtand together an hour; then add the ſal ammoniac and the other ſix pints of water boiling, and immediately cover the veſſel. Pour out the liquor when cold, and diſtil off with a ſlow fire one pint.

AQUA AMMONIÆ CAUSTICÆ, vulgo SPIRITUS SALIS AMMONIACI CUM CALCE VIVA.

Edinb.

Water of cauſtic ammonia, commonly called *ſpirit of ſal ammoniac with quicklime.*

Take of
Quicklime, freſh burnt, two pounds;
Water, one pound.

Having put the water into an iron or ſtone ware veſſel add the quicklime, previouſly beat; cover the veſſel for twenty four hours; when the lime has fallen into a fine powder, put it into the retort. Then add ſixteen ounces of ſal ammoniac diſſolved in five pounds of water; and, ſhutting the mouth of the retort, mix them together by agitation. Laſtly, diſtil into a refrigerated receiver with a very gentle heat, (ſo that the operator's hand can eaſily bear the heat of the retort) till twenty ounces of liquor are drawn off. In this diſtillation the veſſels are to be ſo luted as to effectually reſtrain the vapours, which are very penetrating.

THE theory of theſe proceſſes is preciſely the ſame with that of the preparation of *lixivium cauſticum*. The effect of the quicklime on the ſal ammoniac, is very different from that of the chalk. The quicklime detaching the volatile alkali pure, while the chalk during its union with the acid gives out fixt air, which combines with the volatile alkali and renders it mild.

Immediately

Immediately on mixture, a very penetrating vapour exhales; and in diſtillation the whole of the volatile ſalt ariſes in a liquid form; no part of it appearing in a concrete ſtate, how gently ſoever the liquor be diſtilled. This ſpirit is far more pungent than the other, both in ſmell and taſte; and, like cauſtic fixt alkalies, raiſes no effervescence with acids.

This ſpirit is held to be 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 a powerful menſtruum for ſome vegetable ſubſtances. As Peruvian bark, from which the other ſpirits extract little. It is alſo moſt convenient for the purpoſe of rendering oils miſcible with water; as in the preparation of what is called in extemporaneous practice *the oily mixture*.

Some have mixed a quantity of this with the officinal ſpirits both of ſal ammoniac and of hartſhorn: Which thus become more pungent, ſo as to bear an addition of a conſiderable quantity of water, without any danger of the 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 undiſſolved in them) were attended to. 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 ſpirit of ſal ammoniac a ſolution of crude ſal ammoniac and fixt alkaline ſalt mixed together. This mixture depoſites a ſaline matter on the addition of ſpirit of wine, like the genuine ſpirit; from which, however, it may be diſtinguiſhed by the ſalt which is thus ſeparated not being a volatile alkali, but a fixt neutral ſalt. The abuſe may be more readily detected by a drop or two of ſolution of ſilver in aqua fortis, which will produce no change in the appearance of the true ſpirit, but will render the counterfeit turbid and milky.

LIQUOR VOLATILIS, SAL, ET OLEUM CORNU CERVI.

Lond.

The volatile Liquor, Salt, and Oil, of Hartſhorn.

Take of
Hartſhorn, ten pounds.
Diſtil with a fire gradually increaſed. A volatile liquor, ſalt, and oil will aſcend.
The oil and ſalt being ſeparated, diſtil the liquor three times.
To the ſalt add an equal weight of prepared chalk, and ſublime thrice, or till it become white.
The ſame volatile liquor, ſalt, and oil, may be obtained from any parts (except the fat) of all kinds of animals.

The volatile alkali obtained from hartſhorn, whether in a ſolid or fluid ſtate, is preciſely the ſame with that obtained from ſal ammoniac; and as that proceſs is the eaſieſt, the Edinburgh college have entirely rejected the preſent. Volatile alkali however is prepared from bones and other animal ſubſtances by ſeveral very extenſive traders.

traders. Theſe wholeſale dealers have very large pots for this diſtillation 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 uppermoſt 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 furnaces, may be employed; an iron head being fitted to it. The receiver ought to be large, and a glaſs, or rather tin, adopter inſerted between it and the pipe of the head.

The diſtilling veſſel being charged with pieces of the horn, a moderate fire is applied, which is ſlowly increaſed, and raiſed at length almoſt to the utmoſt degree. At firſt a watery liquor ariſes; the quantity of which will be ſmaller or greater according as the horns were more or leſs dry; this is ſucceeded by the ſalt and oil; the ſalt at firſt diſſolves as it comes over in the phlegm, and thus forms what is called *ſpirit*. When the phlegm is ſaturated, the remainder of the ſalt concretes in a ſolid form to the ſides of the recipient. If it be required to have the whole of the ſalt ſolid and undiſſolved, the phlegm ſhould be removed as ſoon as the ſalt begins to ariſe, which may be known by appearance of white fumes; and that this may be done the more commodiouſly, the receiver ſhould be left unluted, till this firſt part of the proceſs be finiſhed. The white vapours which now ariſe, ſometimes come with ſuch 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 ſalt which remains adhering to its ſides 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 wet paper. The ſalt and ſpirits are then to be farther purified as above directed.

The ſpirit of hartſhorn met with in the ſhops is extremely precarious in point of ſtrength; the quantity of ſalt 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 ſalt has ariſen, ſo much of the phlegm or watered part be driven over as is juſt ſufficient to diſſolve it, the ſpirit will be fully ſaturated, and as ſtrong as it can be made. If the proceſs be not at this inſtant ſtopped, the phlegm, continuing to ariſe, muſt render the ſpirit continually weaker and weaker. The diſtillation therefore ought to be diſcontinued at this period; or rather while ſome of the ſalt ſtill remains undiſſolved;

the

the ſpirit will thus prove always equal, and the buyer be furniſhed with a certain criterion of its ſtrength.

Volatile alkaline ſalts, and their ſolutions called *ſpirits*, agree in many reſpects, with fixt alkalies, and their ſolutions or leys: As in changing the colour of blue flowers to a green; effervescing, when in their mild ſtate, with, and neutraliſing 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; diſſolving oils and ſulphur, though leſs readily than fixed alkalies, on account, probably, of their not being able to bear any conſiderable heat, by which their activity might be promoted. Their principal difference from the other alkalies ſeems to conſiſt in their volatility: They exhale or emit pungent vapours in the coldeſt ſtate of the atmoſphere; and by their ſtimulating ſmell they prove ſerviceable 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, is ſaid to be remarkably more fluid than before; they are likewiſe more diſpoſed to operate by perſpiration, and to act on the nervous ſyſtem. They are particularly uſeful in lethargic caſes; in hyſterical and hypochondriacal diſorders, and in the languors, headaches, inflations of the ſtomach, flatulent colics, and other ſymptoms which attend them; they are generally found more ſerviceable to aged perſons, and in phlegmatic habits, than in the oppoſite circumſtances. In ſome fevers, particularly thoſe of the low kind, accompanied with a cough, hoarſeneſs and a redundancy of phlegm they are of great utility; raiſing the vis vitæ, and exciting a ſalutary diaphoreſis: In vernal intermittents, particularly thoſe of the ſlow kind, they are often the moſt efficaceous remedy. Dr. Biſſet 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, yet he has met with many which were only ſuppreſſed from time to time by the bark, but were completely cured by alkaline ſpirits: He tells us, that theſe ſpirits will often carry off vernal intermittents, without any previous evacuation: But that they are generally more effectual, if a purge be premiſed; and in plethoric or inflammatory caſes, or where the fever perſonates a remittent, veneſection is neceſſary.

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. Ten drops of a well made ſpirit or ſaturated ſolution, are reckoned to contain about a grain of ſalt. In intermittents, fifteen or twenty drops of the ſpirit are given in a tea cup full of cold ſpring water, and repeated five or ſix times in each intermiſſion.

The volatile ſalts and ſpirits prepared from different animal ſubſtances, have been ſuppoſed capable of producing different effects on the human body, and to receive ſpecific virtues from the ſubject. The ſalt of vipers has been eſteemed particularly ſerviceable:

viceable in diſorders occaſioned by the bite of that animal; and a ſalt drawn from the human ſkull, in diſeaſes of the head. But modern practice acknowledges no ſuch different effects from theſe preparations; and chemical experiments have ſhewn their identity. There is, indeed, when not ſufficiently purified, a very perceptible difference in the ſmell, taſte, degree of pungency, and volatility of theſe ſalts; and in this ſtate their medicinal virtues vary conſiderably enough to deſerve 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 diſtilled, they may be conſidered as a kind of volatile ſope, 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 ſuch other operations as diſengage the oil from the ſalt; 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 nearly ſo much from each other, as they do from themſelves in different ſtates of purity. To which may be added that when we conſider them as loaded with oil, the virtues of a diſtilled animal oil itſelf are likewiſe to be brought into the account.

Theſe oils, as firſt diſtilled, are highly fetid and offenſive, of an extremely heating quality, and of ſuch activity, that according to Hoffman's account, half a drop diſſolved in a drachm 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 ſaid to be anodyne and antiſpaſmodic, to procure a calm ſleep and gentle ſweat, without heating or agitating the body, as has been obſerved in treating of the *Oleum animale*. It is obvious, therefore, that the ſalts 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 ſalt 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 ſalt becomes white, and the ſpirit limpid as water, and of a grateful odour; and this is the mark of ſufficient rectification.

It has been objected to the repeated rectification of theſe preparations, that, by ſeparating the oil, it renders them ſimilar to the pure ſalt and ſpirit of ſal ammoniac, which are procurable at an eaſier rate. But 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 ſame ſtate as when the oil is rectified by itſelf. The rectification of ſpirit of harthorn, has been repeated twenty times ſucceſſively, and the ſpirit found ſtill to participate of oil, but of

of an oil very different from what it was in the firſt diſtillation.

The rectified oils, in long keeping become again fetid. The ſalts and ſpirits alſo, however carefully rectified, ſuffer in length of time the ſame change; reſuming their original brown colour and ill ſmell; a proof that the rectification is far from having diveſted them of oil. Any intentions, however, which they are thus capable of anſwering, may be as effectually accompliſhed by a mixture of the volatile alkali with the oleum animale, in its rectified ſtate, to any extent that may be thought neceſſary.

KALI VITRIOLATUM.

Lond.

Vitriolated Kali.

Take of

The ſalt which remains after the diſtillation of the nitrous acid, two pounds.

Diſtilled water, two gallons.

Burn out the ſuperfluous acid, with a ſtrong fire, in an open veſſel: Then boil it a little while in the water; ſtrain, and ſet the liquor aſide to cryſtalliſe.

The ſalt thus formed, is the ſame with the vitriolated tartar of the laſt edition of the London Pharmacopœia; but it is now prepared in a cheaper and eaſier manner, at leaſt for thoſe who diſtil the nitrous acid. In both ways a neutral is formed, conſiſting of the fixed vegetable alkali, united to the vitriolic acid. But a ſimilar compound may alſo be obtained by the following proceſs of the Edinburgh Pharmacopœia.

LIXIVA VITRIOLATA, vulgo TARTARUM VITRIOLATUM.

Edinb.

Vitriolated lixive, commonly called Vitriolated Tartar.

Take of

Vitriolic acid, diluted with ſix times its weight of water, as much as you pleaſe.

Put it into a capacious glaſs veſſel, and gradually drop into it, of purified lixive diluted with ſix times its weight of water, as much as is ſufficient thoroughly to neutraliſe the acid. The effervescence being finiſhed, ſtrain the liquor through paper; and after proper evaporation, ſet it aſide to cryſtalliſe.

This is an elegant, and one of the leaſt troubleſome ways of preparing this ſalt. The Edinburgh College, in their former editions, ordered the acid liquor to be dropped into the alkaline: By the converſe procedure now received, it is obviouſly more eaſy to ſecure againſt a redundance of acidity; and for the greater certainty in this point, it may be expedient, to drop in a little more of the alkaline ley than the ceſſation of the effervescence ſeems to require.

In a former edition of the ſame Pharmacopœia, the acid was directed to be diluted only with its equal weight of water, and the alkali with that quantity of water which it is capable of imbibing from the atmoſphere. By that imperfection there was not water enough to keep the vitriolated tartar

tartar diſſolved; on which account as faſt as the alkali was neutralized by the acid, a great part fell to the bottom in a powdery form. In order to obtain perfect and well formed cryſtals the liquor ſhould not be evaporated by long boiling and then ſet in the cold, but continued in a moderate heat, ſuch as the hand can eaſily bear, that the water may ſlowly evaporate.

It is remarkable, that although the vitriolic acid and fixed alkaline ſalt each readily unite with water and ſtrongly attract moiſture, even from the air, yet the neutral reſulting from the combination of theſe two, is one of the ſalts moſt difficult of ſolution, very little of it being taken up by cold water.

Vitriolated tartar, in ſmall doſes, as a ſcruple or half a drachm, is an uſeful aperient; in large ones, as four or five drachms, a mild cathartic which does not paſs off ſo haſtily as the *magneſia vitriolata* or *ſoda vitriolata*, and ſeems to extend its action further.

LIXIVA VITRIOLATA SULPHUREA, vulgo SAL POLYCHRESTUS.

Edinb.

Sulphureous vitriolated lixive, commonly called *Salt of many virtues.*

Take
- Nitre in powder,
- Flowers of ſulphur, of each equal parts.

Mix them well together, and inject the mixture, by little and little at a time, into a red hot crucible: The deflagration being over, let the ſalt cool, after which it is to be put up in a glaſs veſſel well ſtopt. The ſalt may be purified by diſſolving it in warm water, filtering the ſolution, and cryſtalliſing it again.

This is another method of uniting the vitriolic acid with the vegetable fixt alkali; the nitre being decompounded and the ſulphur changed into vitriolic acid.

NATRON VITRIOLATUM.

Lond.

Vitriolated Natron.

Take of
- The ſalt which remains after the diſtillation of the muriatic acid, two pounds;
- Diſtilled water two pints and an half.

Burn out the ſuperfluous acid with a ſtrong fire, in an open veſſel; then boil it for a little in the water: Strain the ſolution, and ſet it by to cryſtalliſe.

ASOD VITRIOLATA, vulgo SAL GLAUBERI.

Edin.

Vitriolated Soda, commonly called *Glauber's Salt.*

Diſſolve in warm water the maſs which remains after the diſtillation of the muriatic acid; filter the ſolution, and cryſtalliſe the ſalt.

The directions given for the preparation of this ſalt, long known by the name of *Sal mirabile Glauberi*, are nearly the ſame in the Pharmacopœias of both colleges.

In a former edition of the Edinburgh pharmacopœia, it was ordered, that if the cryſtals (obtained as above) proved too ſharp, they ſhould be again diſſolved in water, and the filtered liquor evaporated to ſuch a pitch only as may

may diſpoſe the ſalt to cryſtalliſe. But there is no great danger of the cryſtals proving too ſharp, even when the muriatic acid is made with the largeſt proportion of oil of vitriol directed under that proceſs. The liquor which remains after the cryſtalliſation is indeed very acid; and with regard to this preparation, it is convenient it ſhould be ſo; for otherwiſe the cryſtals will be very ſmall, and likewiſe in a ſmall quantity. Where a ſufficient proportion of vitriolic acid has not been employed in the diſtillation of the muriatic acid it is neceſſary to add ſome to the liquor in order to promote the cryſtalliſation of the ſalt.

The title of ſal catharticus, which this ſalt has often had, expreſſes its medical virtues. Taken from half an ounce to an ounce, or more, it proves a mild and uſeful purgative; and in ſmall doſes, largely diluted, a ſerviceable aperient and diuretic. The ſhops frequently ſubſtitute for it the *magneſia vitriolata* which is ſomewhat more unpleaſant, and leſs mild in operation. They are very eaſily diſtinguiſhable from each other, by the effect of alkaline ſalts on ſolutions of them. The ſolutions of Glauber's ſalt ſuffer no viſible change from this addition, its own baſis being fixt alkali: But the ſolution of the vitriolated magneſia grows inſtantly white and turbid, its baſis, which is magneſia being extricated copiouſly by the alkaline ſalt.

NITRUM PURIFICATUM.

Lond.

Purified Nitre.

Take of

Nitre, two pounds;

Diſtilled water, four pints.

Boil the nitre in the water till it be diſſolved; ſtrain the ſolution, and ſet it aſide to cryſtalliſe.

Common nitre contains uſually a conſiderable portion of ſea ſalt, which in this proceſs is ſeparated, the ſea ſalt remaining diſſolved after the greateſt part of the nitre has cryſtalliſed. The cryſtals which ſhoot after the firſt evaporation are large, regular, and pure: But when the remaining liquor is further evaporated, and this repeated a ſecond or third time, the cryſtals prove at length ſmall, imperfect, and tipt with little cubical cryſtals of ſea ſalt.

KALI ACETATUM.

Lond.

Acetated Kali.

Take of

Kali, one pound.

Boil it, with a ſlow fire, in four or five times its quantity of diſtilled vinegar; the effervеſcence ceaſing, add, at different times, more diſtilled vinegar, until the laſt vinegar being nearly evaporated, the addition of freſh will excite no effervеſcence, which will happen when about twenty pounds of diſtilled vinegar are conſumed; afterwards let it be dried ſlowly. An impure ſalt will be left, which melt for a little while with a ſlow fire; then let it be diſſolved in water, and filtered through paper.

If the fuſion has been rightly performed, the ſtrained liquor will be colourleſs; if otherwiſe, of a brown colour.

Laſtly evaporate this liquor with a ſlow fire, in a very ſhallow glaſs veſſel; frequently ſtirring the maſs, that the ſalt may be more

more completely dried, which ſhould be kept in a veſſel cloſe ſtopt.

The ſalt ought to be very white, and diſſolve wholly, both in water and ſpirit of wine, without leaving any feces. If the ſalt, although white, ſhould depoſite any fece in ſpirit of wine, that ſolution in the ſpirit ſhould be filtered through paper, and the ſalt again dried.

LIXIVA ACETATA, vulgo, TARTARUM REGENERATUM.

Latin.

Acetated lixive, commonly called *Regenerated Tartar.*

Take of

Purified lixive, one pound.

Boil it with a very gentle heat in four or five times its quantity of diſtilled vinegar; add more diſtilled vinegar, at different times, till on the watery part of the former quantity being nearly diſſipated by evaporation, the new addition of vinegar ceaſes to raiſe any effervelcence. This happens, when about twenty pounds of diſtilled vinegar has been conſumed. The impure ſalt remaining after the exſiccation, is to be melted with a gentle heat and kept fluid only for a ſhort time; then diſſolve it in water, and ſtrain through paper. If the liquefaction has been properly performed, the ſtrained liquor will be limpid; but if otherwiſe, of a brown colour.

Evaporate this liquor with a very gentle heat in a ſhallow glaſs veſſel, occaſionally ſtirring the ſalt as it becomes dry, that its moiſture may ſooner be diſſipated. Then put it up into a veſſel very cloſely ſtopt, to prevent it from liquefying in the air.

The purification of this ſalt is not a little troubleſome. The operator muſt be particularly careful in melting it, not to uſe a great heat, or to keep it long liquefied: A little ſhould be occaſionally taken out, and put into water; and as ſoon 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 ſo great as to melt it; otherwiſe it will not prove totally ſoluble. If the ſolution in ſpirit of wine be exſiccated, and the remaining ſalt liquefied with a very gentle fire, it gains the leafy appearance which has procured it the name *Terra foliata tartari.*

In the fourth volume of the Memoirs of the correſpondents of the French Academy, Mr. Cadet has given an excellent method of making the ſalt white at the firſt evaporation, without the trouble of any further purification. He obſerves, that the brown colour depends on the oily matter of the vinegar being burnt by the heat commonly employed in the evaporation: And his improvement conſiſts in diminiſhing the heat at the time that this burning is liable to happen. The proceſs he recommends is as follows.

Diſſolve a pound of ſalt 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 little more. Set the liquor to evaporate in a ſtone ware veſſel in a gentle heat, not ſo ſtrong as to make it boil. When a pellicle appears on the ſurface, the reſt of the proceſs muſt be

finiſhed

finiſhed in a water bath. The liquor acquires, by degrees an oily conſiſtence and a pretty deep brown colour; but the pellicle or ſcum on the top looks whitiſh, and when taken off and cooled, appears a congeries of little brilliant ſilver like plates. The matter is to be kept continually ſtirring, till it be wholly changed into this white flaky ſubſtance; the complete drying of which is moſt conveniently effected in a warm oven.

The *Lixiva acetata*, which way ſoever prepared, provided it be properly made, is a medicine of great efficacy, and may be ſo doſed and managed as to prove either mildly cathartic, or powerfully diuretic: Few of the ſaline deobſtruents come up to it in virtue. The doſe is from half a ſcruple to a drachm or two A bare mixture, however, of alkaline ſalt and vinegar, without exſiccation, is not perhaps much inferior as a medicine to the more elaborate ſalt. Two drachms of the alkali, ſaturated with vinegar, have been known to occaſion ten or twelve ſtools in hydropic caſes, and a plentiful diſcharge of urine, without any inconvenience.

AQUA AMMONIÆ ACETATÆ.

Lond.

Water of acetated Ammonia.

Take of

Ammonia, by weight, two ounces;

Diſtilled vinegar, four pints; or as much as is ſufficient to ſaturate the ammonia.

Mix.

AQUA AMMONIÆ ACETATÆ, vulgo SPIRITUS MINDERERI.

Edinb.

Water of Acetated Ammonia, commonly called *Spirit of Mindererus.*

Take any quantity of prepared ammonia, and gradually pour as much diſtilled vinegar on it as is ſufficient to ſaturate it completely.

Though this article has long been known by the name of Spiritus Mindereri, ſo called from the inventor; yet the name uſed by both colleges is undoubtedly preferable, as giving a proper idea of its conſtituent parts.

This is an excellent aperient ſaline liquor. Taken warm in bed, it generally proves a powerful diaphoretic or ſudorific; and as it operates without heat, it has place in febrile and inflammatory diſorders, where medicines of the warm kind, if they fail of procuring ſweat, aggravate the diſtemper. 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 itſelf, or along with other medicines adapted to the intention. Its ſtrength is not a little precarious, depending much on that of the vinegar; an inconvenience which cannot eaſily be obviated, for this ſaline matter is not reducible to the form of a concrete ſalt.

KALI TARTARISATUM.

Lond.

Tartariſed Kali.

Take of

prepared kali one pound.

Cryſtals

Cryſtals of tartar, three pounds;
Diſtilled water, boiling, one gallon.

To the kali, diſſolved in the water, throw in gradually the cryſtals of tartar powdered; filtre the liquor, when cold, through paper: And, after due evaporation, ſet it apart to cryſtalliſe.

LIXIVA TARTARISATA, vulgo TARTARUM SOLUBILE.

Edin.

Tartarized Lixive, commonly called *Soluble Tartar*.

Take of
Purified lixive one pound;
Water, fifteen pounds.

To the ſalt diſſolved in the boiling water gradually add cryſtals of tartar in fine powder, as long as any effervescence riſes, which generally ceaſes before three times the weight of the alkaline ſalt hath been added; then ſtrain the cooled liquor through paper, and after due evaporation ſet it aſide to cryſtalliſe.

Common white tartar is perhaps preferable for this operation to the cryſtals uſually met with. 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 which is not at all wanted. They inſiſt upon hitting the very exact point of ſaturation between the alkaline ſalt and the acid of the tartar; and caution the operator to be extremely careful, when he comes near this mark left by imprudently adding too large a portion of either, he render the ſalt too acid or too alkaline. If the liquor be ſuffered to cool a little before it be committed to the filter, and then properly exhaled and cryſtalliſed, no error of this kind can happen, though the ſaturation ſhould not be very exactly hit; for ſince cryſtals of tartar are very difficultly ſoluble 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 when too much of the alkali has been uſed, it will remain uncryſtalliſed. The cryſtalliſation of this ſalt indeed cannot be effected without a good deal of trouble: It is therefore moſt convenient to let the acid ſalt prevail at firſt; to ſeparate the ſuperfluous quantity, by ſuffering 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 ſalt required. The moſt proper veſſel for this purpoſe is a ſtone ware one; iron diſcolours the ſalt.

In doſes of a ſcruple, half a drachm, or a drachm, this ſalt is a mild cooling aperient: Two or three drachms commonly looſen the belly; and an ounce proves pretty ſtrongly purgative. It has been particularly recommended as a purgative for maniacal and melancholic patients. Malouin ſays, it is equal in purgative virtue to the cathartic ſalt of Glauber. It is an uſeful addition to the purgatives of the reſinous kind as it promotes their operation, and at the

the same 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. On this account it is improper to join it with tamarinds, or such like acid fruits; which is too often done in the extemporaneous practice of those physicians who are fond of mixing different cathartics together, and know little of chemistry.

NATRON TARTARISATUM.

Lond.

Tartarised Natron.

Take of

Natron, twenty ounces;
Crystals of tartar, powdered, two pounds;
Distilled water, boiling, ten pints.

Dissolve the natron in the water, and gradually add the crystals of tartar: Filter the liquor through paper; evaporate, and set it aside to crystallise.

SODA TARTARISATA, vulgo SAL RUPELLENSIS.

Edinb.

Tartarised Soda, commonly called *Rochel Salt.*

The *Sal Rupellensis* may be prepared from purified soda and crystals of tartar, in the same manner as directed for the *Lixiva tartarisata.*

This is a species of soluble tartar, made with fossil alkali It crystallises more easily 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 salt, and is in as great esteem in this country, as it has long been in France, being used instead of the Glauber's and Epsom Salts.

SODA PHOSPHORATA.

Phosphorated Soda.

Edin.

Take of

Bones burnt to white ashes and powdered, ten pounds;
Vitriolic acid, six pounds;
Water, nine pounds.

Mix the powder and acid together in an earthen vessel; then add the water, and stir the whole so as to mix it thoroughly. Place the vessel in a vapour bath, and digest for three days; after which dilute the mass with nine pounds more of boiling water, and strain the liquor through a strong linen cloth, adding at the end some more warm water, that all the acidity may be well washed out. Set by the strained liquor that the impurities may subside, and decant the clear solution. Evaporate it till only nine pounds remain, and let it stand till the impurities subside. This second liquor poured from the impurites must be evaporated again till seven pounds remain, which must be set a third time to deposite its impurities, after which it is to be filtered; this filtered liquor contains the phosphoric acid sufficiently pure, to which, heated a little, add purified soda dissolved in warm water until the effervescence ceases. Filter the neutralised liquor, and let it aside to crystallise. The liquor that remains after the crystals are

are taken out muſt be farther neutraliſed by the addition of ſoda if neceſſary, evaporated and ſet aſide to cryſtalliſe again; and this muſt be repeated as long as any cryſtals can be obtained.

The phoſphorated ſoda is a neutral ſalt, lately introduced into the practice of phyſic by the ingenious Dr. Pearſon of Leiceſter Square, London. It is poſſeſſed of the ſame medical qualities as Glauber's and the Rochelle ſalt, being an excellent purge in the quantity of an ounce or ten drachms; and has the peculiar advantage over theſe two ſalts in being much leſs nauſeous than they are. Its taſte is extremely ſimilar to that of common ſalt; and when given in a baſon of water gruel or veal broth it is ſcarcely perceptible by the palate, and conſequently is well adapted for patients whoſe ſtomachs are delicate, and who have an antipathy againſt the Glauber's or Rochelle ſalt.

The only obſtacle to its general uſe, in preference to the two ſalts above mentioned, is its high price: It is certainly much more agreeable to the palate and ſtomach than they are, and it is equally efficacious in its operation.

ALUMINIS PURIFICATIO.

Lond.

Purification of Alum.

Take of
Alum, one pound;
Chalk, one drachm;
Diſtilled water, one pint.
Boil them a little, ſtrain, and ſet the liquor aſide to cryſtallize.

We have already offered ſome obſervations on alum in the Materia Medica; and in general it comes from the alum works in England in a ſtate of ſuch purity as to be fit for every purpoſe in medicine: Accordingly we do not obſerve that the purification of alum has a place in any other pharmacopœia; but by the preſent proceſs it will be freed, not only from different impurities, but alſo from ſuperabundant acid.

ALUMEN USTUM.

Lond. Edinb.

Burnt Alum.

Take of
Alum, half a pound.
Burn it in an earthen veſſel until it ceaſes to bubble.

This, with ſtrict propriety, ought rather to be called dried than burnt alum: For the only effect of the burning here directed is to expel the water. In this ſtate it is ſo acrid as to be frequently employed as an eſcharotic; and it is chiefly, with this intention, that it has a place in our pharmacopœia: It has ſometimes been alſo taken internally, eſpecially in caſes of cholic.

SAL ſive SACCHARUM LACTIS.

Suec.

Take of milk whey, prepared by rennet, any quantity: Let it be boiled over a moderate fire to the conſiſtence of a ſyrup; then put it in a cold place, that cryſtals may be formed. Let the fluid which remains be again managed in the ſame manner, and let the cryſtals formed be waſhed with cold water.

It has been imagined, that the superiority of one milk over another depend on its containing a larger proportion of this saline or saccharine part; and particularly, that upon this the reputed virtues of asses milk may depend. Hence this preparation has been greatly celebrated in disorders of the breast, but it is far from answering what has been expected from it. It has little sweetness, and is difficult of solution in water. A saline substance, much better deserving the name of sugar, may be obtained by evaporating new milk, particularly that of asses, to dryness, digesting the dry matter in water till the water has extracted its soluble 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 reside; and so little reliance is put on it as a medicine, that it has no place in the London or Edinburgh pharmacopœas; although it has long stood, and still stands, in the foreign ones.

SAL ACETOSELLÆ.

Succ.

Salt of Sorrel.

Take any quantity of the expressed juice of the leaves of wood sorrel; let it boil gently, that the feculent matter may be separated; then strain it till it be clear, and after this boil it on a moderate fire to the consistence of a syrup. Put it into long necked glass vessels, and place it in a cold situation that it may crystallize. Let these crystals be dissolved in water, and again formed into purer ones.

To make the sorrel yield its juice readily, it should be cut to pieces, and well bruised in a small mortar, before it be committed to the press. The magma which remains in the bag still retaining no inconsiderable quantity of saline matter, may be advantageously boiled in water, and the decoction added to the expressed juice. The whole may be afterwards depurated together, either by the method above directed, or by running the liquor several times through a linen cloth. In some cases, the addition of a considerable portion of water is necessary, that the juice thus diluted, may part the more freely with its feculencies; on the separation of which the success of the process much depends.

The evaporation should be performed either in shallow glass basons, or in such earthen ones as are of a compact close texture. The common earthen vessels are subject to have their glazing corroded, and are so extremely porous, as readily to imbibe and retain a good quantity of the liquor; and metallic vessels are particularly apt to be corroded by these acid kinds of juices.

These juices are so viscid, and abound so much with heterogeneous matter, of a quite different nature from any thing saline, that a pellicle, or pure saline incrustation upon the surface, is in vain expected. Boerhaave therefore, and the more expert writers in pharmaceutical chemistry, with great judgment direct the evaporation of the superfluous moisture to be continued until the matter has acquired the consistence of cream. If it be now suffered to stand for an hour or two in a warm place, it will, notwithstanding the former depurations, deposite a fresh sediment,

ment, from which it ſhould be warily decanted before it be put into the veſſel in which it is deſigned to be cryſtalliſed.

Some recommend an unglazed earthen veſſel as preferable for this purpoſe to a glaſs one; the ſmoothneſs of the latter being ſuppoſed to hinder the ſalt from ſticking to it; while the juice eaſily inſinuating itſelf into the pores of the former, has a great advantage of ſhooting its ſaline ſpicula to the ſides. Others ſlightly incruſtate the ſides and bottom of whatever veſſel they employ with a certain mineral ſalt, which greatly diſpoſes the juice to cryſtalliſe, to which of itſelf it is very averſe: But this addition alters the medical virtue of the ſalt.

The liquor which remains after the cryſtalliſation may be depurated by a gentle colature, and after due inſpiſſation ſet to ſhoot again; when farther produce of cryſtals will be obtained.

The proceſs for obtaining this ſalt is very tedious; and the quantity of ſalt which the juices afford is extremely ſmall: Hence they are ſcarcely ever made or expected to be found in the ſhops. They may be ſomewhat ſooner ſeparated from the mucilage and other feculencies, by clarification with whites of eggs, and by adding very pure white clay.

In the manner above deſcribed, ſalts may alſo be obtained from other acid, auſtere, and bitteriſh plants, which contain but a ſmall quantity of oil.

The virtues of the eſſential ſalts have not been ſufficiently 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 ſweets. The others ſeem to be, almoſt all of them, nearly ſimilar, whatever plant they are obtained from. In watery extracts of wormwood, carduus, chamomile, and many other vegetables, kept for ſome time in a ſoft ſtate, there may be obſerved fine ſaline effloreſcences on the ſurface, which have all nearly the ſame taſte, ſomewhat of the nitrous kind. They are ſuppoſed to be in reality no more than an impure ſpecies of ammoniacal nitre (that is, a ſalt compoſed of the nitrous acid and volatile alkali): Thoſe which were examined by the chemiſts of the French academy, deflagrated in the fire, and being triturated with fixt alkali, exhaled an urinous odour; plain marks of their containing theſe two ingredients.

SAL ACIDUM BORACIS.

Duec.

Acid Salt of Borax.

Take of

Borax, an ounce and a half,

Warm ſpring water, one pound,

Mix them in a glaſs veſſel, that the borax may be diſſolved; then pour into it three drachms of the concentrated vitriolic acid, evaporate the liquor till a pellicle appears upon it: After this let it remain at reſt till the cryſtals be formed. Let them be waſhed with cold water and kept for uſe.

This ſalt, which has long been known by the title of *Sal ſedativus Hombergi*, is ſometimes formed by ſublimation: But the proceſs by cryſtalliſation here directed is leſs troubleſome, though the ſalt proves generally leſs white, and is apt likewiſe

likewiſe to retain a part of Glauber's ſalt, eſpecially if the evaporation be long protracted.

The acid of borax appears to the taſte to be a neutral; but when it is examined by alkalies, it ſhews the properties of an acid, effervelcing, uniting, and cryſtallizing with them, and it deſtroys their alkaline quality. It diſſolves, although not very readily, both in water and ſpirit of wine.

The virtues attributed to it may in ſome degree be inferred from the name of *ſedative*, by which it was long diſtinguiſhed. It has been ſuppoſed to be a mild anodyne, to diminiſh febrile heat, to prevent or remove delirium; and to allay, at leaſt for ſome time, ſpaſmodical affections, particularly thoſe which are the attendants of hypochondriaſis and hyſteria. It may be given in doſes of from two to twenty grains.

SAL AMMONIACUM DEPURATUM.

Suec.

Purified Sal ammoniac.

Diſſolve ſal ammoniac in ſpring water; ſtrain the liquor through paper; evaporate it to dryneſs in a glaſs veſſel, by means of a moderate fire.

The ſal ammoniac imported from the Mediterranean often contains ſuch impurities as to render the above proceſs neceſſary; but that which is prepared in Britain, is in general brought to market in a ſtate of very great purity. Hence this proceſs is now omitted both in the London and Edinburgh pharmacopœias.

CHAP.

CHAP. VIII.

MAGNESIA.

MAGNESIA.

MAGNESIA ALBA.
Lond.
White Magnesia.

Take of
Vitriolated magnesia,
Kali, each two pounds;
Distilled water, boiling, twenty pints.

Dissolve the vitriolated magnesia and the kali separately in ten pints of water, and filter each through paper; then mix them. Boil the liquor a little while, and strain it while hot through linen, upon which the magnesia will remain; then wash away, by repeated affusions of distilled water, the vitriolated kali.

MAGNESIA ALBA.
Edinb.
White Magnesia.

Take of
Vitriolated magnesia;
Purified lixive, equal weights.

Dissolve them separately in double their quantity of warm water, and let the liquors be strained or otherwise freed from the feces: Then mix them, and instantly add eight times their quantity of warm water. Let the liquor boil a little, stirring it very well at the same time: Then let it rest till the heat be somewhat diminished; after which strain it through a cloth; the magnesia will remain upon the cloth, and is to be washed with pure water till it be altogether void of saline taste.

The process here directed by the London and Edinburgh colleges are nearly the same.

The *vitriolated magnesia*, or *Epsom salt*, is the vitriolic acid and magnesia. In this process then a double elective attraction takes place: The vitriolic acid forsakes the magnesia and joins the pure alkali, for which it has a greater attraction; while the magnesia in its turn unites with the fixed air discharged from the mild alkali, and ready to be absorbed by any substance with which it can combine.

We have therefore two new products, viz. a vitriolated tartar, and magnesia united with fixed air.

The

The former is diſſolved in the water and may be preſerved for uſe; the latter, as being much leſs oluble, ſinks to the bottom of the veſſel. The intention of employing ſuch a large quantity of water and of the boiling is, that the vitriolated tartar may be all thoroughly diſſolved, this ſalt being ſo difficultly ſoluble in water, that without this expedient a part of it might be precipitated along with the magneſia. It might perhaps be more convenient to employ the mineral alkali; which forming a Glauber's ſalt with the vitriolic acid, would require leſs water for its ſuſpenſion. By the after ablutions, however, the magneſia is ſufficiently freed from any portion of vitriolated tartar which may have adhered to it.

The ablutions ſhould be made with very pure water; for nicer purpoſes diſtilled water may be uſed, and ſoft water is in every caſe neceſſary. Hard water for this proceſs is peculiarly inadmiſſible, as the principle in waters giving the property called *hardneſs*, is generally owing to ſelenite, whoſe baſe is capable of being diſengaged by magneſia united with fixed air. For though the attraction of magneſia itſelf for acids is not greater than that of calcareous earth; yet when combined with fixed air, a double decompoſition take place, for the ſum of the forces tending to join the calcareous earth with the air of the magneſia, and the magneſia with the acid, is greater than the ſum of the forces tending to join the calcareous earth with the acid, and the magneſia with the fixed air: Hence if hard water be uſed, a quantity of calcareous earth muſt infallibly be depoſited on the magneſia; while the acid with which the calcareous earth was combined in the water will in its turn attach itſelf to a portion of the magneſia.

All the alkalies and alſo calcareous earths, have a greater attraction for fixed air than magneſia has: Hence, if this laſt be precipitated from its ſolution in acids by cauſtic alkali, it is then procured free from fixed air: But for this purpoſe calcination, which is deſcribed in the following proceſs, is generally employed.

Magneſia alba, when prepared in perfection, is a white and very ſubtile earth, perfectly void of ſmell or taſte, of the claſs of thoſe which diſſolve in acids. It diſſolves freely in the vitriolic acid, and forms with it the bitter purging, or Epſom ſalt, very eaſily ſoluble in water; while the common abſorbents form with the ſame acid almoſt inſipid concretes, very difficult of ſolution. Solutions of magneſia in all acids are bitter and purgative; while thoſe of the other earths are more or leſs auſtere and aſtringent. A large doſe of magneſia, if the ſtomach contain no acid to diſſolve it neither purges nor produces any ſenſible effect: A moderate one, if an acid be lodged there, or if acid liquors be taken after it, procures ſeveral ſtools; whereas the common abſorbents, in the ſame circumſtances, inſtead of looſening, bind the belly. It is obvious therefore that magneſia is ſpecifically different from the other earths, and that it is applicable to ſeveral uſeful purpoſes in medicine.

Magneſia is the ſame ſpecies of earth with that obtained from the mother ley of nitre, which was for ſeveral years a celebrated ſecret in the hands of ſome particular perſons abroad. Hoffman, who deſcribes the preparations of the nitrous magneſia, gives it the character

ter of an useful antacid, a safe and inoffensive laxative in doses of a drachm or two, and a diaphoretic and diuretic when given in smaller doses of fifteen or twenty grains. Since his time, it has had a considerable place in the practice of foreign physicians; and is now in great esteem among us, particularly in heart burns, and for preventing or removing the many disorders of children from a redundance of acid in the first passage: It is preferred on account of its laxative quality, to the calcareous adsorbents, which, unless gentle purgatives be occasionally given to carry them off, are apt to lodge in the body, and occasion a costiveness very detrimental to infants.

Magnesia has gone under different names, as the *White powder of the Count of Palma, Powder of Sentine e Pluvenet, Laxative powder*, &c. It seems to have got the character *alba* to distinguish it from the dark coloured mineral *manganese* called also *magnesia nigra*, a substance possessing very different properties. Pure native magnesia has never been found in its uncombined state. A combination of it with sulphur has been discovered to cover a stratum of coal at Littry in Lower Normandy. It is also found in several stones, especially those called serpentines and lope rock.

MAGNESIA USTA.
Lond.
Calcined Magnesia.

Take of
White magnesia, four ounces.
Expose it to a strong heat for two hours; and when cold, set it by. Keep it in a vessel closely stopt.

MAGNESIA USTA.
Edin.
Calcined magnesia.

Let magnesia, put into a crucible be continued in a red heat for two hours: Then put it up in glass vessels.

By this process the magnesia is freed of fixed air; and according to Dr. Black's experiment, loses about $\frac{7}{12}$ of its weight. A kind of opaque foggy vapour is observed to escape during the calcination, which is nothing else than a quantity of fine particles of magnesia buoyed off along with a stream of the disengaged air. About the end of the operation, the magnesia exhibits a kind of luminous, or phosphorescent property which may be considered as a pretty exact criterion of its being deprived of air.

Calcined magnesia is equally mild as that which is saturated with fixed air; and this circumstance is sufficient to establish a difference between it and calcareous earths; all of which are converted, by calcination, into a caustic quicklime.

The magnesia usta is used for the same general purposes as the magnesia combined with fixed air. In certain affections of the stomach, accompanied with much flatulence, the calcined magnesia is found preferable, both because it contains more of the real earth of magnesia in a given quantity, and being deprived of its air, it neutralises the acid of the stomach, without any extrication of

air,

air, which is often a troublesome consequence when aerated magnesia is employed in these complaints. It is proper to observe, that magnesia, whether combined with, or deprived of, fixt air, is similar to calcareous earth, in promoting and increasing putrefaction. The same has even been observed with respect to the Epsom and some other salts which have this earth for their base.

CHAP.

CHAP. IX.

PRÆPARATA E SULPHURE.

PREPARATIONS OF SULPHUR.

FLORES SULPHURIS LOTI.
Lond. Edin.
Waſhed flowers of ſulphur.

Take of
Flowers of ſulphur, one pound;
Diſtilled water, four pints.
Boil the flowers of ſulphur a little while in the diſtilled water; then pour off this water, and waſh off the acid with cold water laſtly, dry the flowers.

In the former editions of our pharmacopœias, directions were given for the preparation of the flowers of ſulphur themſelves: But it is now ſcarcely ever attempted by the apothecaries. When the flowers are properly prepared, no change is made on the qualities of the ſulphur. Its impurities only are ſeparated; and at the ſame time it is reduced to a finer powder than it can eaſily be brought to by any other means. But as the flowers of ſulphur are generally ſublimed in very capacious rooms, which contain a large quantity of air, or in veſſels not perfectly cloſe; ſome of the ſulphur that ariſes at firſt is apt to take fire, and be thus changed into a volatile acid vapour, which mixing with the flowers that ſublime afterwards, communicates to them a conſiderable degree of acidity. In this caſe, the ablution here directed is abſolutely neceſſary; for the flowers, thus tainted with acid, ſometimes occaſion gripes, and may, in other reſpects, be productive of effects different from thoſe of pure ſulphur.

KALI SULPHURATUM.
Lond.
Sulphurated Kali.

Take of
Flowers of ſulphur, one ounce;
Kali, five ounces.
To the ſulphur melted with a gentle fire, add the kali; mix them by ſtirring them well together, until they unite into an uniform maſs.

This preparation in the former editions of our pharmacopœias had the name of *hepar ſulphuris.*

It

It is much more convenient to melt the sulphur first by itself, and add the kali 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 stirring; and the sulphur either takes fire, or sublimes in flowers; which probably has been the reason why so large a proportion of it has been commonly directed.

The hepar sulphuris has a fetid smell, and a nauseous taste. Solutions of it in water, made with sugar into a syrup, have been recommended in coughs, and other disorders of the breast. Our Pharmacopœias, nevertheless, have deservedly rejected the syrup. Solutions of the hepar, in water, have been recommended in herpetic and other cutaneous affections. Some physicians have even employed this solution, in a large quantity, as a bath for the cure of psora; and in cases of tinea capitis, it has often been used by way of lotion. It has also been recommended as an antidote against the mineral poisons.

The hepar, digested in rectified spirit of wine, imparts a rich gold colour, a warm, somewhat aromatic taste, and a peculiar, not ungrateful smell.

OLEUM SULPHURATUM *Lond.* or PETROLEUM SULPHURATUM.

Sulphurated Oil and Sulphurated Petroleum.

Take of
Flowers of sulphur, four ounces;
Olive oil, sixteen ounces, by weight.
Boil the flowers of sulphur, with the oil, in a pot slightly covered, until they be united.
In the same manner is made *Sulphuratea petroleum.*

OLEUM SULPHURATUM, vulgo BALSAMUM SULPHURIS CRASSUM. *Edin.*

Sulphurated Oil, commonly called *thick Balsam of Sulphur.*

Take of
Olive oil, eight ounces;
Flowers of sulphur, one ounce.
Boil them together in a large iron pot stirring them continually till they unite.

These are the only Balsams of sulphur now retained in our pharmacopœias: Formerly there were and still are in some of the foreign pharmacopœias, long lists of them made with different oils expressed and essential, or with a mixture of both kinds, as *Balsamum sulphuris anisatum terebinthinatum,* &c.

These preparations are more conveniently and safely made in a tall glass vessel with a wide mouth, than in the circulatory or close vessels in which they have commonly been directed to be prepared: For when the sulphur and oil begin to act vehemently on each other, they not only swell, but likewise throw out impetuously great quantities of an elastic vapour; which, if the vessels be closed, or the orifices not sufficient to allow it a free exit, will infallibly burst them: Hoffman relates a very remarkable history of the effects of an accident of this kind. In the vessel above recommended,

mended, 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.

Balsam of sulphur has been strongly recommended in coughs, consumptions and other disorders of the breast and lungs: But the reputation which it had in these cases, does not appear to have been built on any fair trial or experience. It is manifestly hot, acrimonious, and irritating; and should therefore be used with the utmost caution. It has frequently been found to injure the appetite, offend the stomach and viscera, parch the body, and occasion thirst and febrile heats. The dose of it is from ten to forty drops. It is employed externally for cleansing and healing foul running ulcers; and Boerhaave conjectures, that its use in these cases give occasion to the virtues ascribed to it when taken internally.

SULPHUR PRÆCIPITATUM.

Lond.

Precipitated Sulphur.

Take of

Sulphurated kali, six ounces;

Distilled water, one pound and an half;

Diluted vitriolic acid, as much as is sufficient.

Boil the sulphurated kali in the distilled water until it be dissolved. Filter the liquor through paper, to which add the vitriolic acid. Wash the precipitated powder by repeated affusions of water till it becomes insipid.

This preparation is not so white as that of the last pharmacopœia, which was made with quicklime; and which in some pharmacopœias had the name of *lac sulphuris*.

Precipitated sulphur 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 sulphur having lost any of its parts in the operation, or from any new matter superadded: For if common sulphur be ground with alkaline salts, and set to sublime, it rises of a like white colour, the whole quantity of the alkali remaining unchanged; and if the precipitated sulphur be melted with a gentle fire, it returns into a yellow sulphur again.

It may be observed, that the name *lac sulphuris*, or *milk of sulphur*, formerly given to the precipitate, is by the modern French writers confined to the white liquor before the precipitate has fallen from it.

CHAP.

CHAP. X.

PRÆPARATA ANTIMONII.

PREPARATIONS OF ANTIMONY.

ANTIMONY is compoſed of a metal, united with ſulphur.

If powdered antimony be expoſed to a gentle fire, the ſulphur exhales; the metallic part remaining in form of a white calx, reducible, by proper fluxes, into a whitiſh brittle metal, called *regulus*.

If aqua regia be poured on crude antimony, the metallic part will be diſſolved; and the ſulphur thrown out, partly to the ſides of the veſſel, and partly to the ſurface of the liquor, in the form of a greyiſh yellow ſubſtance. This, ſeparated and purified by ſublimation, appears on all trials the ſame with pure common brimſtone.

The metal freed from the ſulphur naturally blended with it and afterwards fuſed with common brimſtone, aſſumes the appearance and qualities of crude antimony.

The antimonial metal is a medicine of the greateſt power of any known [illegible]: a quantity too minute to be ſenſible in the tendereſt ſtomach, is capable of producing violent effects, if taken diſſolved, or in a volatile ſtate. If given in ſuch a form as to be immediately miſcible with the animal fluids, it proves violently emetic, if ſo managed as to be more ſlowly acted on, cathartic; and in either caſe, if the doſe be extremely ſmall, diaphoretic. Thus, though vegetable acids extract ſo little from this metal, that the remainder ſeems to have loſt nothing of its weight, the tinctures prove in no large doſes ſtrongly emetic, and in ſmaller ones powerfully diaphoretic. The regulus has been caſt into the form of pills which acted as violent cathartics, though without ſuffering any ſenſible diminution of weight in their paſſage through the body; and this repeatedly, for a great number of times.

This metal, reduced to a calx, becomes indiſſoluble and inactive. The calx, nevertheleſs urged with a ſtrong fire, melts into a glaſs, which is as eaſy of ſolution, and as violent in operation as the regulus itſelf: The glaſs, thoroughly mixed with ſuch ſubſtances as prevent its ſolubility, as wax, reſins and the like is again rendered mild.

Vegetable acids, as has already been obſerved, diſſolve but an extremely minute portion of this metal:

metal: The solution nevertheless is 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 a considerable degree by water, and totally by fire, leaving a calx similar to that prepared by fire. The muriatic acid has a very different effect; this reduces the regulus into a violent corrosive; and though it difficultly unites, yet it adheres so very closely as not to be separable by any ablution, nor by fire, and the regulus arises along with it in distillation.

Sulphur remarkably abates the power of this metal: And hence crude antimony, in which the regulus is combined with sulphur, from one fourth to one half of its weight, proves altogether mild. If a part of the sulphur be taken away, by such operations as do not destroy or calcine the metal, the remaining mass becomes proportionally more active.

The sulphur of antimony may be expelled by deflagration with nitre; the larger the quantity of nitre, to a certain point, the more of the sulphur will be dissipated, and the preparation will be the more active. If the quantity of nitre be more than sufficient to consume the sulphur, the rest of it, deflagrating with the regulus itself, renders it again mild.

The sulphur of antimony is likewise absorbed, in fusion, by certain metals, and by alkaline salts. These last, when united with sulphur, prove a menstruum for all the metals (zinc excepted); and hence, if the fusion be long continued, the regulus is taken up, and rendered soluble in water.

From these particulars with respect to antimony, it may naturally be concluded, that it not only furnishes us with an useful and active medicine, but that it may also be exhibited for medical purposes under a great variety of different forms, and that the effects of these will be considerably diversified. When treating of antimony in the materia medica, we have not only offered some observations on its medical virtues, but have also exhibited a view of its different preparations for medical purposes, thrown into a tabular form by Dr. Black; which we shall proceed to describe in particular.

ANTIMONIUM CALCINATUM.

Lond.

Calcined Antimony.

Take of

Antimony, powdered, eight ounces;

Nitre, powdered, two pounds.

Mix them, and cast the mixture by degrees into a red hot crucible. Burn the white matter about half an hour; and, when cold, powder it; after which wash it with distilled water.

In the last edition of the London Pharmacopœia this preparation had the name of *calx antimonii*; and it may be considered as at least very nearly approaching to some other antimonials of the old pharmacopœias, particularly to the *antimonium diaphoreticum nitratum*, *antimonium diaphoreticum lotum* and the *nitrum stibiatum*; none of which are now received as separate formulas of our pharmacopœias, and indeed even the calx antimonii itself, at least as thus prepared, has now no place in the Edinburgh pharmacopœia.

The

The calx of antimony, when freed by washing from the saline matter, is extremely mild, if not altogether inactive. Hoffman, Lemery and others, assure us, that they have never experienced from it any such effects as its old name *antimonium diaphoreticum* 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 sensible operation. The common dose is from five grains to a scruple, or half a drachm; though Wilson relates, that he has known it given by half ounces, and repeated two or three times a day, for several days together.

Some report that this calx, by keeping for a length of time, contracts an emetic quality: From 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 calcined antimony, is certainly among the mildest preparations of that mineral, and may be used for children, and similar delicate constitutions, 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 pharmacopœia with good reason, suspects that where the calx has proved emetic, it had either been given in such cases as would of themselves have been attended with this symptom, (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 often washing with water, in the same manner as directed for separating earthy powders from their grosser parts.

It has been observed, that when diaphoretic antimony is prepared with nitre abounding with sea salt, 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 salt, but to its quantity, by which the proportion of the nitre to the antimony is rendered less.

Notwithstanding the doubts entertained respecting the activity of the antimonium calcinatum, yet the London college have done right in retaining it. For while it is on all hands allowed, to be the mildest of our antimonials; there are some accurate observers who consider it as by no means inefficacious. Thus Dr. Heade tells us, that he has been in the habit of employing it for upwards of forty years, and is much deceived, if when genuine it be not productive of good effects.

ANTIMONIUM USTUM CUM NITRO, vulgo CALX ANTIMONII NITRATA.

Edinb.

Nitrated Calx of Antimony.

Take of
Antimony, calcined for making the glaſs of antimony;
Nitre, equal weights.
Having mixed and put them into a crucible, let them be heated, ſo that the matter ſhall be of a red colour for an hour; then let it be taken out of the crucible, and after powdering it, let it be repeatedly waſhed with warm water till it be inſipid.

As the effects of every preparation of antimony, not already conjoined with an acid, muſt depend on the quantity and condition of the acid in the ſtomach, ſo the ablution of the baſe of the nitre in this proceſs, gives full power to the acid of the ſtomach to act as far as poſſible on the calx: Whereas when the unwaſhed calx is employed, a great quantity of the acid in the ſtomach is neutraliſed by the alkaline baſe of the nitre adhering to the calx.

Although this preparation has been conſidered as being nearly a complete calx of antimony, yet it is a medicine of a much more active nature than the former; and in place of being one of the mildeſt of the antimonials, it often operates with great violence when given in doſes of only a few grains.

It has been thought by ſome preferable to emetic tartar, where the permanent effect of a long continued nauſea are required, and where we wiſh our antimonials to paſs the pylorus and produce purging; but, like every other preparation where the reguline part is only rendered active by the acid in the ſtomach, it is in all caſes uncertain in operation: Sometimes proving perfectly inert, and at other times very violent in its effects. The doſe is generally ten or twelve grains, and this is often given all at once; an inconvenience not attending the emetic tartar; the quantity and effects of which we can generally meaſure with ſurpriſing minuteneſs.

CROCUS ANTIMONII.

Lond.

Crocus of Antimony.

Take of
Antimony, powdered;
Nitre, powdered, of each one pound;
Sea ſalt, one ounce.
Mix, and put them by degrees into a red hot crucible, and melt them with an augmented heat. Pour out the melted matter; and, when cold, ſeparate it from the ſcoriæ.

CROCUS ANTIMONII, vulgo CROCUS METALLORUM.

Edin.

Crocus of Antimony, commonly called *Crocus of Metals.*

Take of
Antimony,
Nitre, equal weights.
After they are ſeparately powdered and well mixed, let them be injected by degrees into a red hot crucible; when the detonation is over, ſeparate the reddiſh metallic matter from the whitiſh cruſt; powder it and edulcorate

edulcorate it by repeated waſhings with hot water, till the water comes off inſipid.

Here the antimonial ſulphur is almoſt totally conſumed, and the metallic part left diveſted of its corrector. Theſe preparations, in doſes of from two to ſix grains, generally act as violent emetics, greatly diſordering the conſtitution. But the operation, like that of every preparation of antimony whoſe reguline part is not joined with an acid, muſt be liable to variations, according to the quantity and condition of the acid in the ſtomach. Their principal uſe is in maniacal caſes, or as the baſis of ſome other preparations; it is much uſed by 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 what is directed above; and without any farther melting than what enſues from the heat which the matter acquires by deflagration, which when the quantity is large, is very conſiderable: A little common ſalt is added by the London College to promote the fuſion. The mixture is put by degrees into an iron pot or mortar, ſomewhat heated, and placed under a chimney: When the firſt ladleful is in, a piece of lighted charcoal is thrown to it, which ſets the matter on fire; the reſt of the mixture is then added by little and little; the deflagration is ſoon over, and the whole appears in perfect fuſion: When cold, a conſiderable quantity of ſcoriæ is found on the ſurface, which are eaſily knocked off with a hammer.

ANTIMONIUM MURIATUM.

Lond.

Muriated Antimony.

ANTIMONIUM MURIATUM, vulgo BUTYRUM ANTIMONII.

Edin.

Muriated Antimony, commonly called, *Butter of Antimony.*

Take of

Crocus of antimony, powdered,

Vitriolic acid, each one pound;

Dry ſea ſalt, two pounds.

Pour the vitriolic acid into a retort, adding by degrees the ſea ſalt and crocus of antimony, previouſly mixed; then diſtil in a ſand bath. Let the diſtilled matter be expoſed to the air ſeveral days, and then let the fluid part be poured off from the dregs.

The muriated antimony or butter, as it is called, is a ſolution of the metalic part of the antimony in the muriatic acid. This ſolution does not ſucceed with muriatic acid in its ordinary ſtate, and cannot be effected, unleſs either the acid be highly concentrated, and both the ingredients ſtrongly heated; or when the antimony is expoſed to the vapours of the acid diſtilled from the black calx of manganeſe. By this laſt proceſs a perfect ſolution of the regulus of antimony in the muriatic acid is effected. Of this more ſimple, more ſafe, and leſs expenſive method of preparing muriated antimony, an account is given by Mr. Ruſſel in the Tranſactions

actions of the Royal Society of Edinburgh ; Vol. i.

The method, however now directed by both the colleges is preferable to any of the other methods of preparing it, being very nearly the same with Scheele's process which is given in the Pharmacopœa Suecica.

When the congealed matter that arises 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 seems, in either case, to be sufficiently strong for the purposes of consuming fungus flesh and the callous lips of ulcers. It is remarkable, that though this saline concrete readily and almost entirely dissolves by the humidity of the air, only a small quantity of white powder separating, it nevertheless will not dissolve directly in water: Even when previously liquefied by the air, the addition of water will precipitate the solution. And accordingly, by the addition of water is formed that once celebrated article known by the title of *mercurius vitæ*, or *Algaroth's powder*. This preparation, though never used by itself, is employed both by the Edinburgh and by some of the foreign colleges, in the formation of emetic tartar, the most useful of all the antimonials.

PULVIS ANTIMONIALIS.

Lond.

Antimonial powder.

Take of

Antimony, coarsely powdered ;
Hartshorn shavings, each two pounds.

ANTIMONIUM CALCAREO PHOSPHORATUM, sive PULVIS ANTIMONIALIS.

Edin.

Calcareo Phosphorated Antimony, or *Antimonial powder.*

Take of

Antimony, in coarse powder, two pounds :
Saw dust of bones, ivory, or hartshorn, two pounds.

Mix, and put them into a wide red hot iron pot, stirring constantly till the mass acquires a gray colour. Powder the matter when cold, and put it into a coated crucible. Lute to it another crucible inverted, which has a small hole in its bottom : augment the fire by degrees to a red heat, and keep it so for two hours. Lastly, reduce the matter, when cold, to a very fine powder.

This preparation is the genuine James's powder, than which scarcely any patent medicine more attracted the attention of the medical practitioners and the people of England. Its efficacy in curing fevers soon brought it into celebrity ; and it was at first frequently used by the patients without the approbation of their attending physicians ; afterwards however we find physicians of respectability and experience prescribing this powder, without knowing what peculiar preparation it was, any farther than that it was some kind of calx of antimony. It could not be prepared by following the directions of the specification deposited in the Court of Chancery by Dr. James, when

when he took out his patent; hence *fidelis* was an epithet which, although it ought to be essential to every physician, could not with propriety be bestowed on him: And, what farther shews his disposition to deceive, it was not, at the time he took out his patent, a new medicine or preparation, but was fully described by physicians and chemists upwards of 120 years before. About thirty years had elapsed, since its being introduced into practice in Britain, before its real composition became known, for which the world is indebted to the ingenious Dr. Pearson of London, who has analytically and synthetically demonstrated, by a very great number and variety of well contrived experiments, that James's powder is a compound of calx of antimony and phosphorated lime. Dr. Pearson's paper, containing an account of these experiments, was read in the Royal Society at London on June 23d, 1791.

This powder is given as an alterative and sudorific in doses of about five, six, or seven grains; in which quantity it frequently produces nausea and sometimes vomiting and purging. Its principal use is in removing obstructions or suppressions of the insensible perspiration which so often produce fevers; and hence its great efficacy in putting a stop to the progress of several fevers, or in preventing them from coming on after taking cold.

SULPHUR ANTIMONII PRÆCIPITATUM.

Lond.

Precipitated Sulphur of Antimony.

Take of
Antimony, powdered, two pounds;
Water of pure kali, four pints;
Distilled water, three pints.

Mix, and boil them with a slow fire for three hours, constantly stirring, and adding distilled water as it shall be wanted; strain the hot ley through a double linen cloth, and into the liquor, while yet hot, drop by degrees as much diluted vitriolic acid as is sufficient to precipitate the sulphur. Wash off the vitriolated kali with warm water.

SULPHUR ANTIMONII PRÆCIPITATUM, vulgo SULPHUR AURATUM ANTIMONII.

Edin.

Precipitated sulphur of Antimony, commonly called Golden sulphur of antimony.

Take of
Caustic ley, four pounds;
Water three pounds;
Antimony powdered two pounds.

Boil them in a covered iron pot for three hours, adding more water if necessary, frequently stirring the mixture with an iron spatula: Strain the liquor while warm through a double cloth, and add as much diluted vitriolic acid as is necessary to precipitate the sulphur, which must be well washed with plenty of water.

The foregoing preparations are not strictly sulphurs; they contain a considerable quantity of the metallic part of the antimony, which is reducible from them by proper fluxes. These medicines must needs be liable to great variation in point of strength; and in this respect they are, perhaps, the most precarious, though some have affirmed that they are the most certain,

certain, of the antimonial medicines.

They prove emetic when taken on an empty ſtomach, in a doſe of four, five or ſix grains; but at preſent they are ſcarcely preſcribed with this intention; being chiefly uſed as alterative deobſtruents, particularly in cutaneous diſorders. Their emetic quality is eaſily blunted, by making them up into pills with reſins or extracts and giving them on a full ſtomach: with theſe cautions, they have been taken in the quantity of ſixteen grains a day, and continued for a conſiderable time, without occaſioning any diſturbance 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 ſulphur of antimony and calomel (See PILULÆ HYDRARGYRI MURIATI MITIS COMPOSITÆ) has been found a powerful and ſafe alterative in cutaneous diſorders: and has been productive of good effects in ſome obſtinate venereal complaints.

ANTIMONIUM TARTARISATUM.

Lond.

Tartariſed Antimony.

Take of

Crocus of antimony, powdered, one pound and an half;

Cryſtals of tartar, two pounds;

Diſtilled water, two gallons.

Boil in a glaſs veſſel about a quarter of an hour: Filter through paper, and ſet aſide the ſtrained liquor to cryſtalliſe.

ANTIMONIUM TARTARISATUM, vulgo TARTARUS EMETICUS.

Edin.

Tartariſed antimony, commonly called *Emetic Tartar.*

Take of

Muriated antimony what quantity you pleaſe; pour it into warm water, in which a proper quantity of purified lixive has been previouſly diſſolved, that the antimonial powder may be precipitated, which after being well waſhed is to be dried.

Then to five pounds of water add of this powder nine drachms, and of cryſtals of tartar, in very fine powder, two ounces and a half; boil for a little till the powders be diſſolved.

Let the ſtrained ſolution be ſlowly evaporated in a glaſs veſſel to a pellicle, ſo that cryſtals may be formed.

WE have here two modes of making the moſt uſeful of all the antimonial preparations, long known in the ſhops under the name of *emetic tartar.* Theſe modes differ conſiderably from each other; but in both, the antimony is united with the acid of the tartar. The proceſs given in the London college is nearly the ſame with that in former editions of their Pharmacopœia, while that now adopted by the Edinburgh college is of later date. Good emetic tartar is without doubt produced by either of them; but when the precipitate from the muriatic acid is uſed, there is the leaſt chance of the medicine being uncertain in point of ſtrength: And this method comes recommended to us on the authority of Bergman, Scheele, and

and ſome other of the firſt names in chemiſtry Bergman adviſes, that the calx be precipitated by ſimple water, as being leaſt liable to variation, and this is the direction followed in the Pharmacopœia Ruſſica. But when the calx is precipitated by an alkaline ley, as is directed by the Edinburgh college, it is more entirely freed from the muriatic acid, and will of courſe be milder.

In the after part of the proceſs, whether precipitate or crocus have been uſed, the quantity of the antimonial ought always to be ſome drachms more than is abſolutely neceſſary for ſaturating the acid of the tartar, ſo that no cryſtals may ſhoot which are not impregnated with the antimony. After the cryſtals are all ſeparated from the liquor, they ought to be rubbed together in a glaſs mortar into a fine powder, that the medicine may be of uniform ſtrength.

Emetic tartar is, of all the preparations of antimony, the moſt certain in its operation.

It will be ſufficient, in conſidering the medicinal effects of antimonials, that we ſhould obſerve, once for all, that their emetic property depends on two different conditions of the reguline part: The firſt is where the reguline part is only active, by being rendered ſo from meeting with an acid in the ſtomach: The ſecond is, where the reguline part is already joined with an acid rendering it active. It is obvious, that the preparations, reducible to the firſt head, muſt always be of uncertain operation. Such then is the equal uncertainty in the chemical condition and medicinal effects of the croci, the hepata and the calces; all of which proceſſes are different ſteps or degrees of freeing the reguline part from ſulphur and calcining it. It is equally plain, that the preparations coming under the ſecond head, muſt be always conſtant and certain in their operation. Such a one is emetic tartar, the doſe and effects of which we can meaſure with great exactneſs. 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.

The doſe of emetic tartar, when deſigned to produce the full effect of an emetic, is from two to four grains. It may likewiſe be advantageouſly given in much ſmaller doſes, as a nauſeating and ſudorific medicine.

ANTIMONIUM VITRIFICATUM.

Lond.

Vitrified Antimony.

Take of

Powdered antimony, four ounces.

Calcine it in a broad earthen veſſel, with a fire gradually raiſed, ſtirring it with an iron rod until it no longer emits ſmoke. Put this powder into a crucible, ſo as to fill two thirds of it. A cover being fitted on, make a fire under it, at firſt moderate, afterwards ſtronger, until the matter be melted. Pour out the melted glaſs.

VITRUM ANTIMONII.

Edin.

Glaſs of Antimony.

Strew antimony, beat into a coarſe powder like ſand, upon a ſhallow unglazed earthen veſſel, and apply a gentle heat underneath, that

that the antimony may be heated ſlowly: Keeping it at the ſame time continually ſtirring to prevent it from running into lumps. White vapours of a ſulphureous ſmell will ariſe from it. If they ceaſe to exhale with the degree of heat firſt applied, increaſe the fire a little, ſo that vapours may again ariſe: Go on in this manner, till the powder, when brought to a red heat, exhales no more vapours. Melt this powder in a crucible with an intenſe heat, till it aſſumes the appearance of melted glaſs; then pour it out on a heated braſs plate or diſh.

The calcination of antimony, in order to procure tranſparent glaſs, ſucceeds very ſlowly, unleſs the operator be wary and circumſpect 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 ſort, ſuch as is uſually found at the apex of the cones; this groſsly powdered, is to be evenly ſpread over the bottom of the pan, ſo as not to lie above a quarter of an inch thick on any part. The fire ſhould be at firſt no greater than is juſt ſufficient to raiſe a fume from the antimony, which is to be now and then ſtirred: When the fumes begin to decay, increaſe the heat, taking care not to raiſe it ſo high as to melt the antimony, or run the powder into lumps; after ſome time the veſſel may be made red hot, and kept in this ſtate until the matter will not, upon being ſtirred, 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 gray 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 in it. If the matter which adheres to the end of the wire appears ſmooth and equally tranſparent, the vitrification is compleated, and the glaſs may be poured out upon a hot ſmooth ſtone or copper plate, and ſuffered to cool ſlowly to prevent its cracking and flying in pieces. It is of a tranſparent yellowiſh red colour.

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 purpoſe here deſigned. By the method above directed it may be eaſily made of the requiſite perfection without any addition.

As antimony may be rendered nearly or altogether inactive by calcination, it might be expected that the calx and glaſs of the preſent proceſs would be likewiſe inert. But here the calcination is far leſs perfect than in the other caſe, when the regulus is deflagrated with nitre; there the calx is of perfect whiteneſs, and a glaſs made from that calx (with the addition of any ſaline flux, for of itſelf it will not vitrify) has little colour: But here the calx is gray, and the glaſs of a high colour. The calcined antimony is ſaid by Boerhaave to be violently emetic. Experience has ſhewn that the glaſs is ſo much ſo as to be unſafe for internal uſe. At preſent it is chiefly employed in forming ſome other antimonial preparations, particularly the *Vitrum antimonii ceratum*, the next article to be mentioned;

tioned; and the *vinum antimonii*, afterwards to be treated of under the head of wines. It is also frequently employed in the formation of emetic tartar; and it was directed for that purpose in a former edition of the Edinburgh pharmacopœia.

VITRUM ANTIMONII CERATUM.

Edinb.

Cerated Glass of Antimony.

Take of
Yellow wax, a drachm;
Glass of antimony, reduced into powder, an ounce.
Melt the wax in an iron vessel, and throw into it the powdered glass: Keep the mixture over a gentle fire for half an hour, continually stirring it; then pour it out on paper, and when cold grind it into powder.

The glass melts in the wax with a very gentle 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 Scottish snuff; which is a mark of its being sufficiently prepared; the quantity set down above, loses about one drachm of its weight in the process.

This medicine was for some time much esteemed in dysenteries; several instances of its good effects in these cases may be seen in the fifth volume of the Edinburgh Essays. The dose is from two or three grains to twenty, according to the age and strength of the patient. In its operation, it makes some persons sick, and vomit; it purges almost every one; though it has sometimes effected a cure without occasioning any evacuation or sickness. It is now, however, much less used than formerly.

Mr. Geoffroy gives two pretty singular preparations of glass of antimony, which seem to have some affinity with this. One is made by digesting the glass, very finely levigated, with a solution 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 perfectly mixed. Glass of antimony thus prepared, is said 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 Hartman, under the name of *Chylista*.

The other preparation is made by burning spirit of wine on the glass three or four times, the powder being every time exquisitely rubbed upon a marble. The dose of this medicine is from ten grains to twenty or thirty: It is said to operate mildly both upwards and downwards, and sometimes to prove sudorific.

CERUSSA ANTIMONII.

Brun.

Ceruse of Antimony.

Take of
Regulus of antimony, one part;
Nitre, three parts.
Deflagrate them together in the manner directed for the antimonium calcinatum.

The result of this process and that formerly directed for the calcined antimony are nearly the same.

It is not necessary to use so much nitre here, as when antimony itself is employed: For the sulphur which

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 than an under proportion of nitre, leſt ſome parts of the regulus ſhould eſcape being ſufficiently calcined.

KERMES MINERALE.

Succ.

Kermes Mineral.

Take of
- Crude antimony, powdered, half a pound;
- Fixed vegetable alkali, two pounds;
- Boiling water, eight pounds.

Boil them together in an iron pot for a quarter of an hour, continually ſtirring the mixture with an iron ſpatula, and filter as ſpeedily as poſſible while it is hot. The filtered liquor ſet in a cool place will ſoon depoſite a powder which muſt be repeatedly waſhed, firſt with cold, and afterwards with warm water, until it be perfectly inſipid.

This medicine has long been greatly eſteemed eſpecially in France under the names of *Kermes mineral*, *Pulvis Carthuſianus*, *Poudre des Chartreux*, &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 Laligerie, for a conſiderable ſum, and communicated it to the public in the year 1720. In virtue, it is not different from the ſulphurs abovementioned; all of them owe their efficacy to a part of the regulus of the antimony which the alkaline ſalt, by the mediation of the ſulphur, renders ſoluble in water.

Chemiſts are, however, divided in their opinions with reſpect to the preciſe chemical condition of the reguline part in the preparations called *Hepata antimonii*, ſome have alleged that they contain not a particle of alkaline ſalt: It is at any rate certain, that the quantity and condition of the reguline part muſt vary according to the different proportions of the ingredients, the time of the precipitation, the greater or leſs degree of cauſticity of the alkali employed, and ſeveral other circumſtances. At beſt, the whole of them are liable to the ſame uncertainty in their operation as the calces of antimony.

PANACEA ANTIMONII.

Panacea of Antimony.

Take of
- Antimony, ſix ounces;
- Nitre, two ounces;
- Common ſalt, an ounce and a half;
- Charcoal, an ounce.

Reduce them into a fine powder, and put the mixture into a red hot crucible, by half a ſpoonful at a time, continuing the fire a quarter of an hour after the laſt injection; then either pour the matter into a cone, or let it cool 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

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 celebrated purge. Ten grains of the powder, mixed with an ounce of white sugar 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 said to work gently by stool and vomit.

CHAP.

CHAP. XI.

PRÆPARATA EX ARGENTO.

PREPARATIONS OF SILVER.

ARGENTUM NITRATUM.
Lond.
Nitrated Silver.

Take of
Silver, one ounce;
Dilute nitrous acid, four ounces.

Diſſolve the ſilver in the nitrous acid, in a glaſs veſſel with a ſand heat; then evaporate with an heat gently raiſed; afterwards melt the reſiduum in a crucible, carefully avoiding too great a heat, and pour it into proper moulds.

ARGENTUM NITRATUM, vulgo CAUSTICUM LUNARE.
Edin.
Nitrated Silver, commonly called *Lunar Cauſtic.*

Take of
Pureſt ſilver, beat thin and cut in pieces, four ounces;
Dilute nitrous acid, eight ounces;
Diſtilled water, four ounces.

Diſſolve the ſilver in a phial with a gentle heat, and evaporate the ſolution to dryneſs. Then put the maſs into a large crucible, and apply the heat, at firſt gently but augment it by degrees till the maſs flows like oil; then pour it into iron moulds, previouſly heated, and greaſed with tallow. The lunar cauſtic muſt be kept in well ſtopt phials.

These proceſſes do not differ in any material particular.

Strong nitrous acid will diſſolve about half its weight of pure ſilver; and the diluted acid formerly deſcribed, proportionally leſs according to its quantity of pure nitrous acid. Sometimes this acid contains a portion of the vitriolic, or muriatic acid; which however minute, renders it unfit for diſſolving this metal, and ſhould therefore be carefully ſeparated before the ſolution be attempted. The method which the refiners employed for examining the purity of their aqua fortis

(for ſo they call a mixture of equal parts of pure nitrous acid, and water,) and purifying it if neceſſary, ſo to let fall into it a few drops of a perfect ſolution of ſilver already made: If the liquor remain clear, and grow not in the leaſt turbid or whitiſh, it is fit for uſe; otherwiſe, they add a ſmall quantity more of the ſolution, which immediately turns the whole of a milky white colour; the mixture being then ſuffered to reſt for ſome time, depoſites a white ſediment; from which it is warily decanted, examined a freſh, and, if need be, farther purified by a freſh addition of the ſolution

The ſilver beat into thin plates as directed in the ſecond of the above proceſſes, needs not be cut in pieces: The ſolution will go on the more ſpeedily, if they are only turned round into ſpiral circumvolutions, ſo as to be conveniently got into the glaſs, with care that the ſeveral ſurfaces do not touch each other. By this management, a greater extent of the ſurface is expoſed to the action of the menſtruum, than when the plates are cut in pieces and laid above each other. It is neceſſary to employ very pure water; for moſt ſaline matters precipitate a part of the ſilver.

The crucible ought to be large enough to hold five or ſix times the quantity of the dry matter; for it bubbles and ſwells up greatly, and is conſequently apt to run over. During this time, alſo, little drops are now and then ſpirted up, whoſe cauſticity is increaſed by their heat, 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 conſiſtent in the heat that made it boil before: Then quickly increaſe the fire till the matter flows thin at the bottom like oil, 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 is likewiſe leſs corroſive than it ought to be.

For want of a proper iron mould, one may be formed of tobacco pipe clay, not too moiſt, 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 to keep the air from acting on them, they muſt be ſpeedily put into well ſtopt phials.

This preparation is a ſtrong cauſtic; and is frequently employed as ſuch, for conſuming warts and other fleſhy excreſcences, keeping down fungous fleſh in wounds or ulcers, and other ſimilar uſes. It is rarely applied where a deep eſchar is required, as in the laying open of impoſthumations and tumours; for the quantity neceſſary for theſe purpoſes, liquefying by the moiſture of the ſkin, ſpreads beyond the limits within which it is intended to operate.

PILULÆ LUNARES.
The Lunar Pills.

Diſſolve pure ſilver in aqua fortis, as in the foregoing proceſs; and after due evaporation, ſet the liquor to cryſtalliſe. Let the cryſtals

cryſtals be again diſſolved in common water, and mixed with a ſolution of equal their weight of nitre. Evaporate this mixture to dryneſs, and continue the exſiccation with a gentle heat, keeping the matter conſtantly ſtirring till no more fumes ariſe.

Here it is neceſſary to continue the fire till the fumes entirely ceaſe, as more of the acid is required to be diſſipated than in the preceding proceſs. The preparation is, nevertheleſs, in taſte very ſharp, intenſely bitter and nauſeous: Applied to ulcers, it acts as a cauſtic, but it is much milder than the foregoing. Boerhaave, Boyle, and others, commend it highly in hydropic caſes. The former aſſures us, that two grains of it made into a pill with crumb of bread and a little ſugar, and taken on an empty ſtomach (ſome warm water, ſweetened 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 dose; and obſerves, that it always proves corroſive and weakening to the ſtomach.

CHAP.

CHAP. XII.

PRÆPARATA E FERRO.

PREPARATIONS of IRON.

FERRI LIMATURA PURIFICATA.

Edin.

Purified Iron filings.

Cover the filings with a piece of gauze, or with the bottom of a fine sieve, and through this draw the iron filings with a magnet.

This is a very effectual method of purifying iron filings from brass and other matters with which they may be accidentally mixed. The magnet, if held over the filings, is apt to attract the filings in bunches or clusters, which may entangle in them sand or other metals: But by drawing them through the gauze they come up single, and consequently perfectly pure.

FERRI SQUAMÆ PURIFICATÆ.

Edin.

Purified Iron Scales.

Let iron scales (collected at the foot of a blacksmith's anvil) be purified by means of a magnet. The magnet will attract only the smaller and more pure scales, leaving the larger and more impure behind.

The gauze is useless in this case, because the scales are a calx of iron and not so violently attracted by the magnet as the iron in its metallic state is; hence they are not liable to be drawn up in bunches as the filings are.

FERRUM AMMONIACALE.

Lond.

Ammoniacal Iron.

Take of

Iron filings, one pound;
Sal ammoniac, two pounds.

Mix, and sublime. What remains at the bottom of the vessel mix by rubbing together with the sublimed matter, and again sublime.

FERRUM

FERRUM AMMONIATUM, vulgo FLORES MARTIALES.

Edin.

Ammoniated Iron, commonly called *martial flowers*.

Take of
Burnt vitriolated Iron washed and well dried;
Sal ammoniac, equal weights.
Having mixed them well, sublime.

THOUGH the mode of preparation directed by the two colleges is here different, yet the preparation is fundamentally the same: And it is perhaps difficult to say which mode of preparation is to be preferred as the easiest and best.

The success of this process depends principally on the fire being hastily raised, that the sal ammoniac may not sublime before the heat be great enough to enable it to carry up a sufficient quantity of the iron. Hence glass vessels are not so proper as earthen or iron ones; for when the former are used, the fire cannot be raised quickly 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 small hole in its bottom to suffer 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 pulverisation, humectation, and exsiccation two or three times or oftener. If this method be followed, the sal ammoniac may be increased to three times the quantity of the iron, or farther; and a single sublimation will often be sufficient 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 saline matter joined to the iron. It has been found of service in hysterical and hypocondriacal cases, and in distempers proceeding from a laxity and weakness of the solids, as the rickets. From two or three grains to ten may be conveniently taken in the form of a bolus: It is nauseous in a liquid form (unless in spirituous tincture); and occasions pills to swell and crumble, except such as are made of the gums.

FERRI RUBIGO.

Lond.

Rust of Iron.

Take of
Iron filings, one pound.
Expose them to the air, often moistening them with water, until they be corroded into rust; then powder them in an iron mortar, and wash off with distilled water the very fine powder.
But the remainder, which cannot by moderate rubbing be reduced into a powder capable of being easily washed off, must be moistened, exposed to the air for a longer time, and again powdered and washed as before. Let the washed powder be dried.

FERRI

FERRI RUBIGO, vulgo FERRI LIMATURA PREPARATA.

Edinb.

Rust of Iron, commonly called *Prepared Iron filings.*

Set purified Iron filings in a moist place, that they may turn to rust, which is to be ground into an impalpable powder.

The rust 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 obstinate chlorotic cases accompanied with excessive head aches and other violent symptoms; and that he usually joined with it pimpinella, arum root, and salt of tartar, with a little cinnamon and sugar. The dose is from four or five grains to twenty or thirty. Some have gone as far as a drachm: But all the preparations of this metal answer best in small doses, which should be rather often repeated than enlarged.

FERRUM TARTARISATUM.

Lond.

Tartarised Iron.

Take of

Iron filings one pound;

Powdered crystals of tartar, two pounds.

Mix them with distilled water into a thick paste. Expose it to the air in an open earthen vessel for eight days; then dry the matter in a sand bath, and reduce it to a very fine powder.

This is an useful preparation of iron; in which that metal is brought to a saline state by means of the cream of tartar. It has now for the first time a place in the London pharmacopœia; but it had before been introduced into some of the foreign ones, particularly the Pharmacopœia Genevensis, under the title of *mars tartarisatus*; and indeed it is precisely the same with the *mars solubilis* of the old editions of the Edinburgh pharmacopœia.

This very elegant and useful preparation of iron, will, in many cases, take effect where the others have failed, on account of its great solubility. It may be given in a liquid form, or in a bolus in doses of from five grains to a scruple twice or thrice a day.

FERRUM VITRIOLATUM.

Lond.

Vitriolated Iron.

Take of

Iron filings,

Vitriolic acid, each eight ounces;

Distilled water, three pints.

Mix them in a glass vessel; and, when the effervescence has ceased, place the mixture for some time upon hot sand; then pour off the liquor, straining it through paper; and, after due exhalation, set it aside to crystallise.

FERRUM VITRIOLATUM, vulgo SAL CHALYBIS.

Edinb

Vitriolated Iron, commonly called *Salt of Steel.*

Take of

Purified iron filings, six ounces;

Vitriolic acid, eight ounces;

Water, two pounds and a half.

Mix them, and when the effervescence

cence ceaſes, let the mixture ſtand for ſome time upon warm ſand; then ſtrain the liquor through paper, and after due evaporation ſet it aſide to cryſtalliſe.

During the diſſolution of the iron an elaſtic vapour ariſes, known by the name of inflammable air, which on the approach of flame 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 ſeldom at the trouble of preparing this ſalt according to the directions above given; but in its ſtead ſubſtitute common green vitriol, purified by ſolution in water, filtration and cryſtalliſation. The only difference between the two is, that the common vitriol contains ſomewhat more metal in proportion to the acid: And hence in keeping, its green colour is much ſooner debaſed by a ruſty browniſh caſt. The ſuperfluous quantity of metal may be eaſily ſeparated, by ſuffering the ſolution of the vitriol to ſtand for ſome time in a cold place, when a browniſh yellow ochery ſediment will fall to the bottom; or it may be perfectly diſſolved, and kept ſuſpended by a ſuitable addition of vitriolic acid. If the vitriol be ſuſpected to contain any cupreous matter, which the common Engliſh vitriol ſeldom does, though moſt all the foreign vitriols do, the addition of ſome bright iron wire to the ſolution will both diſcover, and effectually ſeparate, that metal: For the acid quits the copper to diſſolve a proportional quantity of the iron; and the copper in its ſeparation from the acid, adheres to the undiſſolved iron, and forms a ſkin of a true copper colour on its ſurface. Even a vitriol of pure copper may, on this principle, be converted into a pure vitriol of iron.

Although the vitriolic acid appears in this operation to have ſo much ſtronger a diſpoſition to unite with iron than with copper, that it totally rejects the latter when the former is preſented to it; the operator may nevertheleſs, give a dangerous impregnation of copper to the pureſt and moſt ſaturated ſolution of iron in the vitriolic acid, by the uſe of copper veſſels. If the martial ſolution be boiled in a copper veſſel, it never fails to diſſolve a part of the copper diſtinguiſhable by its giving a cupreous ſtain to a piece of bright iron immerſed into it. By the addition of the iron, the copper is ſeparated; by boiling it again without iron, more of the copper is diſſolved; and this may in like manner be ſeparated by adding more iron.

The vitriolated iron is one of the moſt efficacious preparations of this metal; and frequently uſed 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 water: Boerhaave directs it to be diſſolved in an hundred

times

times its weight of water, and the solution to be taken in the dose of twelve ounces on an empty stomach, walking gently after it. Thus managed, he says, it opens the body, 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 dose of the solution, is fifty seven grains and a half; but in common practice, such large doses of this strong chalybeate are never ventured on. Four or five grains, and in many cases half a grain, are sufficient for the intention in which chalybeate medicines are given. Very dilute solutions, as that of a grain of the salt in a pint of water, may be used as succedanea to the natural chalybeate waters, and will in many cases produce similar effects.

FERRUM VITRIOLATUM EXSICCATUM, vulgo VITROLUM CALCINATUM.

Edin.

Dried Vitriolated Iron, commonly called *Calcined vitriol.*

Take of

Vitriolated iron, as much as you please.

Let it be calcined in an unglazed earthen vessel, with a moderate heat, till it becomes white and perfectly dry.

FERRUM VITRIOLATUM USTUM, vulgo COLCOTHAR VITRIOLI.

Edin.

Burnt Vitriolated Iron, commonly called *Colcothar of Vitriol.*

Let dried vitriolated iron be urged with a violent fire till it becomes of a very red colour.

The colcothar is very rarely employed by itself for medical purposes; but it is used in the preparation of some other chalybeates, particularly the *Ferrum ammoniatum* of the Edinburgh college.

ÆTHIOPS MARTIALIS.

Gen.

Martial Ethiops.

Take of

Rust of iron, as much as you please;

Olive oil, a sufficient quantity to make it into a paste.

Let this be distilled in a retort by a strong fire to dryness. Keep the residuum reduced to a fine powder in a close vessel.

An article under this name had formerly a place in some of the old pharmacopœias, and is described by Lemery in the Memoirs of the French Academy; but it was formed by a tedious process, continued for several months by the aid of

of water. Here the proceſs is much ſhorter, and is ſuppoſed to give nearly the ſame product. Some have recommended it, on the ſuppoſition that the iron is here obtained in a very ſubtile ſtate: But it is not in general ſuppoſed to have any advantage over the other more common chalybeates.

CHAP. XIII.

PRÆPARATA EX HYDRARGYRO.

PREPARATIONS OF QUICKSILVER.

WE have already treated of quickſilver or mercury at ſome length in the Materia Medica; and have there given a view of the different mercurial preparations, in the London and Edinburgh pharmacopœias, reduced to the form of a table.

Mercury or quickſilver, in its crude ſtate, is a ponderous metallic fluid, totally volatile in a ſtrong fire, and calcinable by a weak one (though very difficultly) into a red powdery ſubſtance. It diſſolves in the nitrous acid, is corroded by the vitriolic, but not acted on by the muriatic in its ordinary ſtate: It nevertheleſs may be combined with this laſt ſkilfully applied in the form of fume. Quickſilver unites by trituration, with earthy, unctuous, reſinous, and other ſimilar ſubſtances, ſo as to loſe its fluidity: Triturated with ſulphur, it forms a black maſs, which by ſublimation changes into a beautiful red one.

The general virtues of the mercurial preparations we have already endeavoured to ſtate under the article Hydrargyrus in the Materia Medica. Here it is ſufficient to obſerve, that while in certain circumſtances they act as ſtimulants, and even as corroſives, on the parts to which they are applied; under a different management when introduced into the habit, they ſeem to forward circulation through even the ſmalleſt and moſt remote veſſels of the body; and may be ſo managed as to promote all the excretions. But while they thus operate as a powerful ſtimulus to the ſanguiferous, and probably alſo to the lymphatic ſyſtem, they ſeem to exert but little influence on the nervous ſyſtem. By this means they prove eminently ſerviceable in ſome inveterate chronical diſorders, proceeding from obſtinate obſtructions of the glands. Crude mercury does not act on the human body unleſs it be reſolved into fumes, or divided into minute particles, and prevented from reuniting by the interpoſition of other ſubſtances, unleſs the dividing body be ſulphur, which reſtrains its action.

Combined

Combined with a ſmall quantity of the mineral acids, it acts effectually, though in general mildly; with a larger, it proves violently corroſive.

HYDRARGYRUS PURIFICATUS.

Lond.

Purified Quickſilver.

Take of
Quickſilver,
Iron filings, each four pounds.
Rub them together, and diſtil from an iron veſſel.

As in the diſtillation of quickſilver glaſs retorts are very liable to be broken, an iron one is here with propriety directed: And by the addition of the iron filings, matters which might otherwiſe ariſe with the quickſilver will be more apt to be detained in the retort. But ſtill this happens ſo readily, even merely with the degree of heat neceſſary to elevate the mercury, that it is very doubtful whether much advantage be obtained from this proceſs; and accordingly it has no place in the pharmacopœia of the Edinburgh college.

HYDRARGYRUS ACETATUS.

Lond. Edin.

Acetated Quickſilver.

Take of
Quckſilver;
Dilute nitrous acid, of each half a pound;
Acetated vegetable alkali, three ounces;
Warm water, two pounds and an half.
Digeſt the quickſilver with a gentle heat in the dilute nitrous acid for twenty four hours, or till it be diſſolved. Pour the nitrated quickſilver, thus prepared, into the ſolution of the acetated vegetable alkali in the warm water (at about 90 degrees), ſo that the acetated quickſilver may be formed, which is to be waſhed with cold water, and afterwards diſſolved in a ſufficient quantity of warm water. Filter this ſolution, and ſet it aſide that cryſtals may be formed.

This is a caſe of a double elective attraction, by which we combine quickſilver with the acetous acid, which was thought to be extremely difficult, if not impoſſible, till lately. The ſalt formed by this union is ſuppoſed to be much milder than any other ſaline preparation of quickſilver, and is the baſis of the celebrated pill prepared and ſold by Keyſer. So great was the reputation of this pill, that the ſecret was purchaſed by the French King, and directions for preparing it publiſhed by authority.

The proceſs here deſcribed is much leſs operoſe than that delivered by Mr. Keyſer, and furniſhes a true acetated quikſilver.

HYDRARGYRUS CALCINATUS.

Lond.

Calcined Quickſilver.

Take of
Purified quickſilver, one pound.
Expoſe the quickſilver, in a flat-bottomed glaſs cucurbit, to an heat of about 600 degrees, in a ſand bath, till it becomes a red powder.

This preparation, as thus ordered, is a very tedious one, requiring

quiring several months to complete it in. As the free access of fresh air promotes the calcination, the quicksilver ought to be exposed to the heat in a broad shallow vessel and not in a cucurbit. To this, objections have however been made, saying, that, if the heat be accidentally raised too high, part of the quicksilver would evaporate, which, when a cucurbit is used, being condensed in the neck of the vessel, falls down again into the cucurbit.

This preparation is 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, 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 doses, as four or five grains, it proves a rough emetic and cathartic.

HYDRARGYRUS PRÆCIPITATUS CINEREUS, vulgo PULVIS MERCURII CINEREUS.

Edinb.

Ash coloured precipitate of quicksilver, commonly called *Ash coloured powder of mercury.*

Take of

Quicksilver.

Dilute nitrous acid, equal weights.

Mix them so as to dissolve the quicksilver; dilute the solution with pure water, and add water of ammonia as much as is sufficient to separate the mercury perfectly from the acid; then wash the powder with pure water, and dry it.

In this process the nitrated quicksilver is decomposed; the precipitate, therefore, is a calx of mercury, and the clear liquor a solution of nitrous ammoniac. There are several niceties to be observed in conducting this process. If we employ too small a proportion of acid, and assist the solution by heat, the solution will contain an excess of calx capable of being separated by the water; and the whole precipitate from such a solution would be of a white colour. If, on the other hand, we employ too large a proportion of acid, the mercury is then so far calcined as to be capable of being dissolved by the volatile alkali: And this might happen in proportion as the quantity should be superabundant to the neutralisation of the acid. The use of the water is to dissolve the nitrous ammoniac as fast as it is formed, and thereby prevent it from falling down and mixing with the precipitate. It is necessary to employ the purest water.

The *Pulvis mercurii cinereus* has of late years been much celebrated for the cure of venereal affections. From the testimony of Dr. Home, and several other practitioners, it is doubtless a very valuable preparation of mercury. It may be given in a bolus in the quantity of from one to six or seven grains: The dose being gradually increased according to its effects.

HYDRARGYRUS CUM CRETA.

Lond.

Quickſilver with Chalk.

Take of

Purified quickſilver, three ounces;

Powdered chalk, five ounces.

Rub them together until the globules diſappear.

This preparation had no place in the former editions of the London pharmacopœia. A preparation, nearly ſimilar indeed, under the title of Mercurius Alkaliſatus, in which crabs eyes were employed inſtead of chalk, had a place in the old editions of the Edinburgh pharmacopœia, but was rejected from the edition of 1744, and has never again been reſtored. One reaſon for rejecting it was its being liable to groſs abuſe in the preparation, by the addition of ſome intermedium, facilitating the union of mercury with the abſorbent earth, but diminiſhing or altering its power. The preſent preparation is liable to the ſame objection. Some, however, are of opinion, that when duly prepared, it is an uſeful alterative. But there can be little doubt, that the abſorbent earth by deſtroying acid in the alimentary canal, will diminiſh the activity of the mercury.

HYDRARGYRUS MURIATUS.

Lond.

Muriated Quickſilver.

Take of

Purified quickſilver, two pounds,

Vitriolic acid, thirty ounces;

Dried ſea ſalt, four pounds.

Mix the quickſilver with the acid, in a glaſs veſſel, and boil in a ſand heat until the matter be dried. Mix it when cold, with the ſea ſalt, in a glaſs veſſel, then ſublime in a glaſs cucurbit, with a heat gradually raiſed. Laſtly, let the ſublimed matter be ſeparated from the ſcoriæ.

HYDRARGYRUS MURIATUS CORROSIVUS, vulgo MERCURIUS SUBLIMATUS CORROSIVUS.

Edin.

Muriated corroſive quickſilver, commonly called *Sublimate corroſive Mercury*.

Take of

Quickſilver,

Dilute nitrous acid, of each four ounces;

Dry ſea ſalt;

Dried vitriolated iron, of each five ounces.

Diſſolve the quickſilver in the nitrous acid, and evaporate the ſolution to a white and thoroughly dry maſs; then add the ſea ſalt and vitriolated iron. Having ground and mixed them well together, put the whole into a phial, one half of which they ought to fill; then ſublime in ſand, firſt with a gentle, but afterwards an increaſed heat.

The ſublimate prepared by either of theſe methods is the ſame: They both conſiſt only of quickſilver and the acid of the ſea ſalt united together, the other ingredients being of no farther uſe in this proceſs, than as convenient and proper intermedia for facilitating the union of the quickſilver with the muriatic acid.

Our apothecaries rarely, and few even of the chemiſts, attempt the making of this preparation themſelves;

themselves; greatest part of what is used among us comes from Venice and Holland. This foreign sublimate has been reported to be adulterated with arsenic. Several chemists have denied the possibilty of this union, saying that arsenic, and corrosive sublimate will not arise together in sublimation. This may be true or not, but surely the sublimate may be mixed with arsenic after the sublimation. Various methods have been given for detecting this adulteration; none of them however are to be depended on, except the following. 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 shavings 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 a garlic smell can be perceived during the process, and if the particles of iron retain their form without any of them having been melted, we may be sure that the mixture contains no arsenic.

Sublimate is a most violent corrosive, soon corrupting and destroying all the parts of the body it touches. A solution of about a drachm of it in a quart of water is used for keeping down proud flesh, and cleansing foul 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 a tenth or an eighth of a grain of it internally. Boerhaave relates that if a grain of it be dissolved in an ounce or more of water, and a drachm of this solution, sweetened with syrup of violets, be taken twice or thrice a day, it will prove efficacious; in many distempers thought incurable; but he particularly cautions us not to venture upon it, unless the method of managing it be well known.

Sublimate, dissolved in vinous spirit, has been given internally in larger doses; from a quarter of a grain to half a grain. This method of using it was brought into repute by Baron Van Swieten at Vienna, especially for venereal maladies; and several trials of it have also been made in this kingdom with success. Eight grains of the sublimate are dissolved in sixteen ounces of rectified spirit of wine or proof spirit; the rectified spirit dissolves it more perfectly, and seems to make the medicine milder in its operation than the proof spirit of the original prescription of Van Swieten. Of this solution, from one to two spoonfuls, that is, from half an ounce to an ounce, are given twice a day, and continued till all the symptoms are removed; observing to use a low diet, with plentiful dilution, otherwise the sublimate is apt to purge, and gripe severely. It generally purges more or less at the beginning, but afterwards seems to operate chiefly by urine and perspiration.

CALOMELAS.

Lond.
Calomel.

Take of
Muriated quicksilver, one pound;
Purified quicksilver, nine ounces.

Rub them together till the globules disappear, and then sublime the mass. In the same manner repeat the sublimation four times. Afterwards rub the matter into

a

a very fine powder and waſh it by pouring on boiling diſtilled water.

HYDRARGYRUS MURIATUS MITIS, vulgo CALOMELAS, ſive MERCURIUS DULCIS.

Edin.

Mild Muriated Quickſilver, commonly called *Calomel*, or *Sweet Mercury*.

Take of

Muriated corroſive quickſilver, reduced to a powder in a glaſs mortar, four ounces;

Pure quickſilver, three ounces and a half.

Mix them well together, by long trituration in a glaſs or marble mortar, until the quickſilver ceaſes to appear. Put the powder into an oblong phial, of ſuch a ſize, that only one third of it may be filled; and ſet the glaſs in ſand, that the maſs may ſublime. After the ſublimation break the glaſs, and the red powder which is found in its bottom, with the whitiſh one that ſticks about the neck, being thrown away, let the remaining maſs be ſublimed again three or four times, and reduced to a very fine powder.

THE trituration of corroſive ſublimate with quickſilver is a very noxious operation: For it is almoſt impoſſible, by any care, to prevent the lighter particles from riſing 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 ſublimation is begun. It is neceſſary to pulveriſe the ſublimate before the mercury is added to it; but this may be ſafely performed, with a little caution; eſpecially if during the pulveriſation the matter be now and then ſprinkled with a little ſpirit of wine: This addition does not at all impede the union of the ingredients, or prejudice the ſublimation: It will be convenient not to cloſe the top of the ſubliming veſſel 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 deſerves particular attention; and the more ſo as a miſtaken theory herein has been productive of ſeveral errours 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 corroſiveneſs depends, being broken and worn off by the frequent ſublimations. If this opinion were juſt, the corroſive would become mild, without any addition, barely by repeating the ſublimation; but this is contrary to all experience. The abatement of the corroſive quality of the ſublimate is entirely owing to the combination of as much freſh mercury as is capable of being united with it; and by whatever means this combination be effected, the preparation will be ſufficiently dulcified. Triture and digeſtion promote the union of the two, while ſublimation tends rather to diſunite them. The prudent operator, therefore, will not be ſolicitous about ſeparating ſuch mercurial globules as appear diſtinct after the firſt ſublimation: He will endeavour rather to combine

bine 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 of the corrosive sublimate, 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 dissolve and separate that part in which its acrimony consists. The marks of the preparation being sufficiently dulcified are its being perfectly insipid to the taste, and indissoluble 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 alkaline salt: 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 any extraneous saline matter in the water itself: Most of the common spring waters turn milky on the addition of alkalies, and therefore, for experiments of this kind, distilled water or rain water ought to be used.

This name of *Calomel*, though for a considerable time banished from our best pharmacopœias, is again restored by the London college.

Calomel, or *mercurius dulcis*, may be considered as one of the most useful of the mercurial preparations; and it may be estimated as holding an intermediate place between the *hydrargyrus acetotus*, one of the mildest of the saline preparations, and the *hydrargyrus muriatus*, or corrosive sublimate, one of the most acrid of them.

HYDRARGYRUS MURIATUS MITIS.

Lond.

Mild muriated Quicksilver.

Take of
- Purified quicksilver,
- Dilute nitrous acid, of each half a pound.

Mix in a glass vessel, and set it aside until the quicksilver be dissolved. Let them boil, that the salt may be dissolved. Pour out the boiling liquor into a glass vessel, containing a boiling hot solution of four ounces of sea salt in eight pints of water.

After a white powder has subsided to the bottom of the vessel, let the liquor swimming at the top be poured off, and the remaining powder be washed till it becomes insipid, with frequent affusions of hot water; then dried on blotting paper with a gentle heat.

HYDRARGYRUS MURIATUS PRECIPITATUS.

Edin.

Precipitated muriated Quicksilver.

Take of
- Dilute nitrous acid, eight ounces;
- Quicksilver, eight ounces or a little more.

Pour them into a chemical phial loosely covered, and let them stand for an hour, avoiding the vapours. Afterwards place the phial

phial in a ſand bath for four hours, gradually increaſing the heat till the mixture boils for about a quarter of an hour, frequently ſhaking the veſſel occaſionally. If the quickſilver be all diſſolved it will be neceſſary to add more, that the ſolution may be a perfectly ſaturated one. This ſolution muſt be poured boiling hot into another veſſel, containing a boiling hot ſolution of four ounces and an half of ſea ſalt in eight pounds of water. The mixture muſt be performed quickly, and with a briſk agitation of the veſſel in which it is made. When the precipitate has ſubſided, pour off the liquor, and waſh the precipitate well by frequent additions of boiling water and ſubſequent decantations, until no ſaline taſte is perceptible.

This preparation had a place in former editions of the London and Edinburgh pharmacopœias, under the name of *Mercurius dulcis precipitatus*; but the proceſs as now given is ſomewhat altered, being that of Mr. Scheele of Sweden, who has recommended this as an eaſy and expeditious method of preparing ſweet mercury or calomel.

It appears from ſeveral teſts, that this precipitate is equal in every reſpect to that prepared by the preceding proceſſes: It is leſs troubleſome and expenſive, and the operator is not expoſed to the noxious duſt ariſing from the triture of the quickſilver with the corroſive ſublimate, which neceſſarily happens by the common method. The powder is alſo finer than can be made from the common ſublimed ſweet mercury by any trituration whatever. The clear liquor ſtanding over the precipitate, is a ſolution of cubic or rhomboidal nitre.

Mercurius dulcis, which may be conſidered as preciſely the ſame with the *calomelas* and *hydrargyrus muriatus mitis*, appears to be one of the beſt and ſafeſt preparations of this mineral, when intended to act as a quick and general ſtimulant. Many of the more elaborate proceſſes are no other than attempts to produce from mercury ſuch a medicine as this really is. The doſe, recommended by ſome for raiſing a ſalivation, is ten or fifteen grains taken in the form of a bolus or pills, every night or oftener, till the ptyaliſm begins. As an alterant and diaphoretic, it has been given in doſes of five or ſix grains; a purgative being occaſionally interpoſed, to prevent its affecting the mouth. It anſwers, however, much better when given in ſmaller quantities, as one, two, or three grains every morning and evening, in conjunction with ſuch ſubſtances as determine its action to the ſkin, as the extract or reſin 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 ſucceſsfully cured, without any remarkable increaſe of the ſenſible evacuations. It is ſometimes, however, difficult to meaſure its effects in this way; and it is ſo very apt to run off by the inteſtines, that we can ſeldom adminiſter it in ſuch a manner as to produce thoſe

permanent effects which are often required, and which we are able to do by other preparations. It has been lately proposed to rub the gums and inside of the mouth with this preparation, as a ready and effectual method of producing salivation: This practice has been particularly recommended in the internal hydrocephalus, where it is exceedingly difficult to excite a salivation by other means; but its advantages are not fully confirmed by experience: And the good effects of mercury in hydrocephalus, are rather to be attributed to the mercury, having been introduced into the system in an active state, and thus promoting absorption, than to the discharge by salivation.

HYDRARGYRUS NITRATUS RUBER.

Lond.

Red nitrated Quicksilver.

Take of
Purified quicksilver,
Nitrous acid, of each one pound;
Muriatic acid, one drachm.

Mix in a glass vessel, and dissolve the quicksilver in a sand bath; then raise the fire until the matter be formed into red crystals.

HYDRARGYRUS NITRATUS RUBER, vulgo MERCURIUS PRÆCIPITATUS RUBER.

Edin.

Red nitrated Quicksilver, commonly called *Red precipitated Mercury.*

Take of
Quicksilver,
Dilute nitrous acid, of each one pound.

Let the quicksilver be dissolved in the acid, and then let the solution be evaporated to a white dry mass. This being beat into a powder, must be put into a glass cucurbit, and subjected to a fire gradually increased, continually stirring the mass with a glass rod, that it may be equally heated, till a small quantity of it taken out in a glass spoon and allowed to cool, assumes the form of shining red squamæ; when the vessel is to be removed from the fire.

The muriatic acid in the menstruum ordered in the first 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 insisted on by the buyer as a mark of its goodness and strength. As soon as the matter has gained this appearance, it should be immediately removed from the fire, otherwise it will soon lose it again.

This precipitate is an escharotic, and with this intention it is frequently employed by the surgeons, for consuming fungous flesh in ulcers, and the like purposes. It is subject to great uncertainty in point of strength; more or less of the acid exhaling, according to the degree and continuance of the fire. The best criterion of its strength, as already observed, is its brilliant appearance; which is also the mark of its genuineness: If mixed with minium, which it is sometimes said

ſaid 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, ſcrophulous, and other obſtinate chronic diſorders, in doſes of two or three grains, or 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 ſimilar ill conſequences, which the beſt management can ſcarcely prevent this corroſive preparation from ſometimes inducing. 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 corroſive, or render it ſimilar to others which are procurable at an eaſier rate.

CALX HYDRARGYRI ALBA.

Lond.

White Calx of Quickſilver.

Take of
Muriated quickſilver,
Sal ammoniac,
Water of kali, each half a pound.

Diſſolve firſt the ſal ammoniac, afterwards the muriated quickſilver in diſtilled water, and add the water of kali. Waſh the precipitated powder until it becomes inſipid.

This preparation is uſed chiefly in ointments: For which intention, its fine white colour is no ſmall recommendation.

HYDRARGYRUS CUM SULPHURE.

Lond.

Quickſilver with Sulphur.

Take of
Purified quickſilver,
Flowers of ſulphur, each one pound.

Rub them together until the globules diſappear.

HYDRARGYRUS SULPHURATUS NIGER, vulgo ÆTHIOPS MINERALIS.

Edinb.

Black ſulphurated Quickſilver, commonly called *Æthiops Mineral.*

Take of
Quickſilver,
Flowers of ſulphur, each equal weights.

Grind them together in a glaſs or ſtone mortar, with a glaſs peſtle, till the mercurial globules totally diſappear.

An Ethiops is made alſo with a double quantity of mercury.

The union of the mercury and ſulphur might be much facilitated by the aſſiſtance of a little warmth. Some are accuſtomed to make this preparation in a very expeditious manner, by melting the ſulphur in an iron ladle, then adding the quickſilver, and ſtirring them together till the mixture be completed. The ſmall degree of heat here ſufficient, 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 pharmacopœia.

macopœia. In the following process, they are exposed in conjunction to a strong fire, without suspicion of the compound receiving any ill quality from it. Thus much is certain, that the ingredients are more perfectly united by heat than by the degree of triture usually bestowed on them. From the ethiops prepared by triture, part of the mercury is apt to be squeezed out on making it into an electuary 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, however, have represented it as possessing extraordinary virtues; and most people imagine it a medicine of some efficacy. But what benefit is to be expected from it in the common doses of eight or ten grains, or a scruple, may be judged from hence, that it has been taken in doses of several drachms, and continued for a considerable time, without producing any remarkable effect. Sulphur eminently abates the power of all the more active minerals, and seems to be at the same time restrained by them from operating in the body itself. Boerhaave, who was in general sufficiently liberal in the commendation of medicines, disapproves of the ethiops in very strong terms. The ethiops, with a double proportion of mercury now received into our pharmacopœias, has a greater chance for operating as a mercurial, and probably the quantity of mercury might be still further increased to advantage.

HYDRARGYRUS SULPHURATUS RUBER.

Lond.

Red sulphuratated Quicksilver.

Take of

Quicksilver purified, forty ounces;

Sulphur, eight ounces.

Mix the quicksilver with the melted sulphur; and if the mixture takes fire, extinguish it by covering the vessel; afterwards reduce the mass to powder and sublime it.

This *Hydrargyrus sulphuratus ruber* is the cinnabar of the former pharmacopœias.

It has been customary to order a larger quantity of sulphur than here directed; but smaller proportions answer better; for the less sulphur, the finer coloured is the cinnabar.

As soon as the mercury and sulphur begin to unite, a considerable 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 swelling up and growing suddenly consistent: As soon as this happens, the vessel must be immediately close covered.

During the sublimation, care must be had 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 bolt head, or rather an oval earthen jar, coated, should be chosen for the subliming 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

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 caſes, 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 are perceived, either the mixture was impure, or the ſublimation is not completed: If the latter be the caſe, the wire will ſoon be covered over with the riſing cinnabar.

The preparers of cinnabar in large quantity, employ earthen jars, which in ſhape pretty much reſemble an egg. Theſe are of different ſizes, according to the quantity intended to be made at one ſublimation, which ſometimes amounts to two hundred weight. The jar is uſually coated from the ſmall end almoſt to the middle, to prevent its breaking by the vehemence or irregularity of the fire. The greater part, which is placed uppermoſt, not being received within the furnace, has no occaſion for this defence. The whole ſecret with regard to this proceſs, is the management of the fire, which ſhould be ſo ſtrong as to keep the matter continually ſubliming to the upper part of the jar, without coming out at its mouth, which is covered with an iron plate; care ſhould alſo be taken to put into the ſubliming veſſel only ſmall quantities of the mixture at a time.

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 ſimilar to the ethiops already ſpoken of. Cartheuſer relates, that having given cinnabar in large quantities to a dog, it produced no ſenſible effect, but was partly voided along with the feces unaltered, and partly found entire in the ſtomach and inteſtines on 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 epilepſies and vertigoes from contuſions of the head (where it is probable, however, that the cure did not ſo much depend on the cinnabar as on the ſpontaneous recovery of the parts from the external injury) obſerves, than 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 ſtomach and inteſtines are lax and flaccid, the cinnabar, accumulated and concreting with the mucous matter of the parts, occaſions great oppreſſion; which ſeems 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 inſtances of the daily uſe of cinnabar having brought on a ſalivation; perhaps from the cinnabar uſed in thoſe caſes having contained a leſs proportion of ſulphur than the ſort commonly met with. The regulus of antimony, and even white arſenic when combined with a certain quantity of common ſulphur, ſeem to have their deleterious power diminiſhed: On ſeparating more and more of the ſulphur, they exert more and more of their proper virulence. It does not ſeem unreaſonable to preſume, that mercury

cury may have its activity varied in the ſame manner; that when perfectly ſatiated with ſulphur, it may be inert, and that when the quantity of ſulphur, is more and more leſſened, the compound may have greater and greater degrees of the proper efficacy of mercurials.

Cinnabar is ſometimes uſed in fumigations againſt venereal ulcers in the noſe, mouth, and throat. Half a drachm of it burnt, and the ſume being taken in with the breath, has occaſioned a violent ſalivation. This effect is by no means owing to the medicine as cinnabar: When ſet on fire, it is no longer a mixture of mercury and ſulphur; but mercury reſolved into fume, and blended in part with the volatile vitriolic acid, in either of which circumſtances this mineral, as we have already obſerved, has very powerful effects.

HYDRARGYRUS VITRIOLATUS.

Lond.

Vitriolated Quickſilver.

Take of

Purified quickſilver, one pound.
Vitriolic acid fifteen ounces.

Mix in a glaſs veſſel, and heat them by degrees, until they unite into a white maſs, which is to be perfectly dried with a ſtrong fire. This matter, on the affuſion of a large quantity of hot diſtilled water, immediately becomes yellow, and falls to powder. Rub the powder carefully with this water in a glaſs mortar. After the powder has ſubſided, pour off the water; and, adding more diſtilled water ſeveral times, waſh the matter till it becomes inſipid.

HYDRARGYRUS VITRIOLATUS FLAVUS, vulgo TURPETHUM MINERALE.

Edinb.

Yellow vitriolated Quickſilver, commonly called *Turbith mineral.*

Take of

Quickſilver, four ounces;
Vitriolic acid, eight ounces.

Cautiouſly mix them together, and diſtil in a retort, placed in a ſand furnace, to dryneſs; the white calx, which is left at the bottom, being ground to powder, muſt be thrown into warm water. It immediately aſſumes a yellow colour, but muſt afterwards be purified by repeated ablutions.

The quantity of vitriolic acid formerly directed, was double to that now employed by the Edinburgh college. The reduction made in this article greatly facilitates the proceſs; and the proportions of the London college are perhaps preferable.

Boerhaave directs this preparation to be made in an open glaſs, ſlowly heated, and then placed immediately on burning coals: Care being taken to avoid the fumes, which are extremely noxious. This method will ſucceed very well with a little addreſs when the ingredients are in ſmall quantity; but where the mixture is large, it is better to uſe a retort, placed in a ſand furnace, with a recipient luted to it, containing a ſmall quantity of water. Great care ſhould be taken, when the vitriolic acid begins to bubble, that the heat be ſteadily kept up, without at all increaſing it till the ebullition ceaſes, when the fire ſhould be augmented to the utmoſt degree,

gree, that as much as poſſible of the redundant acid may be expelled.

If the matter be but barely exſiccated, it proves a cauſtic ſalt which in the ablution with water will almoſt all diſſolve, leaving only a little quantity of turbith: The more of the acid that has been diſſipated, the leſs of the remaining mercury will diſſolve, and conſequently the yield of turbith will be greater: Fire expelling only ſuch part of the acid as is not completely ſatiated with mercury, while water takes up always, along with the acid, a proportional quantity of the mercury itſelf. Even when the matter has been ſtrongly calcined, a part will ſtill be ſoluble: This evidently appears on pouring into the waſhings a little ſolution of fixt alkaline ſalt, which will throw down a conſiderable quantity of yellow precipitate, greatly reſembling the turbith, 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 ſalt: For by this means, the waſhed turbith will not only turn out greater in quantity, but, what is of more conſequence, will have an equal degree of ſtrength; a circumſtance which deſerves particularly to be conſidered, eſpecially in making ſuch preparations as, from an error in the proceſs, may prove too violently corroſive to be uſed with any tolerable degree of ſafety. It is neceſſary to employ warm water if we are anxious for a fine colour. If cold water be uſed, the precipitate will be white.

It is obſervable, that though the ſuperfluous acid be here abſorbed from the mercury by the alkaline ſalt; yet in ſome circumſtances this acid forſakes that ſalt to unite with mercury. If *Tartarus vitriolatus*, or *Kali vitriolatum*, as it is now called, which is a combination of vitriolic acid with fixt alkali, be diſſolved in water, and the ſolution added to a ſolution of mercury in aqua fortis, the vitriolic acid will unite with the mercury, and form with it a turbith, which falls to the bottom.

Turbith mineral is a ſtrong emetic, and with this intention operates the moſt powerfully of all the mercurials that can be ſafely given internally. Its action, however, is not confined to the primæ viæ; it will ſometimes excite a ſalivation, if a purgative be not taken ſoon after it. This medicine is uſed chiefly in virulent gonorrhœas, and other venereal caſes, where there is a great flux of humours to the parts. Its chief uſe at preſent is in ſwellings of the teſticle from a venereal affection; and it ſeems not only to act as a mercurial, but alſo, by the ſevere vomiting it occaſions, to perform the office of a diſcutient, by accelerating the motion of the blood in the parts affected. It is ſaid likewiſe to have been employed with ſucceſs, in robuſt conſtitutions, againſt leprous diſorders, and obſtinate glandular obſtructions: The doſe is from two grains to ſix or eight. It may be given in doſes of a grain or two as an alterative and diaphoretic, in the ſame manner as the *Hydrargyrus calcinatus* already ſpoken of. Dr. Hope has found that the turbith mineral is the

moſt

moſt convenient errhine he has had occaſion to employ.

This medicine was lately recommended as the moſt effectual preſervative againſt the hydrophobia. It has been alleged there are ſeveral examples of its preventing madneſs in dogs which had been bitten; and ſome of its performing a cure after the madneſs was begun. From ſix or ſeven grains to a ſcruple may be given every day, or every ſecond 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 ſubjects bitten by mad dogs; and in theſe alſo the turbith uſed either as an emetic or alterative, ſeemed to have good effects.

The waſhings of turbith mineral are uſed by ſome, externally, for the cure of 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 has been obſerved above, according to the degree of calcination. The pharmacopœia 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 ſufficient quantity of ſpirit of nitre, and diluted with thirty ounces of diſtilled water. In want of diſtilled water, rain water may be uſed; but of ſpring waters there are very few which will mix with the mercurial ſolution, without growing turbid and precipitating a part of the mercury.

SOLUTIO MERCURIALIS SIMPLEX.

Joſ. Jac. Plenck.

Simple mercurial ſolution.

Take of

Pureſt quickſilver, one drachm;
Gum arabic, two drachms.

Rub them in a ſtone mortar, adding by little and little diſtilled water of fumitory, till the mercury thoroughly diſappears in the mucilage.

Having beat and mixed them thoroughly, add by degrees, and at the ſame time rubbing the whole together,

Syrup of kermes, half an ounce;
Diſtilled water of fumitory, eight ounces.

This mixture was much celebrated by its author as an effectual preparation of mercury, unattended with the inconvenience of producing a ſalivation; and he imagined that this depended on a peculiar affinity exiſting between mercury and mucilage. Hence ſuch a conjunction, the hydrargyrum gummoſum, as it has been ſtyled, has been the foundation of mixtures, pills, ſyrups, and ſeveral other formulæ, that were uſed in extemporaneous preſcription or inſerted in different pharmacopœias.

By a long continued triture, mercury ſeems to undergo a degree of calcination; at leaſt its globular appearance is not to be diſcerned by the beſt microſcope; its colour is converted into that of a greyiſh powder; and from the inactive ſubſtance in its globular form, it is now become one of the moſt powerful preparations of this metallic body. The uſe of the gum ſeems to be nothing more,

more, than to afford the interpoſition of a viſcid ſubſtance to keep the particles at a diſtance from each other, till the triture requiſite to produce this change be performed. Dr. Saunders has clearly proved that no real ſolution takes place in this proceſs, and that though a quantity of mercurial particles are ſtill retained in the mixture after the globular parts have been depoſited by dilution with water, yet that this ſuſpended mercurial matter is only diffuſed in the liquor, and capable of being perfectly ſeparated by filtration. That long triture is capable of effecting the above change on mercury, is fully evinced from the well known experiment of Dr. Boerhaave, in producing a kind of calcined mercury by expoſing quickſilver incloſed in a phial to the agitation produced by keeping the phial tied to the ſails of a windmill for fourteen years. By incloſing a pound of quickſilver in an iron box, with a quantity of iron nails and a ſmall quantity of water, by the addition of which a greater degree of inteſtine motion is given to the particles of the mercury, and fixing the box to the wheel of a carriage, Dr. Saunders obtained, during a journey of four hundred miles, two ounces of a greyiſh powder, or calx of mercury.

On the above accounts we are not to aſcribe the effects of Plenck's ſolution to an intimate diviſion of the globules of mercury, nor to any affinity, nor elective attraction, between gum arabic and mercury; which laſt Mr. Plenck has very unphiloſophically ſuppoſed. The ſame thing can be done by means of gum tragacanth, by honey, and by many balſams. It is evidently owing to the converſion of the quickſilver to a calciform nature; but as this will be accompliſhed more or leſs completely, according to the different circumſtances during the triture, it is certainly preferable, inſtead of Plenck's ſolution, to diffuſe in mucilage, or other viſcid matters, a determinate quantity of the *Pulvis cinereus*, or other calx of mercury.

It is proper to take notice, that there is in many inſtances a real advantage in employing mucilaginous matters along with mercurials, theſe being found to prevent diarrhœa and ſalivation to a remarkable degree. So far, then, Mr. Plenck's ſolution is a good preparation of mercury, though his chemical rationale is perhaps erroneous. The diſtilled water and ſyrup are of no conſequence to the preparation, either as facilitating the proceſs, or for medicinal uſe.

It is always moſt expeditious to triturate the mercury with the gum in the ſtate of mucilage. Dr. Saunders found that the addition of honey was an excellent auxiliary; and the mucilage of gum tragacanth ſeems better ſuited for this purpoſe than gum arabic.

CHAP. XIV.

PRÆPARATA E PLUMBO.

PREPARATIONS of LEAD.

LEAD readily melts in the fire, and calcines into a duſky powder: Which, if the flame is reverberated on it, becomes at firſt yellow, then red, and at length melts into a vitreous maſs. This metal diſſolves eaſily in the nitrous acid, difficultly in the vitriolic, and in ſmall quantity in the vegetable acids; it is alſo ſoluble in expreſſed oil, eſpecially when calcined.

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

There are two preparations of lead, *red* and *white lead*, as they are commonly called, which are much more extenſively employed in other arts than in medicine, and of courſe they are prepared in large quantities. Theſe formerly ſtood among the preparations in our pharmacopœias. But they are now referred to the materia medica. Accordingly we have already had occaſion to make ſome obſervations with reſpect to them. But we ſhall here inſert from the old editions of the Edinburgh pharmacopœia, the directions there given for preparing them.

MINIUM.
Red lead.

Let any quantity of lead be melted in an unglazed earthen veſſel, and kept ſtirring with an iron ſpatula till it falls into a powder, at firſt blackiſh, afterwards yellow, and at length of a deep red colour, in which laſt ſtate it is called *minium*; taking care not to raiſe the fire ſo high as to run the calx into a vitreous maſs.

THE preparation of red lead is ſo 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 buſineſs.

buſineſs. The makers melt large quantities of lead at once, upon the bottom of a reverberatory furnace built for this purpoſe, and ſo contrived, that the flame acts on a large ſurface of the metal, which is continually changed by means of iron rakes drawn backwards and forwards, till the fluidity of the lead is deſtroyed; after which, the calx is only now and then turned. By barely ſtirring the calx, as above directed, in a veſſel over the fire, it acquires no redneſs; the reverberation of flame on the ſurface being abſolutely neceſſary for this effect. It is ſaid, that 100 pounds of lead gain, in this proceſs, 12 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 inflammations, cleanſing and healing ulcers, and the like.

CERUSSA.

Ceruſſe, or white lead.

Put ſome vinegar into the bottom of an earthen veſſel, and ſuſpend 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 is alſo become a trade by itſelf, and confined to a few perſons, who have large conveniencies for this purpoſe.

In this preparation, the lead is ſo 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 ſores, or ulcers, moderately cooling, drying, and aſtringent.

CERUSSA ACETATA.

Lond.

Acetated ceruſſe.

Take of

Ceruſſe, one pound;

Diſtilled vinegar, one gallon.

Boil the ceruſſe with the vinegar until the vinegar is ſaturated; then filter through paper; and, after proper evaporation, ſet it aſide to cryſtallize.

CERUSSA ACETATA, vulgo SACCHARUM SATURNI.

Edinb.

Acetated Ceruſſe, commonly called *Sugar of lead.*

Put any quantity of ceruſſe into a cucurbit, and pour upon it ten times its quantity of diſtilled vinegar. Let the mixture ſtand upon warm ſand till the vinegar becomes ſweet; when it is to be poured off, and freſh vinegar added as often as it comes off ſweet. Then let all the vinegar be evaporated in a glaſs veſſel to the conſiſtence of pretty thin honey, and ſet it aſide in a cold place, that cryſtals may be formed, which are to be afterwards dried in the ſhade. The remaining liquor is again to be evaporated that new cryſtals may be formed; the evaporation of the reſiduous liquor is to

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be repeated till no more cryſtals concrete.

Cerusse (eſpecially that ſort called *flake lead*, which is not, like the others, ſubject to adulteration) is much preferable either to minium or litharge, for making the ſugar of lead: For the corroſion, which it has undergone from the ſteam of the vinegar, diſpoſes it to diſſolve more readily. It ſhould be finely powdered before the vinegar be 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 purpoſe to better advantage than the weaker, though purer, acid, above directed. If a ſmall quantity of rectified ſpirit of wine be prudently added to the ſolution as ſoon as it is duly exhaled, and the mixture ſuffered to grow cold by ſlow degrees, the ſugar will concrete into very large and tranſparent cryſtals, which are ſcarcely to be obtained by any other method.

If the cryſtals be dried in ſunſhine, they acquire a blackiſh or livid colour. This ſeems to happen from the abſorption of light. As lead communicates a ſweetneſs and aſtringency very ſimilar to the product of the vinous fermentation, a practice formerly prevailed among fraudulent dealers, of correcting the two great ſharpneſs of acid wines by adulterating them with its metal. The abuſe may be detected in two different ways: A piece of paper may be moiſtened with the liquor to be examined, and then expoſed to the vapours of liver of ſulphur: The moiſtened paper, will become of a livid colour. But the beſt way of making the teſt is, to drop a ſmall quantity of a ſolution of the liver of ſulphur into the ſuſpected liquor: If there be any lead preſent, this addition will inſtantly occaſion the precipitation of a livid or dark coloured cloud.

The ſugar of lead is much more efficacious than the foregoing preparations, in anſwering the ſeveral intentions to which they are applied. Some have ventured upon it internally, in doſes of a few grains, as a ſtyptic, in hæmorrhagies, profuſe colliquative ſweats, ſeminal fluxes, the flour 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, ſometimes immediately follow, eſpecially if the doſe has been conſiderable: And cramps, tremors, and weakneſs of the nerves generally, ſooner or later, enſue.

Boerhaave was of opinion, that this preparation proves malignant only, as far as its acid happens to be *abſorbed* in the body; for in ſuch caſe, he ſays, "it returns "again into ceruſſe, which is "violently poiſonous." On this principle it would follow, that in habits where acidities abound, the ſugar of lead would be innocent. But this is far from being the caſe. Lead and its preparations

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act in the body only when they are combined with acid: Ceruſſe poſſeſſes the qualities of the ſaccharum only in a low degree; and either of them freed from the acid, has little, if any effect at all. For the ſame reaſons, the ſugar of lead is preferable to the pompous *extract* and *vegeto mineral water* of Goulard, in which the lead is much leſs perfectly combined in a ſaline ſtate. It is ſometimes convenient to aſſiſt the ſolution of the ſugar of lead in water, by adding a portion of vinegar. The effects of the external application of lead ſeems to differ from the ſtrength of the ſolution: Thus a very weak ſolution ſeems to diminiſh directly the action of the veſſels, and is therefore more peculiarly proper in active inflammations, as of the eyes; whereas a ſtrong ſolution operates as a direct ſtimulant and is therefore more ſucceſsful in paſſive ophthalmia.

AQUA LITHARGYRI ACETATI.

Lond.

Water of acetated Litharge.

Take of

Litharge, two pounds and four ounces;

Diſtilled vinegar, one gallon.

Mix and boil to ſix pints, conſtantly ſtirring; then ſet it aſide. After the feces have ſubſided, ſtrain.

This preparation may be conſidered as nearly the ſame with the extract and vegeto mineral water of Mr. Goulard. And it is probably from the circumſtances of his preparations having come into a common uſe, that the London college have given this article a place in their pharmacopœia. It may, however, be a matter of doubt whether it be really intitled to a place. For as we have already obſerved, every purpoſe to be anſwered by it may be better obtained from the employment of a ſolution of the ceruſſa acetata in ſimple water. The aqua lithargyri acetati is intended for external uſe only.

CHAP.

CHAP. XV.

PRÆPARATA E STANNO.

PREPARATIONS OF TIN.

TIN eaſily melts in the fire, and calcines into a duſky powder; which, by a farther continuance of the heat becomes white. A maſs of tin heated till it be juſt ready to melt, proves extremely brittle, ſo as to fall in pieces from a blow; and by dexterous agitation, into powder. Its proper menſtruum is aqua regia; though the other mineral acids may alſo be made to diſſolve it, and the vegetable ones in ſmall quantity. It cryſtalliſes with the vegetable and vitriolic acids; but with the others, deliquates.

The virtues of this metal are little known. It has been recommended as an antihyſteric, antihectic, &c. At preſent, it is chiefly uſed as an anthelmintic.

PULVIS STANNI.

Lond.

Tin powder.

Take of

Tin, four ounces.

Melt it and take off the film formed on its ſurface; then pour it into a clean iron veſſel, and either by agitation or rubbing reduce it to a powdery ſtate; paſs the finer parts through a hair ſieve.

THE college of Edinburgh do not give this preparation, inſerting *Limatura et pulvis Stanni* in their liſt of the materia medica. It is often employed 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 drachm; ſome confine it to a few grains. But Dr. Alſton aſſures us, in the Edinburgh Eſſays, that its ſucceſs chiefly depends on its being given in much larger quantities: He directs an ounce of the powder on an empty ſtomach, mixed with four ounces of molaſſes; next day half an ounce; and the day following, half an ounce more; after which a cathartic is adminiſtered: He ſays the worms are uſually voided during the operation

tion of the purge, but that pains of the ſtomach occaſioned by them are removed almoſt immediately upon taking the firſt doſe of the tin.

This practice is ſometimes ſucceſsful in the expulſion of tænia, but by no means ſo frequently as Dr. Alſton's obſervations would lead us to hope.

STANNI AMALGAMA.

Dan.

Amalgama of Tin.

Take of

Shavings of pure tin, two ounces;

Pure quickſilver, three drachms.

Let them be rubbed to a powder in a ſtone mortar.

Some have imagined that tin thus acted on by mercury, is in a more active condition than when exhibited in the ſtate of powder: And accordingly it has been given in worm caſes. But as both are equally inſoluble in the animal fluids, this is not to be expected; and to obtain any peculiar properties which tin may poſſeſs to their full extent, it will probably be neceſſary to exhibit it in ſome ſaline ſtate.

CHAP.

CHAP. XVI.

PRÆPARATA E ZINCO.

PREPARATIONS OF ZINC.

ZINCUM CALCINATUM.
Lond.
Calcined Zinc.

Take of
Zinc, broken into ſmall pieces, eight ounces.
Caſt the pieces of zinc, at ſeveral times, into an ignited large and deep crucible, placed leaning, or half upright, putting on it another crucible in ſuch a manner that the air may have free acceſs to the burning zinc.
Take out the calx as ſoon as it appears, and ſeparate its white and lighter part by a fine ſieve.

ZINCUM USTUM, vulgo FLORES ZINCUM.
Edin.
Burnt Zinc, commonly called *Flowers of Zinc.*

Let a large crucible be placed in a furnace, in an inclined ſituation, only half upright; when the bottom of the veſſel is moderately red, put a ſmall piece of zinc about the weight of a drachm into it. The zinc ſoon flames, and is at the ſame time converted into a ſpongy calx, which is to be raked from the ſurface of the metal with an iron ſpatula, that the combuſtion may proceed the more ſpeedily: When the zinc ceaſes to flame, take the calx out of the crucible. Having put in another piece of zinc, the operation may be repeated as often as you pleaſe. Laſtly, the calx is to be prepared like antimony.

THESE flowers, as uſed externally, are 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, which contains a large quantity of earth, and frequently a portion of heterogeneous metallic matter. The flowers of zinc, have been much celebrated of late years in the

the cure of epilepſy and ſeveral ſpaſmodic affections: And there are ſufficient teſtimonies of their good effect, where tonic remedies in thoſe affections are proper. They ought to be given at firſt in very ſmall doſes, as a grain or two twice a day; and the doſe gradually increaſed to ſeven or eight grains.

ZINCUM VITRIOLATUM, vulgo VITRIOLUM ALBUM.

Edin.

Vitriolated Zinc, commonly called *White vitriol.*

Take of
- Zinc, cut into ſmall pieces, three ounces;
- Vitriolic acid, five ounces;
- Water, twenty ounces.

Having mixed the acid and water, add the zinc, and when the ebullition is finiſhed ſtrain the liquor; then after proper evaporation ſet it apart in a cold place, that it may ſhoot into cryſtals.

THIS ſalt is an elegant white vitriol. It differs from the common white vitriol of the ſhops, only in being purer, and perfectly free from any admixture of copper, or other foreign metallic bodies.

ZINCUM VITRIOLATUM.

Lond.

Vitriolated Zinc.

Take of
- White vitriol, one pound;
- Vitriolic acid, one drachm;
- Boiling diſtilled water, three pints.

Mix and filter through paper. After a proper evaporation, ſet it aſide in a cool place to cryſtalliſe.

ALTHOUGH the Edinburgh college have given a formula for the preparation of white vitriol, yet their direction is very rarely followed by any of the apothecaries or chemiſts, who in general purchaſe it as obtained from the Goſlar mines. When, however, it is got in this way, it is often a very impure ſalt, and requires that purification which is here directed, and which is by no means neceſſary for the white vitriol artificially prepared, in the manner above directed.

CHAP. XVII.

PRÆPARATA E CUPRO.

PREPARATIONS of COPPER.

COPPER is a reddiſh ſoft metal, requiring a very intenſe heat for its fuſion. In its metallic ſtate it produces ſome action on the animal fluids and ſolids. Diſſolved it is externally an eſcharotic, and internally a moſt violent poiſon, unleſs given with great caution and in proper doſes. It is of very eaſy ſolution in all acids and in the volatile alkali.

CUPRUM AMMONIACUM.

Edin.

Ammoniacal Copper.

Take of

Vitriolated copper, two parts;
Prepared ammonia, three parts.

Rub them together in a glaſs mortar, until they unite after the effervescence ceaſes, into a uniform violet coloured maſs, which muſt be firſt dried on blotting paper, and afterwards by a gentle heat. The product muſt be kept in a glaſs phial, well cloſed with a glaſs ſtopper.

THIS preparation has been thought ſerviceable in epilepſies; but from its frequent want of ſucceſs and the diſagreeable conſequences with which its uſe is ſometimes attended, it has not lately been much preſcribed. It is employed by beginning with doſes of half a grain, twice a day; and increaſing them gradually to as much as the ſtomach will bear. Dr. Cullen ſometimes increaſed the doſe to five grains.

AQUA ÆRUGINIS AMMONIATÆ, vulgo AQUA SAPPHIRINA.

Edin.

Water of Ammoniated verdigris, commonly called *Sapphire water.*

Take of

Lime water freſh made, eight ounces;
Sal ammoniac, two ſcruples;
Verdigris powdered, four grains.

Mix

Mix them, and after twenty four hours filter the liquor.

This water is used externally for cleansing foul ulcers, and disposing them to heal. It has been recommended also for taking off specks and films from the eyes; but when used with this intention it ought to be diluted with some pure water, as in the state of strength in which it is here ordered, it irritates and inflames the eyes not a little.

AQUA CUPRI VITRIOLATI COMPOSITA, vulgo AQUA STYPTICA.

Edin.

Compound water of vitriolated copper, commonly called *styptic water.*

Take of
Vitriolated Copper,
Alum, of each three ounces;
Water, two pounds;
Vitriolic acid, one ounce and an half.

Boil the salts in the water that they may be dissolved, and to the filtred liquor add the vitriolic acid.

This styptic water is somewhat similar to the old *aqua aluminosa Bateana* of the former pharmacopœias, so much celebrated for stopping profuse hæmorrhagies. Its chief use is for stopping bleedings at the nose; and for this purpose cloths or dossils steeped in the liquor are to be applied to the part.

CHAP. XVIII.

AQUÆ DISTILLATÆ.

London.

AQUÆ STILLATITIÆ.

Edinburgh.

DISTILLED WATERS.

THE effluvia which exhale into the air from many vegetables, particularly from those of the odorous kind, consist apparently of principles of great subtility 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 slower manner, on the system of the grosser vessels. Thus Boerhaave observes, that in hysterical and hypocondriacal persons, the fragrant odour of the Indian hyacinth excites spasms, which the strong scent of rue relieves: That the effluvia of the walnut tree occasions headachs, and makes 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 several persons were purged by staying long in a room where damask roses were drying.

Some of the chemists have indulged themselves in the pleasing survey of these presiding spirits as they are called, of vegetables; their peculiar nature in the different species of plants; the exhalation into the atmosphere by the sun'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

of water, as a vehicle or matrix for retaining them.

The proceſs which has been judged moſt analogous to that of nature, is the following. The ſubject freſh gathered at the ſeaſon of its greateſt vigour, with the morning due on it, is laid lightly and unbruiſed 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, ſo as to keep up an uniform heat, no greater than about 85 degrees of Farenheit's thermometer. In this degree of heat there ariſes, exceeding 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 ſubſtance that the plant would have ſpontaneouſly emitted in the open air.

But on ſubmitting many kinds of odoriferous vegetables to this proceſs, the liquors obtained by it have been found to be very different from the natural effluvia of the reſpective ſubjects: They have had very little ſmell, and no remarkable taſte. 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 preſumed, that in this laſt caſe ſome other cauſe concurs to be the effect: That it is not the ſun's heat alone which raiſes and impregnates the air with the odorous principles of vegetables, but that the air itſelf, or the watery humidity with which it abounds acting as a true ſolvent, extracts and imbibes them: So that the natural effluvia of a plant may be conſidered as an infuſion of the plant made in air. The purgative virtue of the damaſk roſe, and the aſtringency of the walnut tree, which, as above obſerved, are in ſome degree communicated to the air, may be totally extracted by infuſion both in watery and ſpirituous menſtrua, but never riſe 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 theſe principles, which naturally exhale from vegetables, may be collected by diſtillation; whereas there are many which the air extracts in virtue of its ſolvent power; ſome are alſo incapable of being collected in a viſible and inelaſtic form; and ſome are artificially ſeparable by ſolvents only: 2. In employing a degree of heat inſufficient 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 practiſed it, have generally employed a conſiderable heat. A ſhallow leaden veſſel is filled with the freſh herbs, flowers, &c. which are heaped above it; ſo that when the head is fitted on, this alſo may be filled a conſiderable way. A little fire is made under the veſſel, ſufficient to make the bottom much hotter than the hand can bear, care being only taken not to heat it ſo far as to endanger ſcorching any part of the ſubject. If the bottom of the veſſel be not made ſo hot as to have this effect on the part contiguous to it, there is no fear that the heat communicated

cated to the reſt of the included matter will be ſo great as to do it any injury. By this management, the volatile parts of ſeveral odorous plants, as mint, are effectually forced over; and if the proceſs has been ſkilfully managed, the diſtilled liquor proves richly impregnated with the native odour and flavour of the ſubject, without having received any kind of diſagreeable impreſſion from the heat uſed.

This proceſs has been chiefly practiſed in private families; the ſlowneſs of the diſtillation, and the attendance and care neceſſary for preventing the ſcorching of ſome part of the plant, ſo as to communicate an ungrateful burnt flavour to the liquor, rendering it inconſiſtent with the diſpatch requiſite in the larger way of buſineſs.

Another method has therefore been had recourſe to, viz. by the common ſtill, called, in diſtinction 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 to boil fully, ſo that the vapour riſes 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 ſucceeding each other, or in a continued ſtream. The additional water does not at all weaken the produce: For the moſt volatile parts of the ſubject riſe firſt, and impregnate the liquor that firſt diſtils: As ſoon as the plant has given over its virtue ſufficiently, which is known by examining from time to time the liquor that runs from the noſe of the worm, the diſtillation is to be ſtopped.

This is the method of diſtillation commonly practiſed for the officinal waters. It is accompanied with one imperfection, affecting chiefly thoſe waters whoſe principal value conſiſts 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 ſubject with the water. Sometimes alſo a part of the plant ſticks to the ſides 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 has been recommended for the diſtillation of the more volatile eſſential oils, and which is equally applicable to that of the waters. In this way, the advantages of the foregoing methods are united, and their inconveniencies obviated. A quantity of water being poured into the ſtill, 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 riſe up into the baſket, which would defeat the intention of this contrivance. The hot vapour of the water, paſſing gently through all the interſtices of the ſubject matter, imbibes and carries over the volatile parts unaltered in their native flavour. By this means the diſtilled waters of all thoſe ſubſtances whoſe oils are of the more volatile kind, are obtained in the utmoſt perfection and with ſufficient diſpatch.

In the diſtillation of eſſential oils, the water, as was obſerved in a foregoing ſection, 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 communicated to the water,

water, or obtained in the form of a watery liquor, being found in a concentrated ſtate in the oil. The eſſential oil, or ſome part of it, more attenuated and ſubtiliſed than the reſt, is the direct principle on which the title of *ſpiritus rector*, or preſiding ſpirit, has been beſtowed.

All thoſe vegetables therefore which contain an eſſential 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 ſaturating with its virtue, are by no means in proportion to the quantity of its oil. The oil ſaturates only the water that comes over at the ſame time with it: If there be more oil than is ſufficient for this ſaturation, the ſurplus ſeparates, and concretes in its proper form, not miſcible with the water that ariſes afterwards. Some odoriferous flowers, whoſe oil is in ſo ſmall quantity, that ſcarcely any viſible 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 diſtilled waters may be more and more impregnated with the virtues of the ſubject, and their ſtrength increaſed to any aſſigned degree, by *cohobation*, that is, by redililling them a number of times from freſh parcels of the plant. Experience, however, ſhews the contrary; a water ſkilfully drawn in the firſt diſtillation, proves on every repeated one not ſtronger but more diſagreeable. 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, ſince their virtue may be obtained much more advantageouſly by others.

General rules for the DISTILLATION *of the* OFFICINAL SIMPLE WATERS.

I.

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 while green.

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.

Plants differ ſo much, according to the ſoil and ſeaſon of which they are the produce, and likewiſe according to their own ages, that it is impoſſible to fix 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 flavoured

flavoured off the ſubject, and no longer.

II.

The diſtillation may be performed in an alembic with a refrigeratory, the junctures being luted; or in a common ſtill.

III.

The diſtillation is to be continued as long as the water, which comes over, is perceived to have any ſmell or taſte of the ſubject.

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.

IV.

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

V.

That the waters may keep the better, about a twentieth part their weight of proof ſpirit may be added to each after they are diſtilled. The Edinburgh pharmacopœia directs half an ounce of proof ſpirit to be added to every pound of the diſtilled water.

A great number of diſtilled waters were formerly kept in the ſhops, and are ſtill retained in foreign pharmacopœias. 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 ſingle water. Nearly one half of theſe have ſcarcely any virtue or flavour from the ſubject, and many of the others are inſignificant.

The College of London and Edinburgh have rejected theſe oſtentatious ſuperfluities, and given an elegant and compendious ſet 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 ſuitable vehicles for medicines of greater efficacy, or for rendering diſguſtful ones more acceptable to the palate and ſtomach; few are depended on, with any intention of conſequence, by themſelves.

AQUA DISTILLATA.

Lond.

Diſtilled Water.

Take of

Spring water, ten gallons.

Draw off by diſtillation, firſt, four pints; which being thrown away, draw off four gallons. This water is to be kept in a glaſs or earthen bottle with a glaſs ſtopper.

AQUA DISTILLATA.

Edin.

Diſtilled Water.

Let ſpring or well water be diſtilled in very clean veſſels till about two thirds are drawn off.

Native water is ſeldom or never found pure, and generally contains earthy, ſaline, metallic, or other matters. Diſtillation is therefore employed as a means of freeing it from theſe heterogeneous parts. For ſome pharmaceutical purpoſes diſtilled water is abſolutely neceſſary: Thus, if we employ hard undiſtilled

undiſtilled water for diſſolving ſugar of lead, inſtead of a perfect tranſparent ſolution, we produce a milky one.

Diſtilled water is now employed by the London college for a great variety of purpoſes; and there can be no doubt, that in many chemical and pharmaceutical proceſſes, the employment of a heterogeneous fluid, in place of the pure element, may produce an eſſential alteration of qualities, or fruſtrate the intention in view. While the London college have made more uſe of diſtilled water than any other, their directions for preparing it ſeem to be the beſt. For as ſome impregnations may be more volatile than pure water, the water may be freed from them by throwing away what comes firſt over; and by keeping it afterwards in a cloſe veſſel, abſorption from the air is prevented.

AQUA ANETHI.

Lond.

Dill water.

Take of
Dill ſeed, bruiſed, one pound;
Water, ſufficient to prevent an empyreuma.
Draw off one gallon.

AQUA SEMINUM ANETHI.

Edin.

Dill ſeed Water.

Take of
Dill ſeeds, one pound;
Pour on as much water as when ten pounds have been drawn off by diſtillation, there may remain as much as is ſufficient to prevent an empyreuma.
After proper maceration, let ten pounds be drawn off.

The London college determine the quantity of water to be diſtilled by meaſure, while that of Edinburgh determine it by weight. But the comparative ſtrengths may be eaſily known, ſince the Edinburgh college always direct 10 pounds, and that of London always a gallon, which is 10 pounds 1 ounce 6 drachms and 4 grains; ſo that we may without any ſenſible error eſtimate the gallon at 10 pounds.

Although the dill water holds a place, not only in the London and Edinburgh pharmacopœias, but alſo in moſt of the foreign ouces; yet it is not much employed in practice. It obtains, indeed, a pretty ſtrong impregnation from the ſeeds, and is ſometimes employed as a carminative, particularly as the baſis of mixtures and juleps; but it is leſs powerful and leſs agreeable than that of peppermint, cinnamon, and ſome others.

AQUA CINNAMOMI.

Lond. Ed.

Cinnamon water.

Take of
Cinnamon, bruiſed, one pound;
Water, ſufficient to prevent an empyreuma.
Macerate for twenty four hours, and draw off one gallon.

This is a very grateful and uſeful water, poſſeſſing in an eminent degree the fragrance and aromatic cordial virtues of the ſpice. Where real cinnamon water is wanted, care ſhould be had in the choice of the cinnamon, to avoid the too common impoſition of caſſia being ſubſtituted in its room. The two drugs may be eaſily diſtinguiſhed from each other by the

the marks laid down under the respective articles in the Second Part of this work: But the essential oils of the two approach so near, that after distillation it is perhaps impossible to distinguish the waters; and it is still more doubtful how far the one is in any degree preferable to the other.

The oil of cinnamon is very ponderous, and arises more difficultly than that of any other of the vegetable matters from which simple waters are ordered to be drawn. This observation directs us, in the distillation of this water, to use a quick fire and a low vessel. For the same reason, the water does not keep so 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 smell, and aromatic taste. Some recommend a small proportion of sugar to be added, in order to keep the oil united with the water.

AQUA CASSIÆ LIGNEÆ.

Edinb.

Cassia water.

From a pound and a half of the cassia bark, ten pounds of water are directed to be drawn off in the same manner as the dill water.

This distilled water, as we have already observed, when properly prepared, approaches so near to that of cinnamon, that it is almost, if not altogether, impossible to distinguish the difference between the two. And although the London college has given it no place in their pharmacopœia, yet it is no stranger to the shops of the apothecaries. The difference of price between this and cinnamon water is so great, and the sensible qualities so nearly alike, that what is sold under the name of cinnamon water is almost entirely prepared from cassia alone; and not even from the cassia bark, as directed by the Edinburgh college, but from the cassia buds, which may be had at a still cheaper rate, and which yield precisely the same essential oil, although in less quantity. When cassia water is prepared precisely according to the directions of the Edinburgh college, from containing a larger proportion of the subject, it has in general a stronger impregnation than their genuine cinnamon water, and is probably in no degree inferior in its virtues.

AQUA FÆNICULI.

Lond.

Fennel water.

Take of

Sweet fennel seeds, bruised, one pound;

Water sufficient to prevent an empyreuma.

Draw off one gallon.

The water of fennel seeds is not unpleasant. A water has also been distilled from the leaves. When these are employed, they should be taken before the plant has run into flower; for after this time they are much weaker, and less agreeable. Some have observed, that the upper leaves and tops, before the flowers appear, yield a more elegant water, and a remarkably finer essential oil than the lower ones; and that the oil obtained from the one swims on water, while that of the other sinks.

ſinks. No part of the herb, however, is equal in flavour to the ſeeds.

AQUA MENTHÆ PIPERITIDIS.

Lond.

Peppermint water.

Take of
Peppermint, dried, one pound and an half;
Water, ſufficient to prevent an empyreuma.
Draw off one gallon.

Edinb.

From three pounds of freſh peppermint in flower, ten pounds of water are to be drawn off.

This is a very elegant and uſeful water; it has a warm pungent taſte, exactly reſembling that of the peppermint itſelf. A ſpoonful or two taken at a time, warms the ſtomach, and gives 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.

In the diſtillation of this water, a conſiderable quantity of eſſential oil generally comes over in its pure ſtate. And it is not uncommon to employ this for impregnating other water, with which it may be readily mixed by the aid of a little ſugar.

AQUA MENTHÆ SATIVÆ.

Lond.

Spearmint water.

Take of
Spearmint, dried, one pound and an half;
Water ſufficient to prevent an empyreuma.
Draw off one gallon.

The Edinburgh college directs this water to be made in the ſame proportion as the preceding. But probably three pounds of the freſh herb will not give a ſtronger impregnation than a pound and a half of the dried: So that the water of the London college may be conſidered to be as ſtrongly impregnated as that of the Edinburgh college.

This water ſmells and taſtes very ſtrongly of the mint; and proves in many caſes an uſeful ſtomachic. Boerhaave commends it (cohobated) as a pleaſant and incomparable remedy for ſtrengthening a weak ſtomach, and curing vomiting proceeding from cold viſcous phlegm; and alſo in lienteries.

AQUA PIMENTO.

Lond. Ed.nb.

Allſpice water.

Take of
Allſpice bruiſed, half a pound;
Water, ſufficient to prevent an empyreuma.
Macerate for twenty four hours, and draw off one gallon.

This diſtilled water is a very elegant one, and has of late come pretty much into uſe; the hoſpitals employ it as a ſuccedaneum for the more coſtly ſpice waters. It is however, inferior in gratefulneſs to the ſpirituous water of the ſame ſpice hereafter directed.

AQUA

AQUA PULEGII.

Lond Edinb.

Pennyroyal water.

Take of

Dried pennyroyal, one pound and an half;

Water, sufficient to prevent an empyreuma.

Draw off one gallon.

The pennyroyal water is directed to be prepared by the Edinburgh college in the same proportions as the mint and peppermint. Whether prepared from the recent or dried plant, it possesses in a considerable degree the smell, taste, and virtues, of the pennyroyal. It is not unfrequently employed in hysterical cases, and sometimes with a good effect.

AQUA ROSÆ.

Lond. Edinb.

Rose Water.

Take of

Fresh petals of the damask rose, the white heels being cut off, six pounds;

Water, sufficient to prevent an empyreuma.

Draw off one gallon.

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 roses remains entire in the liquor left in the still, which has therefore been generally employed for making the solutive honey and syrup, 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 roses has been sometimes called for in the shops, and supplied by that of damask roses, diluted with common water: This is a very venial substitution; 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 astringency of the other, arising in distillation.

AQUA CORTICIS LIMONUM RECENTIUM.

Edin.

Lemon peel Water.

From two pounds of recent lemon peel, ten pounds of water are to be drawn off by distillation.

AQUA CORTICIS AURANTIORUM HISPALENSIUM RECENTIUM.

Edinb.

Orange peel Water.

From two pounds of recent orange peel, ten pounds of water are directed to be drawn off.

These distilled waters are chiefly employed as diluents in fevers and other disorders where the stomach and palate are very apt to be disgusted.

The distilled waters above noticed are the whole that have now a place in the pharmacopœias of the London and Edinburgh colleges: And this selection is sufficiently large for answering every useful purpose. A considerable number of others are however still retained in the modern foreign pharmacopœias; some of which at least it may not be improper to mention.

AQUA

AQUA ALEXITERIA.

Brun.
Alexiterial Water.

Take of
Elder flowers, moderately dried, three pounds;
Angelica leaves, freſh gathered, two pounds;
Spring water, forty pounds.
Draw off, by diſtillation, thirty pounds.

This water is ſufficiently elegant with regard to taſte and ſmell; though few expect from it ſuch virtues as its title ſeems to imply. It is uſed occaſionally for vehicles of alexipharmac medicines, or in juleps to be drank after them, as coinciding with the intention.

AQUA CAMPHORÆ.

Brun.
Camphor water.

Take of
Camphor, an ounce and an half.
Let it be diſſolved in half an ounce of ſpirit of roſemary, then pour on it two pounds of ſpring water, and draw off by diſtillation a pound and an half.

This diſtilled water contains the camphor in a dilute ſtate, but in only a very ſmall quantity; where however it cannot be taken in any other form, this ſeems to be uſeful.

AQUA CASTOREI.

Brun.
Caſtor Water.

Take of
Ruſſia caſtor, one ounce;
Water, as much as will prevent burning.
Draw off two pints.

Caſtor yields almoſt all its flavour 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; while 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 this drug, a ſmall portion of oil, which ſmelt extremely ſtrong of the caſtor, and diffuſed its ungrateful ſcent to a great diſtance.

This water is uſed in hyſteric caſes, and ſome nervous complaints, though it has not been found to anſwer what many people expect from it; it loſes its flavour conſiderably by keeping.

AQUA CEREFOLII.

Ger.
Chervil Water.

Take of
Freſh leaves of chervil, one pound;
Spring water, as much as is ſufficient for allowing eight pounds to be drawn off by diſtillation, at the ſame time avoiding empyreuma.

Although the chervil be but little employed in Britain yet it is held in high eſteem on the continent; and the diſtilled water is perhaps one of the moſt elegant forms under which its active parts

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can be introduced. There is however reason to believe, that those diuretic powers for which it has been chiefly celebrated, will be most certainly obtained from exhibiting it in substance, or under the form of the expressed juice of the recent plant.

AQUA CERASI.

Suec.

Black cherry Water.

Take of

Ripe black cherries, bruised with the kernels, 20 pounds;

Pure water, as much as is sufficient for avoiding empyreuma.

Draw off 20 pounds by distillation.

This water, although now banished from our pharmacopœias, has long maintained a place in the foreign ones, and even in Britain it is frequently to be met with in the shops. It has often been employed by physicians as a vehicle, in preference to the other distilled waters; and among nurses who have the care of young children, has been the chief remedy against the convulsive disorders to which infants are so often subject. It has however of late been brought into disrepute, and has been esteemed poisonous. It receives its flavour principally from the cherry stones; and these kernels, like many others, bear a resemblance in taste to the leaves of the lauro cerasus, which have been discovered to yield, by infusion or distillation, the most sudden poison known. Some physicians of Worcester have lately 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 poisonous to brutes. The London college repeated the same experiment, and found the effects agreeable to those gentlemen's report.

From these trials, nor after such long experience, we cannot conclude black cherry water, when no stronger than the shops have been accustomed to prepare it, to be unsafe. These kernels plainly resemble opium, and some other things, which poison only when taken in too great quantity; the water from the very laurel leaves is harmless when duly diluted; and even spirit of wine proves a poison of its kind not greatly different, if drank to a certain degree of excess; nor can it be concluded, from the trials with the strong black cherry water on dogs, &c. that it will have the same effects in the human body; the kernels of many sorts of fruits being in substance poisonous to brutes, though innocent to man.

This water however in any degree of strength may not be altogether safe for infants, where the principles of life are but just beginning as it were to move: It may possibly have had pernicious effects in these cases without being suspected: The symptoms it would produce, if it should prove hurtful, being such as children are often thrown into from the disease which it is imagined to relieve. On these considerations, both the London and Edingburgh colleges have chosen 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. It is, however,

ever, one of thoſe active articles which deſerved farther attention.

AQUA CHAMŒMELI FLORUM.

Dan.

Chamomile flower Water.

Take of
Chamomile flowers dried in the ſhade, eight pounds;
Water, ſeventy two pounds; draw off by gentle diſtillation forty eight pounds.

Chamomile flowers, were formerly ordered to be fermented previouſly to the diſtillation, a treatment which they do not need; for they give over without any fermentation as much as that proceſs is capable of enabling them to do. In either caſe the ſmell and peculiar flavour of the flowers arife without any of their bitterneſs, which remains behind in the decoction; and if duly depurated and inſpiſſated, yields an extract ſimilar 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 FRAGORUM.

Suec.

Strawberry Water.

From twenty pounds of ſtrawberries, twenty pounds of diſtilled water are drawn off, according to the ſame directions given for the preparation of the black-cherry water.

Water thus impregnated with the eſſential oil of the ſtrawberries, ſome people will think a very agreeable flavour; but any conſiderable medical power is not to be expected from it.

AQUA HYSSOPI.

Suec.

Hyſſop Water.

From four pounds of the freſh leaves of hyſſop, ſix pounds of water are drawn off.

Hyssop water has been held by ſome in conſiderable eſteem as an uterine and a pectoral medicine. It was directed in a former edition of the Edinburgh pharmacopœia 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 met with in our ſhops, being now expunged from our pharmacopœias. It holds a place, however, in moſt of the foreign ones, and among ourſelves there are ſtill ſome practitioners who frequently employ it; although there can be no doubt that the medical properties of the hyſſop may be more readily and effectually extracted by ſimple infuſion.

AQUA LILIORUM ALBORUM.

Brun.

White lilly Water.

AQUA LILIORUM CONVALLIUM.

Brun.

Lilly of the valley water.

To any quantity of theſe flowers, four times their weight of water is to be added, and water drawn off by diſtillation in the proportion of two pounds to each pound of the flowers.

These

These waters muſt obtain ſome impregnation of that elegant eſſential oil, on which the odour of flowers in their growing ſtate depends; but they do not poſſeſs any remarkable medical properties.

AQUA MELISSÆ.
Brun.
Balm Water.

The green leaves of the balm are to be macerated with double their weight of water; and from each pound of the plant a pound and an half of water is to be drawn off.

This water contains a conſiderable impregnation from the balm which yields its eſſential oil pretty freely on diſtillation. Though now baniſhed from our pharmacopœias, it has ſtill a place in moſt of the foreign ones. In the old editions of the Edinburgh pharmacopœia, it was ordered to be cohobated, or rediſtilled, from freſh quantities of the herb. This management ſeems to have been taken from Boerhaave, who has a very high opinion of the water thus prepared: He ſays, 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 in chloroſis, and palpitation of the heart, when thoſe diſeaſes proceed from a diſorder of the ſpirits, and not from any collection of morbific matter.

The virtues of balm however may be much more perfectly and advantageouſly extracted by cold infuſion in aqueous or ſpirituous menſtrua: In this laſt 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 RUTÆ.
Roſs.
Rue Water.

From each pound of rue, with a ſufficient quantity of ſpring water to prevent empyreuma, two pounds of diſtilled water are to be drawn.

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. But though it is a good deal employed abroad, it is with us falling into diſrepute.

AQUA SABINÆ.
Brun.
Savin water.

This is diſtilled from the freſh leaves of ſavin, after the ſame manner as the former.

This water is by ſome held in conſiderable eſteem for the ſame purpoſes as the diſtilled oil of ſavin. Boerhaave relates, that he has found it (when prepared by cohobation) to give almoſt incredible motion to the whole nervous ſyſtem; and that when properly uſed, it proves eminently ſerviceable for promoting the menſes and the hæmorrhoidal flux.

It has now, however, fallen ſo much into diſrepute as to have no place either in our pharmacopœias or in the beſt modern foreign ones; but

but when we reflect how readily ſavin yields a large proportion of active eſſential oil in diſtillation, it ſeems better intitled to attention than ſome other diſtilled waters which are ſtill retained.

AQUA SAMBUCI.

Brun.

Elder flower Water.

This is diſtilled from freſh elder flowers, after the ſame manner as the white lily water.

This water ſmells conſiderably of the flowers; but is rarely uſed among us.

AQUA SALVIÆ.

Brun.

Sage Water.

This is directed to be prepared from the green leaves of the ſage, in the ſame manner as the balm water.

Sage leaves contain a conſiderable proportion of eſſential oil, which they yield pretty freely on diſtillation; but their whole medical properties may with ſtill greater eaſe and advantage be extracted by ſimple infuſion.

To the chapter on ſimple diſtilled waters the London college have annexed the following remarks.

We have ordered the waters to be diſtilled from the dried herbs, becauſe freſh are not ready at all times of the year. Whenever the freſh are uſed, the weights are to be increaſed. But, whether the freſh or dried herbs be employed, the operator may vary the weight according to the ſeaſon in which they have been produced and collected.

Herbs and ſeeds, kept beyond the ſpace of a year, are leſs proper for the diſtillation of waters.

To every gallon of theſe waters add five ounces, by meaſure, of proof ſpirit.

The Edinburgh college order half an ounce of proof ſpirit to every pound of the water, which is nearly the ſame.

CHAP. XIX.

SPIRITUS DISTILLATI.

London.

SPIRITUS STILLATITII.

Edinburgh.

DISTILLED SPIRITS.

THE flavours and virtues of diſtilled waters are owing, as was obſerved in the preceding chapter, 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. 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, ſcarcely give it any ſmell or taſte. This difference proceeds from the ſpirits not being 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 ſuſtaining; 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 riſe 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 riſe firſt, clear, colourleſs, and tranſparent, and almoſt without any taſte of the ſpice; but as ſoon as the more ponderous wa-

tery

tery fluid begins to riſe, the oil comes over freely with it, ſo as to render the liquor highly odorous, ſapid, and of a milky hue.

The proof ſpirits uſually met with in the ſhops are accompanied with a degree of ill flavour; which though concealed by means of certain additions, plainly diſcovers itſelf in diſtillation. This nauſeous reliſh does not begin to riſe 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 diſtil; 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.

ALKOHOL.

Lond.

Ardent ſpirit.

Take of

Rectified ſpirit of wine one gallon;

Kali, made hot, one pound and an half;

Pure kali, one ounce.

Mix the ſpirit of wine with the pure kali, and afterwards add one pound of the hot kali; ſhake them, and digeſt for twenty four hours. Pour off the ſpirit, to which add the reſt of the kali, and diſtil in a water bath. It is to be kept in a veſſel well ſtopped.

The kali ought to be heated to 300 degrees.

The ſpecific gravity of the alkohol is to that of diſtilled water as 815 to 1000.

We have already offered ſome obſervations on ſpirit of wine, both in the ſtate of what is called rectified and proof ſpirit. In the preſent formula, we have ardent ſpirit ſtill more freed from an admixture of water than even the former of theſe; and in this ſtate it is unqueſtionably beſt fitted for anſwering ſeveral purpoſes. In former editions of our pharmacopœias, alkohol was directed to be prepared from French brandy; but this 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 following method.

If the ſpirit be exceedingly foul, mix it with about an equal quantity of water, and diſtil with a ſlow fire; diſcontinuing the operation as ſoon as the liquor begins to run milky, and diſcovers, by its nauſeous taſte, that the impure and phlegmatic part is riſing. By this treatment, the ſpirit leaves a conſiderable portion of its foul oily matter behind it in the water, which now appears milky and turbid, and proves highly diſagreeable to the taſte. If the ſpirit be not very foul at firſt, this ablution is not neceſſary; if extremely ſo, it ought to be repeated once, twice, or even 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 that in which water

water boils, and if due regard be had to this circumſtance, very weak ſpirits may, by one or two wary diſtillations, be tolerably well freed from their aqueous phlegm; eſpecially if the diſtilling veſſels are of ſuch a height, that the ſpirit, by the heat of a water bath, may but juſt paſs over them; in this caſe, the phlegmatic vapours which riſe 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 purpoſe, 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 phlegm. But theſe inſtruments are conſtructed on erroneous principles, their extravagant height defeating the end it was deſigned to anſwer: If the liquor be made to boil, a conſiderable 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; between the body of which and its head an adopter or copper tube may be fixed.

The ſpirit being waſhed, as above directed, from its foul 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 fixt 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 will ſink with them to the bottom of the veſſel. If the ſpirit be now again gently drawn over, it will riſe entirely free from its phlegm and nauſeous flavour; but ſome particles of the alkaline ſalt are apt to be carried up with it, and give what the workmen call an urinous reliſh; this may be prevented by adding, previous to the laſt diſtillation, a ſmall proportion of calcined vitriol, alum, or ſal catharticus amarus; the acid of theſe ſalts will unite with, and neutraliſe, the alkali, and effectually prevent it from riſing; while no more of the acid of the ſalts is extricated than what the alkali abſorbs.

The addition of alkaline ſalts for imbibing the water, and preventing its riſing with the ſpirit, has been long practiſed, but is attended with the inconvenience above mentioned. This may be avoided by uſing, inſtead of the fixt alkali, ſome muriated lime in a dry and warm ſtate, which has a remarkable ſtrong attraction for water. This muriated lime need not be prepared on purpoſe, being the reſiduum after the ſublimation of volatile alkali from ſal ammoniac and chalk, or the diſtillation of the cauſtic volatile alkali, which ought to be preſerved for this purpoſe.

The ſpirit obtained by this means is extremely pure, limpid, perfectly flavourleſs, and fit for the fineſt purpoſes. It may be reduced to the ſtrength commonly underſtood by proof, by mixing twenty ounces of it with ſeventeen ounces of water. The diſtilled cordials made with theſe ſpirits prove much more elegant and agreeable, than when the common

mon rectified or proof ſpirits of the ſhops are uſed.

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 it is ſuppoſed to be a more powerful menſtruum for certain ſubſtances than the pure ſpirit. This alkaliſed ſpirit is called TARTARISED SPIRIT OF WINE.

The proceſs here deſcribed, which was long ſince recommended by Dr. Lewis, will ſufficiently explain the intention of the London college, in the directions they have now given for the preparation of alkohol; and there can be no doubt, that by their proceſs a very pure alkohol may be obtained. Of this we have a ſufficient teſt in the ſpecific gravity of the fluid, which is to that of diſtilled water only as 815 to 1000, while the ſpecific gravity of rectified ſpirit, is as 835 to 1000.

SPIRITUS ÆTHERIS VITRIOLICI.

Lond.

Spirit of vitriolic Ether.

Take of

Rectified ſpirit of wine,

Vitriolic acid, each one pound.

Pour by a little at a time the acid on the ſpirit, and mix them by ſhaking; then from a retort through a tubulated receiver, to which another recipient is fitted, diſtil the ſpirit of vitriolic ether till ſulphureous vapours begin to riſe. If you continue the diſtillation, applying a freſh receiver, a portion of oil or wine will be obtained, which preſerve for uſe.

SPIRITUS ÆTHERIS VITRIOLICI, vulgo SPIRITUS VITRIOLI DULCIS.

Edin.

Spirit of vitriolic Ether, commonly called *Dulcified ſpirit of Vitriol.*

Take of

Vitriolic ether, one part;

Rectified ſpirit of wine, two parts.

Mix them.

THE laſt of theſe proceſſes is a very ready and convenient method of preparing the dulcified ſpirit of vitriol, which only differs from ether, by the acid being leſs predominant, and leſs intimately combined.

In the firſt proceſs, the moſt convenient way of mixing the ingredients is to put the ſpirits into the retort firſt, and with a long tubed funnel reaching down to the bottom of the retort to pour in the acid: By cautious agitation the two fluids unite, and a heat is produced, which may be taken advantage of in the diſtillation, if we have a ſand bath previouſly heated to the ſame degree, to ſet the retort into immediately after the mixture is completed; nor is there any occaſion for a tubulated receiver, if we immerſe the ordinary receiver, which ought to be large, in water, or bury it in broken Ice. See ÆTHER VITRIOLICUS, *Edinb.*

The diſtillation ſhould be performed with an equal and very gentle heat, and not continued ſo long as till a black froth begins to appear: For before this time, a liquor will ariſe of a very different nature from the ſpirits here intended. The juncture of the retort and recipient is to be luted with a paſte made of lintſeed meal,

and

and further secured by a piece of wet bladder.

The true dulcified spirit arises in thin subtile vapours, which condense on the sides of the recipient in straight striæ. It is colourless as water, very volatile, inflammable, of an extremely fragrant smell, and in taste somewhat aromatic.

After the fire has been kept up for some time, white fumes arise; which either form irregular striæ, or are collected into large round drops like oil: On the first appearance of these, the receiver must be taken away. If another be substituted, and the distillation continued, an acid liquor comes over, of an exceeding pungent smell like the fumes of burning brimstone. At length a black froth hastily begins to arise, and prevents carrying the process farther.

A small quantity of oil of a light yellow colour, a strong, penetrating, and very agreeable smell, is found swimming on the surface of the sulphureous spirit. 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 same production; till at length all the acid that remains unvolatilised being saturated with the inflammable oily matter of the spirit, the compound proves a bituminous sulphureous mass: Which, exposed to the fire in open vessels, readily burns, leaving a considerable quantity of fixed ashes; but in close ones, it explodes with violence; with fixt alkaline salts, it forms a compound nearly similar to one composed of alkalies and sulphur.

The new name adopted by the London and Edinburgh colleges for this fluid, are expressive of its composition, the old term of *Spiritus vitrioli dulcis* is less properly fitted to distinguish it from other fluids, and to convey a just idea of its nature.

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. As a medicine, it promotes perspiration and the urinary secretion, expels flatulencies, and in many cases abates spasmodic strictures, eases pains, and procures sleep. The dose is from ten to eighty or ninety drops in any convenient vehicle. It is not essentially different from the celebrated anodyne liquor of Hoffman; for which it is, by the author himself, frequently directed as a succedaneum.

Of this fluid, however, or at least of an article probably still more nearly resembling it, we shall afterwards have occasion to speak, when we treat of the *Spiritus ætheris vitriolici vinosus.*

ÆTHER

ÆTHER VITRIOLICUS.

Lond.

Vitriolic ether.

Take of

The spirit of vitriolic ether, two pounds;

Water of pure kali, one ounce.

Shake them together, and distil, with a gentle heat, fourteen ounces by measure.

ÆTHER VITRIOLICUS.

Edin.

Vitriolic ether.

Take of

Rectified spirit of wine,

Vitriolic acid, of each thirty two ounces.

Pour the spirit into a glass retort fit for sustaining a sudden heat, and add to it the acid in an uniform stream. Mix them by degrees, frequently shaking them moderately; this done, instantly distil from sand previously heated for that purpose, into a receiver kept cool with water or snow. The heat is to be so managed, that the liquor shall boil at first, and continue to boil till sixteen ounces are drawn off; then let the retort be raised out of the sand.

To the distilled liquor add two drachms of the strongest common caustic; then distil again in a very high retort with a very gentle heat, into a cool receiver, until ten ounces have been drawn off.

If sixteen ounces of rectified spirit of wine be poured upon the acid remaining in the retort after the first distillation, an ethereal liquor may be obtained by another distillation. This may be done pretty often.

The preparation of this singular fluid, now received into public pharmacopœias, was formerly confined to a few hands; for though several processes have been published for obtaining it, the success of most of them is precarious, and some of them are accompanied also with danger to the operator. The principal difficulty consists in the first part of the distillation.

It has been usual to direct the heat to be kept up till a black froth begins to appear: But if it is managed in the manner here directed, the quantity of ether which the liquor can afford will be formed and drawn off before this sulphureous froth appears. The use of the caustic alkali is to engage any uncombined vitriolic acid which may be present in the first distilled liquor. If a mild alkali were employed for this purpose, the separation of its air by the acid might endanger the bursting of the vessels. This last is indeed an inconvenience which attends the whole of this process. It might in a great measure be obviated by employing a range of receivers or *adapters*.

The ether, or etherial spirit, is the lightest, most volatile and inflammable, 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 moist. 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 of oils, balsams, resins and other analogous substances. It is the only known substance capable of dissolving the *elastic gum*. It has a fragrant odour, which, in consequence

quence of the volatility of the fluid, is diffused, through a large space. It has often been found to give ease in violent headaches, by being applied externally to the part; and to relieve the toothache, by being laid on the affected jaw. It has been given also internally, with benefit, in hooping coughs, hysterical cases, in asthma, and indeed in almost every spasmodic affection, from a few drops to the quantity of half an ounce, in a glass of wine or water; which should be swallowed as quick as possible, as the ether so speedily exhales.

SPIRITUS ÆTHERIS NITROSI.

Lond.

Spirit of nitrous Ether.

Take of
Rectified spirit of wine, two pints;
Nitrous acid, half a pound.
Mix them, by pouring in the acid on the spirit, and distil with a gentle heat one pound ten ounces.

SPIRITUS ÆTHERIS NITROSI, vulgo SPIRITUS NITRI DULCIS.

Edinb.

Spirit of nitrous Ether, commonly called *Dulcified spirit of Nitre.*

Take of
Rectified spirit of wine, three pounds;
Nitrous acid, one pound.
Pour the spirit into a capacious phial, placed in a vessel full of cold water, and add the acid by degrees, constantly agitating them. Let the phial be slightly covered, and set by for seven days in a cool place; then distil the liquor, with the heat of boiling water, into a receiver kept cool with water or snow, till no more spirit comes over.

By allowing the acid and rectified spirit to stand for some time, the union of the two is not only more complete, but the danger also of the vessel's giving way, in consequence of the ebullition and heat produced by mixing the ingredients, is in a great measure prevented. By fixing the degree of heat to the boiling point, the superabundant acid matter is left in the retort, being too ponderous to be raised by that degree of heat.

Here the operator must take care not to invert the order of mixing the two liquors, by pouring the spirit into the acid; for if he should, a violent effervescence and heat would ensue, and the matter be dispersed in highly noxious red fumes.

Several methods have been contrived for obviating the inconveniences arising from the elastic fluid and violent explosions produced on the mixture of the nitrous acid and rectified spirit of wine: Dr. Black's, which is the best, is to put the spirit into a strong vial, so large as that the spirit may fill about a fourth part of it, and plunge it into a large vessel containing water with some ice among it; have the nitrous acid in a vial also plunged among the ice and water: When both have remained in this state for an hour or two, the acid may be poured into the spirit by little and little, plunging the vial into the ice and water after every fresh addition of acid. The vial containing the spirit must be stopped with a conical stopper, and this stopper confined to its place by a weak spring. When all

all the acid is added to the ſpirit, the vial muſt remain in the ice and water for a day or two, and then ſet in a cool place for a week; when the ether will be found floating on the watery liquor below it. The diſtillation ſhould be performed with a very ſlow and well regulated fire; otherwiſe the vapour will expand with ſo much force as to burſt the veſſels. Wilſon ſeems to have experienced the juſtneſs of this obſervation, and hence directs the juncture of the retort and receiver not to be luted, or but ſlightly: If a tubulated recipient, with a ſufficiently long pipe, be uſed, and the diſtillation, performed with the heat of a water bath, the veſſel may be luted without any danger.

Dulcified ſpirit of nitre has been long deſervedly held in great eſteem. It quenches thirſt promotes the natural ſecretions, expels flatulencies, and moderately ſtrengthens the ſtomach: It may be given in doſes of from twenty drops to a drachm, in any convenient vehicle. Mixed with a ſmall quantity of *Spiritus ammoniæ aromaticus*, it proves a mild, yet efficacious, diaphoretic, and often remarkably diuretic; eſpecially in ſome febrile caſes, where ſuch a ſalutary evacuation is wanted. A ſmall proportion of this ſpirit added to malt ſpirits, gives them a flavour approaching to that of French Brandy.

SPIRITUS AMMONIÆ.

Lond.

Spirit of Ammonia.

Take of
Proof ſpirit, three pints;
Sal ammoniac, four ounces;
Potaſh, ſix ounces.
Mix and diſtil with a ſlow fire one pint and an half.

SPIRITUS AMMONIÆ, vulgo SPIRITUS SALIS AMMONIACI VINOSUS.

Edin.

Spirit of Ammoniac, commonly called *Vinous ſpirit of Sal Ammoniac.*

Take of
Proof ſpirit, four pounds;
Sal ammoniac, four ounces;
Purified lixive, ſix ounces.
Mix them, and by diſtillation with a gentle heat, draw off two pounds.

This ſpirit has lately come much into eſteem, both as a medicine and a menſtruum. It is a ſolution of volatile ſalt in rectified ſpirit of wine; for though proof ſpirit be uſed, its phlegmatic part does not riſe in the diſtillation, and ſerves only to facilitate the action of the pure ſpirit on the ammoniacal ſalt. Rectified ſpirit of wine does not diſſolve mild volatile alkaline ſalts by ſimple 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 adviſeable to mix with this intention the volatile ſpirit made with quicklime; for this may be mixed at once with rectified ſpirit of wine, in various proportions, without the leaſt danger of any ſeparation of the volatile alkali.

The name here employed by both the colleges, particularly when put

put in contradiſtinction to the *aqua ammonia*, conveys a clear idea of the article.

As a menſtruum, the *ſpiritus ammoniæ* is employed to diſſolve eſſential oils, thus forming the ſpiritus volatilis aromaticus, or *Spiritus ammoniæ compoſitus*, which again is employed in making the tinctures of guaiac, valerian, &c.

The chief medical virtues which the ſpiritus ammoniæ poſſeſſes, when exhibited by itſelf, are thoſe of the volatile alkali.

SPIRITUS AMMONIÆ FŒTIDUS.

Lond.

Fetid Spirit of Ammonia.

Take of
- Proof ſpirit, ſix pints;
- Sal ammoniac, one pound;
- Aſafœtida, four ounces;
- Potaſh, one pound and a half.

Mix them, and draw off by diſtillation five pints, with a ſlow fire.

Edinb.

Take of
- Spirit of ammonia, eight ounces;
- Aſafœtida, half an ounce.

Digeſt in a cloſe veſſel twelve hours; then diſtil off, with the heat of boiling water, eight ounces.

This ſpirit, the laſt formula of which is the beſt, as being moſt eaſily prepared, is deſigned as an antihyſteric, and is undoubtedly a very elegant one. Volatile ſpirits impregnated for theſe purpoſes with different fetids, have been uſually kept in the ſhops: The ingredient here choſen, 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 ANISI COMPOSITUS.

Lond.

Compound Spirit of Aniſeed.

Take of
- Aniſeed,
- Angelica ſeed, of each, bruiſed, half a pound;
- Proof ſpirit, one gallon;
- Water, ſufficient to prevent an empyreuma.

Draw off one gallon by diſtillation.

This compound ſpirit is now directed to be prepared by the London college in the ſame manner as in their former edition. It has no place in the Edinburgh pharmacopœia; but it may juſtly be conſidered as a very elegant water. The angelica ſeeds greatly improve the flavour of the aniſe. It is often employed with advantage, particularly in caſes of flatulent colic; but it has been alleged to be ſometimes too frequently uſed with this intention as a domeſtic medicine, eſpecially by old ladies: For unleſs it be prudently and cautiouſly employed, it may ſoon be attended with all the pernicious conſequences of dram drinking.

SPIRITUS CARUI.

Lond.

Spirit of Caraway.

Take of
- Caraway ſeeds, bruiſed, half a pound;

Proof

Proof ſpirit, one gallon ;
Water ſufficient to prevent an empyreuma.
Draw off one gallon.

SPIRITUS CARVI, vulgo AQUA CARVI SPIRITUOSA.

Edin.

Spirit of caraway, commonly called *Spiritous caraway water.*

Take of
Caraway ſeeds, half a pound ;
Proof ſpirit, nine pounds
Macerate two days in a cloſe veſſel ; then pour on as much water as will prevent an empyreuma, and draw off by diſtillation nine pounds.

By this proceſs the ſpirit obtains, in great perfection, the flavour of the caraway ſeeds ; and it is a cordial frequently uſed.

SPIRITUS CINNAMOMI.

Lond.

Spirit of Cinnamon.

Take of
Bruiſed cinnamon, one pound ;
Proof ſpirit, one gallon ;
Water, ſufficient to prevent an empyreuma.
Draw off one gallon.

SPIRITUS CINNAMOMI.

Edinb.

Spirit of Cinnamon.

From one pound of cinnamon, nine pounds of ſpirit are to be drawn off, in the ſame manner as in the ſpirit of caraway.

This is a very agreeable and uſeful cordial, but not ſo ſtrong of the cinnamon as might be expected ; for very little of the virtues of the ſpice ariſes till after the pure ſpirituous part has diſtilled. Hence in the former editions of the London Pharmacopœia, the diſtillation was ordered to be protracted till two pints more than here directed were come over. By this means, the whole virtue of the cinnamon was more frugally than judiciouſly obtained ; for the diſagreeable 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, give an ill reliſh to the whole ; at the ſame time that the oil which was extracted from the ſpice was by this acid thrown down.

In the Pharmacopœia Reformata, it is propoſed to make this ſpirit by mixing the aqua cinnamomi 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 ſpirit diſtilled as above : It is equally ſtrong of the cinnamon, and free from the nauſeous taint with which the common proof ſpirits are impregnated.

SPIRITUS JUNIPERI COMPOSITUS.

Lond.

Compound Spirit of Juniper.

Take of
Juniper berries, bruiſed, one pound ;
Caraway ſeeds, bruiſed,
Sweet fennel ſeeds, of each one ounce and an half :
Proof ſpirit, one gallon ;
Water, ſufficient to prevent an empyreuma.
Draw off one gallon.

SPIRITUS

SPIRITUS JUNIPERI COMPOSITUS, vulgo AQUA JUNIPERI COMPOSITA.

Edinb.

Compound ſpirit of Juniper, commonly called *Compound Juniper water.*

Take of
- Juniper berries, well bruiſed, one pound;
- Caraway ſeeds,
- Sweet fennel ſeeds, each one ounce and a half;
- Proof ſpirit, nine pounds;

Macerate two days; and having added as much water as will prevent an empyreuma, draw off by diſtillation nine pounds.

This ſpirit, mixed with about an equal quantity of the reb of juniper berries, proves an uſeful medicine in catarrhs, debility of the ſtomach and inteſtines, and ſcarcity of urine. The water by itſelf is a good cordial andcarminative: The ſervice which this and other ſpirits do with theſe intentions is commonly known; though the ill conſequences that follow from their conſtant uſe are too little regarded.

SPIRITUS LAVENDULÆ.

Lond.

Spirit of Lavender.

Take of
- Freſh flowers of lavender, one pound and an half;
- Proof ſpirit, one gallon.

Draw off by diſtillation, in a water bath, five pints.

SPIRITUS LAVENDULÆ SIMPLEX.

Edinb.

Simple Spirit of Lavender.

Take of
- Flowering ſpikes of freſh lavender two pounds;
- Rectified ſpirit of wine, eight pounds.

Draw off by the heat of boiling water, ſeven pounds.

This ſpirit, when made in perfection, is very grateful and fragrant: It is frequently rubbed on the temples, &c. under the notion of refreſhing and comforting the nerves; and it probably operates as a powerful ſtimulus to their ſenſible extremities; it is likewiſe taken internally, to the quantity of a tea ſpoonful, as a warm cordial.

SPIRITUS MENTHÆ PIPERITIDIS.

Lond.

Spirit of Peppermint.

Take of
- The herb peppermint, dried, one pound and an half;
- Proof ſpirit, one gallon;
- Water, ſufficient to prevent an empyreuma.

Draw off one gallon.

SPIRITUS MENTHÆ PIPERITIDIS.

Edinb.

Spirit of Peppermint.

From a pound and a half of theſe leaves, nine pounds of ſpirit are drawn off, as from the caraway ſeeds.

This ſpirit receives a ſtrong impregnation from the peppermint.

mint. It is employed in flatulent colics and ſimilar diſorders; and in theſe it ſometimes gives immediate relief; but where it is indicated, there are few caſes in which the peppermint water is not preferable.

SPIRITUS MENTHÆ SATIVÆ.

Lond.

Spirit of Spearmint.

Take of
- Spearmint, dried, one pound and an half;
- Proof ſpirit, one gallon;
- Water, ſufficient to prevent an empyreuma.

Draw off one gallon.

This ſpirit has no place in the Edinburgh pharmacopœia. It is, however, a very elegant one, and preferable, in weakneſs of the ſtomach, retching to vomit, and the like, to many more elaborate preparations. Where the diſorder is not accompanied with heat or inflammation, half an ounce of this ſpirit may be given diluted with ſome agreeable aqueous liquor: But, as was already obſerved with regard to the preceding article, there are many caſes in which the prudent practitioner will be diſpoſed to give the preference to the ſimple diſtilled water.

SPIRITUS NUCLEI FRUCTUS MYRISTICÆ ſive NUCIS MOSCHATÆ.

Lond.

Spirit of Nutmeg.

Take of
- Bruiſed nutmegs, two ounces;
- Proof ſpirit, one gallon;
- Water, ſufficient to prevent an empyreuma.

Draw off one gallon.

SPIRITUS NUCIS MOSCHIATÆ.

Edin.

Spirit of Nutmeg.

From two ounces of the nutmeg well bruiſed, nine pounds of ſpirit are to be drawn off as from caraway ſeeds.

This is an agreeable ſpirituous liquor, highly impregnated with the nutmeg flavour. It was formerly celebrated in nephritic diſorders, and when combined with a few hawthorn flowers, it had even the title of *aqua nephritica*. At preſent it is employed only as a cordial liquor, and is not even very frequently in uſe.

SPIRITUS PIMENTO.

Lond.

Spirit of Pimento, or *Allſpice.*

Take of
- All ſpice, bruiſed, two ounces;
- Proof ſpirit, one gallon;
- Water ſufficient to prevent an empyreuma.

Draw off one gallon.

Edin.

From half a pound of pimento, nine pounds of ſpirit are to be drawn off as from caraway ſeeds.

This ſpirit is far more agreeable than a ſimple water drawn from the ſame ſpice; and had long a place among the cordials of the diſtiller, before it was received into any publick pharmacopœia; but although now adopted both

both by the London and Edinburgh colleges, it is not very frequently ordered from the shops of the apothecary.

SPIRITUS PULEGII.

Lond.

Spirit of Pennyroyal.

Take of
The herb pennyroyal, dried, one pound and an half;
Proof spirit, one gallon;
Water, sufficient to prevent an empyreuma.
Draw off one gallon.

This spirit has no place in the Edinburgh pharmacopœia. It possesses, however, a considerable share of the flavour of the pennyroyal, and is very frequently employed as a carminative and antihysteric.

SPIRITUS RAPHANI COMPOSITUS.

Lond.

Compound spirit of Horse radish.

Take of
Fresh horse radish root.
Dried outer rind of Seville oranges, each two pounds;
Fresh herb of garden scurvygrass, four pounds;
Bruised nutmegs, one ounce;
Proof spirit, two gallons;
Water, sufficient to prevent an empyreuma.
Draw off two gallons.

This spirit has long been considered as an elegant one, and is perhaps as well adapted for the purposes of an antiscorbutic as any thing that can be contrived in this form. It has been alleged, that the horse radish and scurvygrass join very well together, giving a similar flavour, though not a little disagreeable; that the nutmeg suppresses this flavour very successfully, without superadding any of its own, and that to this, orange peel adds a flavour very agreeable. Arum root had formerly a place in this water, but is here deservedly thrown out; for it gives nothing of its pungency by distillation, notwithstanding what is asserted by some pharmaceutical writers to the contrary. Mustard seed, though not hitherto employed in these kinds of compositions, would seem to be an excellent ingredient; it gives over the whole of its pungency, and is likewise less perishable than most of the other substances of this class; this seed wants no addition, excepting some aromatic material to furnish an agreeable flavour.

Although this process may furnish an agreeable compound spirit, yet it is much to be doubted, whether it possess those antiscorbutic powers for which it was once celebrated; and with this intention the Edinburgh college place so little confidence in it, that they have now rejected it from their pharmacopœia.

SPIRITUS RORISMARINI.

Lond.

Spirit of Rosemary.

Take of
Fresh tops of rosemary, one pound and an half:
Proof spirit, one gallon.
Distil in a water bath, five pints.

Edinb.

Take of
Fresh flowering tops of rosemary, two pounds;
Rectified

Rectified ſpirit of wine, eight pounds.
Diſtil in the heat of boiling water till ſeven pounds come over.

A ſpirit ſimilar to this is generally brought to us from abroad, under the name of Hungary water.

This ſpirit is very fragrant, ſo as to be in common uſe as a perfume: That brought from abroad is ſuperiour in fragrance to ſuch as is generally made among us. In order to prepare it in perfection, the vinous ſpirit ſhould be extremely pure; the roſemary tops gathered when the flowers are full blown upon them, and committed immediately to diſtillation, care being taken not to bruiſe or preſs them. The beſt method of managing the diſtillation, is that which was formerly recommended for the diſtillation of the more volatile eſſential oils and ſimple waters, viz. firſt to place the ſpirit in the ſtill, and then ſet in, above the liquor, either an iron hoop, with a hair cloth ſtretched 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 ſufficient to raiſe the ſpirit, its vapour lightly percolating through the flowers, will imbibe their finer parts, without making that diſagreeable alteration, which liquors applied to ſuch tender ſubjects, in their groſſer form, generally do. Probably the ſuperiority of the French Hungary water, to that prepared among us, is owing to ſome ſkilful management of this kind, or to 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 roſemary; but the peculiar agreeable flavour of this water depends on the roſemary alone.

AQUA CARMELITANA.

Dan.

Carmelite water, or compound Balm water.

Take of
Freſh gathered leaves of balm, a pound and a half;
The recent yellow rind of lemons, four ounces;
Nutmeg,
Coriander, each two ounces;
Cloves,
Cinnamon, each one ounce.
The ingredients being ſliced and bruiſed, pour upon them;
Rectified ſpirit of wine, ſix pounds;
Balm water, three pounds.
Digeſt for three days, then draw off ſix pounds by diſtillation.

This ſpirit has been a good deal celebrated particularly among the French, under the title of *Eau de Carmes*. Mr. Baumé, in his Elemens de Pharmacie, propoſes ſome improvements on the proceſs. After the ſpirit added to the ingredients has been drawn off in the heat of a water bath, he orders the diſtilled liquor to be rectified by a ſecond diſtillation, drawing off ſomewhat leſs than nine tenths of it. He recommends, that all the aromatic ſpirits ſhould be prepared in the ſame manner. When the common ſpirits of this kind are rubbed between the hands, they leave, after the more volatile parts have exhaled, a diſagreeable empyreumatic ſmell; and when diluted with water, and taken medicinally, they leave in like manner a nauſeous

feous flavour in the mouth. To remedy these imperfections, he made many experiments, which shewed, that in order to obtain those 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 subject. In this rectification, only the more volatile, subtile, aromatic parts of the ingredients arise: There remains behind a white liquor, acrid, bitter, loaded only with the grosser oil, and deprived of all the specific flavour of the subjects. Indeed the very imperfection complained of, naturally points out this second distillation as the remedy: for it shews the spirit to contain a grateful and ungrateful matter; the first of which exhales, while the other is left behind. The author says, that when the *aqua mellis* is prepared as above directed, it has something 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 liquors have in general less smell, when newly distilled, than after they have been kept about six months. Mr. Baumé suspects that the preparations of this kind, which have been most in vogue, were such as have 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: The spirit after having suffered, for six or eight hours, the cold thence resulting, proves as grateful as that which has been kept for several 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.

SPIRITUS COCHLEARIÆ.

Succ.

Spirit of Scurvygrass.

Take of

Fresh scurvygrass, bruised, ten pounds;

Rectified spirit of wine, eight pounds.

With the heat of a water bath, distil off four pounds.

This spirit is very strong of the scurvygrass; and has been given, in those cases where the use of this herb is proper, in doses of from twenty to one hundred drops. The virtues of scurvygrass reside in a very subtile, volatile oil, which arises in distillation both with water and pure spirit; and if the liquors are exposed to the air, soon exhales from both. The spirit, newly distilled, is extremely pungent; but if long kept, even in close vessels, it becomes remarkably less so.

The makers of this spirit have frequently added to the scurvygrass a quantity of horse radish root, and sometimes substituted for it one drawn entirely from the horse radish: The flavour of these two simples being so much alike, that their distilled spirits are scarcely distinguishable from each other.

SPIRITUS AURANTII.

Succ.

Spirit of Orange peel.

Take of

Recent orange peel, one pound;

Proof

Proof spirit, three pounds.
Draw off two pounds by the heat of a water bath.

This spirit which is now rejected from our pharmacopœias, had formerly a place in them under the title of *aquæ corticum aurantiorum spirituosa*. It is considerably stronger of the orange peel than the simple water; and is an useful cordial, stomachic, and carminative.

SPIRITUS AROMATICUS.

Suec.

Aromatic spirit.

Take of
The tops of rosemary, a pound and an half;
Tops of milfoil,
Thyme, each half a pound;
Proof spirit, sixteen pounds.
Macerate for two days, and draw off by distillation, eight pounds.
If to this quantity of spirit four pounds of vinegar be added, it forms the *spiritus aromaticus acetatus*.

This preparation does not differ materially from the spirit of rosemary or Hungary water; for on the essential oil of the rosemary its medicinal properties may be considered as chiefly depending. It is often employed, particularly for external purposes, and for impregnating the air with its vapours to destroy the influence of febrile contagions.

SPIRITUS ANTICTERICUS.

Gen.

Antifteric Spirit.

Take of
Spirit of turpentine, an ounce and an half;
Rectified spirit of wine, half a pound.
Distil with a gentle heat. Let the oil swimming above in the receiver be separated from the saturated spirit, which is to be preserved for use.

It has been imagined, that this combination of oil of turpentine with ardent spirit will furnish an effectual solvent for biliary calculi. Hence the origin of the name here given it; but although it may have such an effect when copiously applied to the calculi in a glass vessel; yet this is not to be expected when it is taken into the stomach, and can only reach them in the course of circulation.

CHAP. XX.

DECOCTA ET INFUSA.

DECOCTIONS AND INFUSIONS.

WATER, the direct menſtruum of gums and ſalts, readily extracts the gummy and ſaline parts of vegetables. Its action, however, is not limited to theſe; the reſinous and oily principles being, in moſt vegetables, ſo intimately blended with the gummy and ſaline, as to be in part taken up along with them: Some of the reſinous cathartics, and moſt of the aromatic herbs, as well as bitters and aſtringents, yield to water the greateſt part of their ſmell, taſte, and medicinal virtue. Even of the pure eſſential oils, and odorous reſins of vegetables, ſeparated from the other principles, water imbibes a part of the flavour; and by the artificial admixture of gummy or ſaline matter, the whole ſubſtance of the oil or reſin is made ſoluble in water.

Of pure ſalts, water diſſolves only certain determinate quantities: 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 fluidity. Heat expedites the action of the water on gum, 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 ſoluble without any limitation.

It has been imagined, that vegetables in a freſh ſtate, while their oily, reſinous, 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 ſeeming to have little action upon

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 ſtrongeſt; and the caſe appears to be the ſame 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, their virtues are ſuppoſed to be deſtroyed 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 ſecond, 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 fixed 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 earth, but has little or no action on any other kind of earthy matter.

The effect of boiling differs from that of infuſion in ſome material particulars. One of the moſt obvious differences is, that as the eſſential oils of vegetables, in which their ſpecific odours reſides, are volatile in the heat of boiling water, they exhale in the boiling along with the ſteam, and are thus loſt, whereas both in cold, and ſometimes in hot infuſions, they are preſerved; although in the latter they are by no means perfectly ſo. Odorous ſubſtances, and thoſe in general whoſe virtues depend on their volatile parts, are therefore unfit for this treatment. The volatile parts of theſe may, nevertheleſs, be united in this form with thoſe bodies of a more fixt nature, by boiling the latter till their virtues be ſufficiently extracted, and then infuſing the former in this decoction.

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 ſoluble matter of the almond, unites with the water into a milky liquor called an emulſion: But on boiling them in water, the oil ſeparates and riſes to the ſurface; and if the moſt perfect emulſion be made to boil, a like ſeparation happens.

This alſo appears to take place, though in a leſs evident manner, in boiling ſundry other vegetables; thus tobacco, aſarum, and ipecacuanha, loſe their active powers by boiling:

boiling: Nor does it appear that this change is effected merely by the discharge of volatile parts. From some late experiments, it has been found, that the distilled water of ipecacuanha was infinitely less emetic than the infusion from which it was distilled, and that the boiling liquor gradually assumes a black colour, indicating some kind of decomposition of parts; the same circumstances probably take place in boiling all vegetables whatever, though from their not producing such sensible operations on the living body, they cannot be so clearly discovered as in ipecacuanha, tobacco, or alarum.

Vinegar extracts the virtues of several medicinal substances in tolerable perfection; but at the same time its acidity makes a remarkable alteration in them, or superadds a virtue of a different kind: And hence it is more rarely employed with this intention than purely aqueous or spirituous menstrua. Vinegar however for particular purposes, excellently assists or coincides with the virtues of some drugs, as squills, garlic, 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 are infused in vinegar in the cold for a little time, communicate to the liquor a pleasant flavour, and bright purplish red colour. Vinegar, like other acids added to watery infusions or decoctions, generally precipitates a part of what the water had dissolved.

DECOCTUM ALTHÆÆ.

Edinb.

Decoction of Marsh mallows.

Take of

Dried marsh mallow roots, four ounces;

Raisins, stoned, two ounces;

Water, seven pounds.

Boil to five pounds; set apart the strained liquor till the feces have subsided, then pour off the clear liquor.

The Edinburgh college have substituted this for the more complicated formula of the *Decoctum ad Nephriticos* of their former pharmacopœia, and it fully answers the intentions of that preparation: it is intended chiefly as an emollient, to be liberally drank in nephritic paroxysms: In which cases, by softening and relaxing the parts, it frequently relieves the pain, and procures an easy passage for the fabulous matter. This medicine is now made more simple than before, without any diminution of its virtue, by the rejection of wild carrot seed, restharrow root, figs, linseed, and liquorice. The carrot seeds were indeed unfit for this form, as they give out little of their virtue to watery liquors.

DECOCTUM CORNU CERVI.

Lond.

Decoction of Hartshorn.

Take of

Burnt and prepared hartshorn, two ounces;

Gum arabic, six drachms;

Distilled water, three pints.

Boil, constantly stirring, to two pints; and strain.

This

This decoction is 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 slightly glutinous, and thus enable it to sustain more of the earth. It may be observed, that the water is not enabled by the boiling to dissolve any part of the calx; and that in the decoction, the earth is only diffused in substance through the water, as it would be by agitation.

For these reasons, this formula is now rejected by the Edinburgh college, notwithstanding the reputation in which it was held by Dr. Sydenham, and other names of the first eminence. But as an absorbent of a similar nature, the Edinburgh college have introduced the *Potio cretacea*, for which see chapter 23.

DECOCTUM CINCHONÆ, sive CORTICIS PERUVIANI.

Lond. Edin.

Decoction of Peruvian bark.

Take of
- Peruvian bark, powdered, one ounce;
- Distilled water, one pint and three ounces *Lond.* a pound and an half *Edin.*

Boil for ten minutes, in a covered vessel, and strain the liquor while hot.

Although a cold watery infusion of bark is in general preferable to any decoction, yet this form has at least the advantage of being more quickly prepared; and the decoction here directed, which is boiled only for a short time, and strained while hot, is preferable to any other.

This decoction should be passed only through a coarse strainer, and drank while turbid; if suffered to stand till clear, the more efficacious parts of the bark will subside. We have formerly observed, that the virtues of this drug consist chiefly in its resinous substance, which though it may be totally melted out by the heat of boiling water, remains only partially suspended in that menstruum.

DECOCTUM PRO ENEMATE.

Lond.

Decoction for a Glyster.

Take of
- The dried leaves of mallow, one ounce;
- Dried chamomile flowers, half an ounce;
- Water, one pint.

Boil and strain.

The title of this decoction sufficiently expresses its use, as the basis of glysters. The ingredients should be very slightly boiled, or at least the chamomile flowers not be put in till towards the end, a part of their virtue being soon lost by boiling.

DECOCTUM PRO FOMENTO.

Lond.

Decoction for Fomentation.

Take of
- The dried leaves of southernwood,
- The dried tops of sea wormwood,
- Dried chamomile flowers, each one ounce:
- Dried laurel leaves, half an ounce:

Distilled

Diſtilled water, ſix pints.
Boil them a little, and ſtrain.

DECOCTUM CHAMŒMELI, vulgo DECOCTUM COMMUNE.

Edinb.

Decoction of chamomile, commonly called *Common Decoction.*

Take of
Chamomile flowers, one ounce;
Caraway ſeeds, half an ounce;
Water, five pounds.
Boil for a quarter of an hour, and ſtrain.

This decoction is intended to anſwer the purpoſes of both the foregoing.

It muſt however be acknowledged, that theſe impregnations are for the moſt part unneceſſary for the purpoſe of glyſters; and in ordinary caſes the weight of the water uſually ſolicits a diſcharge before theſe medicines can produce any effect.

As fomentations, their virtues are alſo in a great meaſure to be aſcribed to the influence of the warm water: And when the herbs themſelves are applied, they act only as retaining heat and moiſture for a longer time.

DECOCTUM GEOFFRÆÆ.

Edin.

Decoction of cabbage tree.

Take of
Bark of the cabbage tree, powdered, one ounce;
Water two pounds.
Boil it with a gentle fire down to one pound and ſtrain.

The medicinal qualities of the geoffræa have been amply treated of in the materia medica, to which the reader is referred. As it is a very violent medicine the practitioner ought to be on his guard againſt giving it in too large a doſe, eſpecially at firſt.

DECOCTUM HELLEBORI ALBI.

Lond.

Decoction of white Hellebore.

Take of
The root of white hellebore, powdered, one ounce;
Diſtilled water, two pints;
Rectified ſpirit of wine, two ounces.
Boil the water with the root to one pint; and, the liquor being cold and ſtrained, add to it the ſpirit.

White hellebore, as we formerly obſerved, is now very rarely employed internally; and the preſent formula is entirely intended for external uſe. Recourſe is ſometimes had to it with advantage in cutaneous eruptions, particularly in tinea capitis. But where the incruſtations are entirely removed, leaving a very tender ſkin, it is neceſſary that the decoction ſhould be diluted previouſly to its employment.

DECOCTUM HORDEI.

Lond. Edin.

Decoction of Barley.

Take of
Pearl barley, two ounces;
Diſtilled water, four pints.
The barley being firſt waſhed with cold water from the adhering impurities, pour upon it about half a pint of water, and boil the barley a little time. This water, which will receive a tinge from the barley, being thrown away,

away, add the diſtilled water, boiling, to the barley; boil it to two pints, and ſtrain.

DECOCTUM HORDEI COMPOSITUM.

Lond.

Compound Decoction of Barley.

Take of
- The decoction of barley, two pints;
- Figs, ſliced, two ounces;
- Liquorice root, ſliced and bruiſed, half an ounce;
- Raiſins, ſtoned, two ounces;
- Diſtilled water, one pint.

Boil to two pints, and ſtrain.

These liquors are to be drank freely as diluters in fevers and other diſorders: Hence it is of conſequence that they ſhould be prepared ſo as to be as elegant and agreeable as poſſible; for this reaſon they are inſerted in the pharmacopœia, and the ſeveral circumſtances which contribute to their 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 in the cure of acute diſeaſes than many more elaborate preparations.

Barley water, however, is much more frequently prepared by nurſes than apothecaries, particularly in its ſimple ſtate. The compound decoction contains a large proportion of ſaccharine and mucilaginous matter, and may be employed for the ſame purpoſes as the *decoctum althææ* of the Edinburgh pharmacopœia.

DECOCTUM GUAIACI COMPOSITUM, vulgo DECOCTUM LIGNORUM.

Edinb.

Compound decoction of Guaiacum, commonly called Decoction of the Woods.

Take of
- Guaiacum raſpings, three ounces;
- Raiſins, ſtoned, two ounces;
- Saſſafras root, ſhaved,
- Liquorice, ſliced, each one ounce;
- Water, ten pounds.

Boil the guaiacum and raiſins with the water, over a gentle fire, to the conſumption of one half; adding, towards the end, the ſaſſafras and liquorice. Strain the liquor without expreſſion.

This decoction is very well contrived; and if its uſe be duly continued, it will do great ſervice in ſome cutaneous diſeaſes, in what has been called foulneſs of the blood and juices, and in ſome diſorders of the breaſt; particularly in phlegmatic habits. It may be taken by itſelf to the quantity of a quarter of a pint twice or thrice 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. The raſpings expoſes a larger ſurface to the action of the water than the ſhavings, directed in the former edition of the pharmacopœia.

DECOCTUM SARSAPARILLÆ.

Lond. Edinb.

Decoction of Sarſaparilla.

Take of
- The root of ſarſaparilla, ſliced, ſix

six ounces;
Distilled water, eight pints.
Macerate for two hours, with an heat of about 195°; then take out the root, and bruise it; return the bruised root into the liquour, and again macerate it for two hours. Then the liquor being boiled to four pints, press it out, and strain.

This decoction is an article in very common use, particularly in venereal affections. And there can be little doubt, that by this process the medical powers of the sarsaparilla are fully extracted. But it has of late been much questioned, whether this article be in any degree intitled to the high character which was once given of it. Some, as we have already observed, are even disposed to deny its possessing any medical power whatever.

DECOCTUM SARSAPARILLÆ COMPOSITUM.

Lond.

Compound decoction of Sarsaparilla.

Take of
The root of sarsaparilla, sliced and bruised, six ounces;
Bark of sassafras root,
Rasping of guaiacum,
Liquorice root, bruised, of each one ounce;
Bark of mezereon root, three drachms;
Distilled water, ten pints.
Macerate, with a gentle heat, for six hours; then boil it down to five pints, adding, towards the end, the bark of mezereon root and strain the liquor.

This compound decoction is an elegant mode of preparing an article once highly celebrated under the title of the *Lisbon diet drink*. That formula for a long time after its first introduction into Britain, was kept a secret; but an account of the method of its preparation was at length published in the Physical and Literary Essays of Edinburgh, by Dr. Donald Monro. It is highly probable, that its good effects, principally depend on the impregnation it receives from the mezereon; and all the good effects of this compound may be produced from the following more simple one.

DECOCTUM MEZEREI.

Edin.

Decoction of Mezereon.

Take of
The bark of mezereon root, two drachms;
Liquorice root, bruised, half an ounce;
Water three pounds.
Boil it with a gentle heat, down to two pounds, and strain it.

DECOCTUM SENEKÆ.

Edin.

Decoction of Seneka.

Take of
Seneka root, one ounce
Water, two pounds.
Boil to sixteen ounces, and strain.

The virtues of this decoction will be easily understood from those of the root from which it is prepared. The dose, in hydropic cases, and rheumatic, or arthritic complaints, is two ounces, three or four times a day, according to its effect.

DECOCTUM

DECOCTUM ULMI.
Lond.
Decoction of Elm.

Take of
The fresh inner bark of elm, bruised, four ounces;
Distilled water, four pints.
Boil to two pints, and strain.

Decoction has been the chief, if not the only form in which elm bark has been employed for combating those cutaneous eruptions against which it has of late been so highly celebrated. Any experience which we have had of it, however, in actual practice, by no means confirms the very favourable account which some have given of its use.

MUCILAGO AMYLI.
Lond. Edin.
Mucilage of Starch.

Take of
Starch, three drachms;
Distilled water, one pint.
Rub the starch, by degrees adding the distilled water; then boil it a little time.
The Edinburgh pharmacopœia orders half an ounce of starch, to a pound of water.

The mucilage of starch thus formed is very useful in those cases where a glutinous substance is required, it is often successfully employed as a glyster, in diarrhœas depending on acrimony in the intestines.

MUCILAGO ARABICI GUMMI.
Lond.
Mucilage of Gum Arabic.

Take of
Gum arabic, powdered, four ounces;
Boiling distilled water, eight ounces.
Rub the gum with the water until it be dissolved.

MUCILAGO GUMMI ARABICI.
Edinb.
Mucilage of Gum Arabic.

Take of
Gum arabic, beat into powder, and warm water, each equal weights.
Digest and frequently stir them till the gum be dissolved, then press the solution through linen.

It is very necessary to pass the mucilage through linen in order to free it from pieces of wood and other impurities, which always adhere to the gum; the linen may be placed in a funnel.

Mucilage of gum arabic is very useful in many operations in pharmacy: It is also much used for properties peculiar to those substances of its own class, and of all the gums it seems to be the purest.

MUCILAGO TRAGACANTHÆ.
Lond.
Mucilage of Tragacanth.

Take of
Tragacanth, half an ounce;
Distilled water, ten ounces, by measure.
Macerate them, with a gentle heat,

heat, till the tragacanth be diſſolved.

MUCILAGO GUMMI TRAGACANTHÆ.

Edinb.

Mucilage of Gum Tragacanth.

Take of
Gum tragacanth, powdered, one ounce;
Hot water, eight ounces.
Macerate twenty four hours; then mix them, by rubbing briſkly, that the gum may be diſſolved; and preſs the mucilage through linen cloth.

This gum is more difficultly ſoluble in water than gum arabic, and ſeems to be conſiderably more adheſive; it is therefore fitter for forming troches, and ſuch like purpoſes. It has been thought to be more peculiarly what has been called a pectoral, than the other gums; but this does not ſeem to be certainly founded. This mucilage is perhaps preferable to the foregoing in thoſe operations in pharmacy where much tenacity is required; as in the ſuſpenſion of mercury, or other ponderous bodies.

MUCILAGO SEMINIS CYDONII MALI.

Lond.

Mucilage of Quince ſeed.

Take of
Seeds of the quince, one drachm;
Diſtilled water, eight ounces, by meaſure.
Boil with a ſlow fire for ten minutes; then paſs it through linen.

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.

INFUSUM GENTIANÆ COMPOSITUM.

Lond.

Compound Infuſion of Gentian.

Take of
The root of gentian, one drachm;
Dried orange peel, a drachm and an half;
Freſh outer rind of lemons, half an ounce;
Boiling water, twelve ounces, by meaſure.
Macerate for an hour, and ſtrain.

INFUSUM AMARUM, ſive INFUSUM GENTIANÆ COMPOSITUM.

Edinb.

Bitter Infuſion, or compound infuſion of Gentian.

Take of
Gentian root, half an ounce;
Dried peel of Seville oranges, one drachm;
Coriander ſeeds, half a drachm;
Proof ſpirit, four ounces;
Water, one pound.
Firſt pour on the ſpirit, and three hours thereafter add the water; then macerate without heat for a night, and ſtrain.

These formulæ do not materially differ. That of the London college is the moſt expeditious mode of preparation: But that of the Edinburgh college poſſeſſes other advantages, which outweigh that circumſtance.

In

In former editions of the Edinburgh Pharmacopœia, the water was directed to be boiling; this was at least unnecessary, and was liable to the objections observed against decoctions. The proof spirit is an useful addition as it assists in extracting the resinous parts, and preserving the infusion from fermentation, and at the same time communicates an agreeable pungency to the liquor. This infusion is an extremely good bitter and is of great service in all cases where bitters in general are necessary. It strengthens the stomach and increases appetite; besides acting as a tonic on the other parts of the body and on the vascular system.

INFUSUM CATECHU, vulgo INFUSUM JAPONICUM.
Edin.
Infusion of Catechu, commonly called *Japonic Infusion*.

Take of
Extract of Catechu, two drachms and an half;
Cinnamon, half a drachm;
Boiling water, seven ounces;
Simple syrup, one ounce.
Macerate the extract and cinnamon in the hot water in a covered vessel for two hours, then strain it and add the syrup.

This infusion is somewhat like a decoction that had formerly a place in our pharmacopœias, under the name of *Decoctum Japonicum*, in which, however, some opium entered. It is a very agreeable medicine, and will be found serviceable in fluxes proceeding from a laxity of the intestines. Its dose is a spoonful or two every other hour.

INFUSUM SENNÆ SIMPLEX.
Lond.
Simple Infusion of Senna.

Take of
Senna an ounce and a half;
Ginger, powdered, one drachm;
Boiling distilled water, one pint.
Macerate them for an hour, in a covered vessel; and, strain the liquor when cold.

This, although a simple, is a very elegant infusion of senna, the ginger acting as an useful corrigent. But if the senna were employed to the quantity of a drachm and an half, or two drachms only, with the same menstruum in place of the quantity here ordered, it would be a no less useful medicine, and might be employed for one dose, as it is best when fresh. Of the present infusion, an ounce or two is a sufficient dose.

INFUSUM SENNÆ TARTARISATUM.
Lond.
Tartarised Infusion of Senna.

Take of
Senna, one ounce and a half;
Coriander seeds, bruised, half an ounce;
Crystals of tartar, two drachms;
Distilled water, one pint.
Dissolve the crystals of tartar by boiling in the water; then pour the boiling hot solution on the senna and seeds. Macerate for an hour in a covered vessel, and strain when cold.

Formerly an alkaline salt was used in the infusion of senna, instead of the acid one here directed.

The

The first was supposed 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; while acids were alleged to have rather a contrary effect. Experience, however, has sufficiently shewn, that alkaline salts increase the offensiveness of the senna, while crystals of tartar considerably improve the colour of the infusion, and likewise render the taste to some persons less disagreeable. Soluble tartar should seem a good ingredient in these kinds of compositions, as it not only improves the taste, but promotes the purgative virtue of the medicine; this addition also renders the infusion less apt to gripe, or occasion flatulencies.

INFUSUM TAMARINDORUM cum SENNA.

Edinb.

Infusion of Tamarinds with Senna.

Take of
Tamarinds, six drachms;
Crystals of tartar,
Senna, each one drachm;
Coriander seeds, half a drachm;
Brown sugar, half an ounce;
Boiling water, eight ounces.

Macerate in a close earthen vessel, not glazed with lead; stir the liquor now and then, and after it has stood four hours strain it.

It may also be made with double, tripple, &c. the quantity of senna.

Both this and the former infusions might be made with cold water. By this means the aromatic quality of the coriander seeds would probably be extracted in a more perfect state; but the crystals of tartar are so difficultly soluble in cold water, that for extemporaneous use it is in some measure necessary to prepare them in the manner here directed: It is not indeed probable, that when such soluble matters as acids and sugar are presented to water, the water shall be able to extract such a quantity of the finer volatile part of aromatics as to afford any considerable flavour to the liquor: Where an aromatic is required, we would therefore propose, that some agreeable aromatic water should be mixed with the liquor immediately before swallowing it; or that a quantity of aromatic oil should be incorporated with the cold infusion by means of gum, or a part of the sugar which might be reserved for that purpose. It is a very necessary caution not to make this infusion in vessels glazed with lead, otherwise the acid might corrode the lead, and communicate its poisonous quality to the infusion.

Both these infusions are mild and useful purges, the latter in particular is excellently suited for delicate stomachs, at the same time that it is very much calculated for febrile and other acute diseases. It is observable that sugar added to neutral salts, rather increases than diminishes their nauseousness; but when used along with an acid, such as tamarinds, or a salt wherein the acid predominates, as in crystals of tartar, it is found very much to improve their taste: The acid in this infusion, or rather the combination of acid and sweet are found to cover the taste of the senna very effectually; the aromatic serves

alſo the ſame purpoſe, but would perhaps be better applied in the way above propoſed.

INFUSUM ROSÆ.

Lond.

Infuſion of the roſe.

Take of

Dried red roſe buds, half an ounce;

Dilute vitriolic acid, three drachms;

Boiling diſtilled water, two pints and a half;

Double refined ſugar, one ounce and a half.

To the water, firſt poured on the petals in a glaſs veſſel, add the dilute vitriolic acid, and macerate for half an hour. Strain the liquor when cold, and add the ſugar.

INFUSUM ROSARUM, vulgo TINCTURA ROSARUM.

Edinb.

Infuſion of Roſes, commonly called *Tincture of Roſes.*

Take of

Red roſes, dried, one ounce;

Boiling water, five pounds;

Vitriolic acid, one drachm;

White ſugar, two ounces.

Macerate the roſes with the boiling water in a veſſel not glaſed with lead, four hours; then having poured on the acid, ſtrain the liquor and add the ſugar.

Some have directed the vitriolic acid to be dropped upon the roſes before the water is put to them; but this method is certainly faulty; for ſuch of the roſes as this cauſtic liquor falls on undiluted, will be burnt up by it, and have their texture deſtroyed. Others have made the infuſion of the roſes in the mixture of water and acid, as in the formula given by the London college, but the acid weakens the power of the water as a menſtruum; and hence the formula of the Edinburgh college is preferable. The infuſion ſhould be made in a glaſs or ſtone ware veſſel rather than an earthen one glaſed with lead, which the acid will be apt to corrode.

This infuſion is of an elegant red colour, and makes a very grateful addition to the juleps in hæmorrhagies, and in all caſes which require mild coolers and ſubaſtringents: It is ſometimes taken with boluſes or electuaries of the bark, and likewiſe makes a good gargle; but although in our pharmacopœias it has its name from the roſes, yet its virtues are to be aſcribed chiefly, if not entirely to the vitriolic acid.

INFUSUM RHEI.

Lamb.

Infuſion of Rhubarb.

Take of

Rhubarb, half an ounce;

Boiling water, eight ounces;

Spirit of cinnamon, one ounce.

Macerate the rhubarb in a glaſs veſſel with the boiling water for a night; then having added the ſpirit of cinnamon, ſtrain the liquor.

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: And the London college might have given it a place in their pharmacopœia as well as the *vinum* or *tinctura rhabarbari.*

AQUA

AQUA CALCIS.

Lond.

Lime water.

Take of
Quicklime, half a pound;
Boiling diſtilled water, twelve pints.
Mix, and ſet it aſide in a covered veſſel for an hour; then pour off the liquor, which keep in a cloſe ſtopt veſſel.

Edinb.

Take half a pound of freſh burnt quicklime, put it into an earthen veſſel, and gradually ſprinkle on it four ounces of water, keeping the veſſel ſhut while the lime grows hot and falls into powder. Then pour on it twelve pounds of water and mix the lime thoroughly with the water by ſhaking. After the lime has ſubſided renew the ſhaking; and let this be done about ten times, always keeping the veſſel ſhut that the acceſs of the air may be the more effectually prevented. Laſtly let the water be filtered through paper placed in a funnel cloſe ſhut at its top; and it muſt be kept in very cloſe ſtopt veſſels.

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 ſoft paſte, which in ſome meaſure defends the internal part from being acted on by the water. The different proportions of water in the two above preſcriptions occaſion no ſenſible difference in the ſtrength of the product; the quicklime is far from yielding all its ſoluble parts to either proportion; the remainder giving a ſtrong impregnation to many freſh quantities of water, though not ſo ſtrong as to the firſt. The caution of keeping the lime water in cloſe ſtopt veſſels ought to be ſtrictly attended to; for in open ones the calcareous matter diſſolved in the liquor ſoon begins to ſeparate, and forms a white cruſt on the ſurface. This is not a ſalt, as ſome have imagined; but an inſipid earth, no longer miſcible with watery liquors. The theory of its production will be eaſily underſtood from what we have ſaid on the article Fixed Air. The ſeparation firſt takes place at the ſurface, as being the part immediately applied to the common air: As long as the cruſt remains entire, the cloſeneſs of its texture ſo excludes the air, that the reſt of the water ſtill remains impregnated with lime; but when this pellicle is broken by any means, it ſoon ſinks to the bottom, and expoſes a new ſurface for the ſeparation of the lime. In this way a ſucceſſion of cruſts and precipitations are formed, till the whole of the once cauſtic and ſoluble quicklime is now found, at the bottom of the veſſel, in the ſtate of a mild inſoluble calcareous earth, leaving the water perfectly inſipid. The formation of theſe cruſts, and their ſucceſſive precipitations, are owing to the abſorption of fixed air, or aerial acid, from the atmoſphere: And the mild inſoluble ſtate of theſe precipitations is alſo owing to the ſame cauſe.

The diſtilled water recommended by the London college is certainly preferable to common ſpring water; the purity of which can rarely be depended on.

Lime water has been thought of great ſervice in ſcrophulous complaints;

plaints; but perhaps on no very good foundation. It has also been used both internally and externally for various affections of the skin. It seems to be very considerably astringent, and has been useful in some kinds of alvine fluxes, in diabetes, leucorrhœa, and in sundry other disorders proceeding from a laxity or debility of the solids.

Its more common use is in affections of the stomach accompanied with acidity and flatulence. For which last complaint, the mild or aerated earths are less proper, on account of the separation of air on their meeting with an acid in the stomach. Lime water is also capable of dissolving mucus; and may therefore be used where redundance of the intestinal mucus affords a nidus for worms, or gives rise to other complaints. It has also been found, that lime water injected into the anus immediately kills ascarides. The lithontriptic powers of lime water seem at present to be much doubted. Lime water is given in doses proportioned to the nature of the complaints; in some cases, as in diabetes, it may be given in divided portions to the extent of two quarts a day. It is used externally for washing what are called foul or ill conditioned ulcers; it is also injected into the vagina and other parts affected with preternatural discharges from laxity.

The use of lime water in scurvy is very doubtful.

ACETUM SCILLÆ.

Lond.

Vinegar of squills.

Take of

Squills, dried, one pound;
Vinegar, six pints;
Proof spirit, half a pint.

Macerate the squills in the vinegar with a gentle heat, in a glass vessel for twenty four hours; then press out the liquor, and set it by that the feces may subside: Lastly, pour off the liquor, and add to it the spirit.

ACETUM SCILLITICUM.

Edinb.

Squill Vinegar.

Take of

Dried root of squills, two ounces;
Distilled vinegar, two pounds and a half;
Rectified spirit of wine, three ounces.

Macerate the squills with the vinegar eight days; then press out the vinegar, to which add the spirit; and when the feces have subsided, pour off the clear liquor.

Vinegar of squills is a medicine of great antiquity: We find, in a treatise attributed to Galen, an account of its preparation, and of many particular virtues then ascribed to it. It is a very powerful stimulant; and hence it is frequently used, with great success, as a diuretic and expectorant. The dose of this medicine is from a drachm 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 vomiting. It is most conveniently exhibited along with cinnamon, or other agreeable aromatic waters, which prevent the nausea it would otherwise, even in small doses be apt to occasion.

ACETUM

ACETUM AROMATICUM.

Edinb.

Aromatic Vinegar.

Take of
Tops of rosemary,
Leaves of sage, each four ounces;
Flowers of lavender, two ounces;
Cloves, two drachms;
Vinegar, eight pounds.
Macerate for four days, express the liquor, and strain it.

This may be considered as an elegant improvement of what had formerly a place in the foreign pharmacopœias, under the title of *Acetum prophylacticum*, which contained not only the present articles, but also a confused farrago of others, as wormwood, rue, garlic, cinnamon, &c.

It is said, that during the plague at Marseilles, four persons, by the use of the acetum prophylactium as a preservative, attended unhurt, multitudes of those who were infected; that under colour of those services, they robbed both the sick and the dead; And that one of them being afterwards apprehended, saved himself from the gallows by discovering the remedy. The preparation was 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 greatly contribute to prevent the effects of contagious air. And in the present acetum aromaticum, we have a stronger and better impregnation, than from the numerous articles which were employed. We cannot however imagine that it will be able to counteract the contagion of the plague: But it may on different occasions be more powerful than vinegar in its simple state, for impregnating with antiseptic vapours the chambers of the sick.

ACETUM ROSACEUM.

Suec.

Vinegar of Roses.

Take of
The flowers of red roses, dried, any quantity; add to them twelve times their weight of vinegar.
Macerate for four days, and strain through paper.

This has been chiefly used for embrocating the head and temples in some kinds of headach, &c. in which it has now and then been of service. It has also been used for certain cases of ophthalmia; but before it can be applied to the eyes, it will in general require to be diluted with water.

ACETUM COLCHICI.

Ross.

Vinegar of Colchicum.

Take of
The recent root of colchicum, cut into slices, one ounce;
Vinegar, one pound.
Macerate with a gentle heat for two days; then strain after slight expression.

Although in our pharmacopœias a place be given to the oxymel and syrup of colchicum, both of which are formed from the vinegar, yet the vinegar itself is not directed to be kept in its separate state: Under this form however it may often be employed with advantage.

AQUA

AQUA PICEA.

Sutc.

Tar Water.

Take of
Tar, two pounds;
Water, one gallon.
Stir them ſtrongly together with a wooden rod; and after ſtanding to ſettle for twelve hours, pour off the water for uſe.

TAR water was recommended to the world as a certain and ſafe medicine in almoſt all diſeaſes; a ſlow yet effectual alterative in cachexies, ſcurvies, chlorotic, hyſterical, hypocondriacal, and other chronical complaints; and a ſudden remedy in acute diſtempers which demand immediate relief, as pleuriſies, peripneumonies, the ſmall pox, and all kinds of fevers in general. This medicine, though certainly far inferior to the character that has been given of it, is doubtleſs in many caſes of conſiderable utility: It ſenſibly raiſes the pulſe; and occaſions ſome conſiderable evacuation, generally by perſpiration or urine, though ſometimes by ſtool or vomit.

We ſhall here inſert, from the firſt publick 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 per"ceived in drinking, you may "conclude the tar water is not "good. It may be drank either "cold or warm. In colics, I take "it to be beſt warm. As to the "quantity, in common chronical "indiſpoſitions, a pint a day may "ſuffice, taken on an empty ſtom"ach, at two or four times, to "wit, night and morning, and "about two hours after dinner "and breakfaſt: More may be "taken by ſtronger ſtomachs. But "thoſe who labour under great and "inveterate maladies, muſt drink "a greater quantity, at leaſt a "quart every twenty four hours. "All of this claſs muſt have much "patience and perſeverance in the "uſe of this, as well as of all other "medicines, which though ſure, "muſt yet in the nature of things "be ſlow in the cure of inveterate "chronical diſorders. In acute "caſes, fevers of all kinds, it muſt "be drank in bed warm, and in "great quantity (the fever ſtill en"abling the patient to drink), per"haps a pint every hour which I "have known to work ſurpriſing "cures. But it works ſo quick, "and gives ſuch ſpirits, that the "patients often think themſelves "cured before the fever has quite "left them."

Notwithſtanding theſe encomiums, tar water ſeems to have loſt its reputation. It is not probable that water can take up much of the more active principles of the tar; and it would perhaps be more convenient to ſeparate its acid by diſtillation, and mix it with water occaſionally: For it is pretty certain, that the water can only take up the acid of the tar, perhaps charged with a very ſmall quantity of oily matter in the ſtate of an acid ſope.

CHAP. XXI.

VINA MEDICATA.

MEDICATED WINES.

THE original intention of medicated wines was, that medicines which where to be continued for a length, of time, might be taken in the moſt familiar and agreeable form; by this 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 ſort of people had their medicated ales. Nevertheleſs, as vinous liquors excellently extract the virtues of ſeveral ſimples, and are not ill fitted for keeping, they have been employed as officinal menſtrua alſo; and ſubſtances of the greateſt efficacy are truſted to in this form. As compounds of water and inflammable ſpirits, they take up ſuch parts of vegetables and animals as are ſoluble 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 ſpirit. They contain likewiſe a ſubtile acid, which ſomewhat 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.

To all the medicated wines, after they have been ſtrained, you may add about one twentieth their quantity of proof ſpirit, to preſerve them from fermentation. They may be conveniently kept in the ſame kind of glaſs bottles that wines are generally kept in for common uſes, which ſhould likewiſe be corked with the ſame care.

VINUM ALOES.

Lond.

Wine of Aloes.

Take of

Socotorine aloes, eight ounces;
Canella alba, two ounces;
Spaniſh white wine, ſix pints;
Proof ſpirit, two pints.

Powder

Powder the aloes and canella separately; when mixed pour on them the wine and spirit: Digest for fourteen days, now and then shaking them; and strain.

It will not be amiss to mix white wine, cleansed from impurities, with the powder, in order to prevent the moistened aloes from getting into lumps.

VINUM ALOETICUM, vulgo TINCTURA SACRA.

Edin.

Aloetic wine, commonly called *Sacred Tincture.*

Take of
- Socotorine aloes, one ounce;
- Lesser cardamom seeds,
- Ginger, each one drachm;
- Spanish white wine two pounds.

Digest for seven days, stirring now and then, and afterwards strain.

This medicine has long been in great esteem not only as a cathartic, but likewise as a stimulus; the wine dissolving all that part of the aloes in which these qualities reside, a portion only of the less active resinous matter being left. The aromatic ingredients are added to warm the medicine, and somewhat correct the ill flavour of the aloes.

The *tinctura sacra* appears from long experience to be a medicine of excellent service. The dose, as a purgative, is from one to two ounces. It may be introduced into the habit, so 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 considerable 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.

VINUM AMARUM, sive GENTIANÆ COMPOSITUM.

Edin.

Bitter Wine, or *compound gentian wine.*

Take of
- Gentian root, half an ounce;
- Peruvian bark, one ounce;
- Seville orange peel, dried, two drachms;
- Canella alba, one drachm;
- Proof spirit, four ounces;
- Spanish white wine, two pounds and an half.

First pour on the spirit, and after twenty four hours add the wine; then macerate for three days, and strain.

This wine is intended to supply the place of the *Tinctura ad stomachica*, as it was formerly called. Wine is a menstruum fully capable of extracting the active powers of the different ingredients; and it supplies us with a very useful and elegant stomachic medicine, answering the purposes intended, much better than the celebrated elixir of Van Helmont, and other unchemical and uncertain preparations, which has formerly a place in our pharmacopœias.

VINUM ANTIMONII.

Lond.

Wine of Antimony.

Take of
- Vitrified antimony, powdered, one ounce;
- Spanish white wine, a pint and an half.

Digest for twelve days, frequently shaking

shaking the vessel, and filter the wine through paper.

However carefully the settling and decantation are performed, the filtration of the wine through paper appears to be necessary, lest some of the finer parts of the glass should chance to remain suspended in the wine. The matter left undissolved by the menstruum is not, as in most other wines and tinctures, of little consequence; the antimonial glass, after the action of the wine, continues as virulent as ever, and is capable of impregnating fresh parcels of the liquor as strongly as the first, and this, in appearance, inexhaustibly. 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 so be 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 fluids, its operation is more certain. From ten to fifty or sixty drops generally act as an alterative and diaphoretic; larger doses act as a diuretic and cathartic; while three or four drachms prove for the most part violently emetic. It has been chiefly used with this last intention, in some maniacal and apoplectic cases; and hence it gained the name of emetic wine.

The quantity of the reguline part must, however, vary according to the proportions of the acid matter in different wines, and the operation of the medicine must be thereby less certain in degree; the vitrum is preferable to the crocus for making this preparation. See the different preparations of Antimony, chap. 10.

VINUM ANTIMONII TARTARISATI.

Lond.

Wine of tartarised Antimony

Take of

Tartarised antimony, two scruples;
Boiling distilled water, two ounces,
Spanish white wine, eight ounces;

Dissolve the tartarised antimony in the boiling distilled water, and add the wine.

VINUM ANTIMONII TARTARISATI. vulgo VINUM ANTIMONIALE.

Edin.

Wine of Tartarised antimony, commonly called *Antimonial wine.*

Take of

Tartarised antimony, twenty four grains;
Spanish white wine, one pound.

Mix them so as that the antimony may be dissolved.

Watery solutions of emetic tartar, on standing, precipitate a part which is less completely in a saline state; by this means, and especially if the solution be not shaken before using it, the dose of that medicine is somewhat ambiguous: In the above formula, the acid matter of the wine increases the saline state of the antimony and therefore its solubility, whereby the operation of the medicine is more certain, and in many cases more powerful. From the certainty of its effects, this preparation might be very convenient in large hospitals or armies, where great numbers of the sick, and

and inaccurate nurſing, frequently occaſion an uncertain or dangerous practice.

In the formula employed by the Edinburgh college, each ounce of the wine contains two grains of the tartariſed antimony; but in that of the London college, each ounce of the menſtruum contains four grains; hence, while an ounce of the one may be employed for exciting full vomiting, the ſame quantity of the other would be too ſtrong a doſe. It is much to be regretted that in articles of this active nature, the proportions employed by the two colleges ſhould differ ſo conſiderably: And it would perhaps have been better, had the London college adopted the proportions employed by that of Edinburgh, as they have followed them in adopting this formula.

VINUM FERRI.

Lond.

Wine of Iron.

Take of
Iron filings, four ounces;
Spaniſh white wine, four pints.
Digeſt for a month, often ſhaking the veſſel, and then ſtrain.

This formula of the London pharmacopœia is now not only ſimplified, but improved, when compared with their former *vinum chalybeatum*: For the cinnamon and other articles which were then conjoined with the iron, were certainly rather prejudicial than otherwiſe; but at the ſame time, Rheniſh wine, formerly employed, is a better menſtruum than the Spaniſh wine now directed. The medicine may ſtill, however, be juſtly conſidered as a good chalybeate.

Steel wine, as it was formerly called, is a very uſeful preparation of this metal, and frequently exhibited in chlorotic and other indiſpoſitions where chalybeates are proper. The doſe is from a drachm to half an ounce; which may be repeated twice or thrice a day.

Some direct ſolutions of iron, made in wine or other vegetable acids, to be evaporated to the conſiſtence of an extract, under the title of Extractum martis. Theſe preparations have no advantage, in point of virtue, above the common chalybeate: Though, in ſome forms, that of pills in particular, they may be rather more commodiouſly 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 ſubſtances into that form.

VINUM IPECACUANHÆ.

Lond.

Wine of Ipecacuanha.

Take of
The root of ipecacuanha, bruiſed, two ounces;
Spaniſh white wine, two pints.
Digeſt for ten days, and ſtrain.

VINUM, vulgo TINCTURA IPECACUANHÆ.

Edinb.

Wine, commonly called *Tincture of Ipecacuanha.*

Take of
Ipecacuanha, in powder, one ounce;
Spaniſh white wine, fifteen ounces.
After three days maceration, let the tincture be filtrated for uſe.

Both

Both these wines are very mild and safe emetics, and equally serviceable in dysentery, with the ipecacuanha in substance; this root yielding nearly all its virtues to the Spanish white wine, here ordered, as it does a good share of them even to aqueous liquors. The common dose is an ounce, more or less, according to the age and strength of the patient. The college of Edinburgh formerly added 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 matter evacuated, sometimes alarmed the patient, as if it proceeded from a discharge of blood.

VINUM RHABARBARI.

Lond.

Wine of Rhubarb.

Take of
- Sliced rhubarb, two ounces and an half;
- Lesser cardamon seeds, bruised and husked, half an ounce;
- Saffron, two drachms;
- Spanish white wine, two pints;
- Proof spirit, half a pint.

Digest for ten days, and strain.

VINUM RHEI.

Edin.

Rhubarb Wine.

Take of
- Rhubarb, two ounces;
- Canella alba, one drachm;
- Proof spirit, two ounces;
- Spanish white wine, fifteen ounces.

Macerate for seven days, and strain.

By assisting the solvent power of the menstruum, the proof spirit in the above formulæ is a very useful addition. This is a warm, cordial laxative medicine. It is used chiefly in weakness of the stomach and bowels, and some kinds of looseness, for evacuating the offending matter, and strengthening the tone of the viscera. It may be given in doses of from half a spoonful to three or four spoonfuls or more, according to the circumstances of the disorder, and the strength of the patient.

VINUM NICOTIANÆ.

Edinb.

Tobacco wine.

Take of
- The dried leaves of the best Virginian tobacco, one ounce;
- Spanish white wine, one pound.

Macerate for four days, and then strain the liquor.

We have already, under the article Nicotiana in the Materia Medica, offered some observations on its late introduction into practice by Dr. Fowler, as a very useful remedy in the cure of dropsies and dysuries. From experiments wine extracts the active principles of tobacco better than any other menstruum.

VINUM SCILLITICUM.

Suec.

Squill wine.

Take of
- Dried squill, sliced, one ounce;
- Ginger, one drachm;
- French white wine, two pounds.

Macerate for three days, and then strain.

By the wine employed as a menstruum, the active properties of the squills may be readily extracted: And in some cases at least the present

ent formula may juſtly be conſidered as intitled to a preference over either the acetum or oxymel ſcillæ, which have a place in our pharmacopœias. The ginger here added to the ſquills operates as an uſeful corrigent; and on this account the preſent formula is preferable to the *vinum ſcilliticum* of ſome other pharmacopœias, where the ſquills alone are uſed.

CHAP.

CHAP. XXII.

TINCTURÆ.

TINCTURES.

RECTIFIED ſpirit of wine is the direct menſtruum of the reſins and eſſential oils of vegetables, and totally extracts theſe active principles from ſundry vegetable matters, which yield them to water either not at all, or only in part. It diſſolves likewiſe the ſweet ſaccharine matter of vegetables; and generally thoſe parts of animal bodies, in which their peculiar ſmell and taſte reſide.

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 there ſolubility in this menſtruum in great meaſure depends, while rectified ſpirit extracts them almoſt pure from gum. Hence, when the ſpirituous tinctures are mixed with watery liquors, a part of what the ſpirit had taken up from the ſubject generally ſeparates and ſubſides, on account of its having been freed from the matter which, being blended with it in the original vegetable, made it ſoluble in water. This, however, is not univerſal; for the active parts of ſome vegetables when extracted by rectified ſpirits, are not precipitated by water, being almoſt equally ſoluble 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.

Fixed alkaline ſalts deepen the colour of ſpirituous tinctures; and hence they have been ſuppoſed to promote the diſſolving 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 ſo much: If the alkali be added after the extraction of the tincture, it will heighten the colour as much as when mixed with the ingredi-

ents

ents at firſt. The addition of theſe ſalts in making tinctures, is not only uſeleſs, but prejudicial, as they generally injure the flavour of aromatics, and ſuperadd a quality, ſometimes contrary to the intention of the medicine. Volatile alkaline ſalts, in many caſes promote the action of the ſpirits. 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*.

TINCTURA ALOES.
Lond. Edin.
Tincture of Aloes.

Take of
Socotorine aloes, powdered, half an ounce;
Extract of liquoriee, an ounce and an half;
Diſtilled water,
Proof ſpirit, of each eight ounces.
Digeſt in a ſand bath, now and then ſhaking the veſſel, until the extract be diſſolved, and then ſtrain.

In this ſimple tincture, all the active parts of the aloes, whether of a gummy or reſinous nature, are ſuſpended in the menſtruum. The extract of liquorice ſerves both to promote the ſuſpenſion and to cover the taſte of the aloes; and in theſe caſes where we wiſh for the operation of the aloes alone, this is perhaps one of the beſt formulæ under which it can be exhibited in a fluid ſtate.

Though the two formulæ of our pharmacopœias are apparently the ſame, the proportions of the ingredients are ſomewhat different; owing to the London College directing the water and ſpirit to be taken by meaſure, and that of Edinburgh by weight. Eight London ounce meaſures of water is, ſeven ounces, four drachms, and fifty five grains; and the ſame meaſure of proof ſpirit, ſeven ounces and thirty nine grains, Troy weight.

TINCTURA ALOES COMPOSITA.
Lond.
Compound Tincture of Aloes.

Take of
Socotorine aloes,
Saffron, of each three ounces;
Tincture of myrrh, two pints.
Digeſt for eight days; and ſtrain.

TINCTURA ALOES cum MYRRHA, vulgo ELIXIR PROPRIETATIS.
Edinb.
Tincture of Aloes with myrrh, commonly called *Elixir Proprietatis*.

Take of
Myrrh in powder, two ounces;
Socotorine aloes, an ounce and a half;
Engliſh ſaffron, one ounce;
Rectified ſpirit of wine,
Proof ſpirit, of each one pound.
Digeſt the myrrh with the ſpirits for the ſpace of four days; then add the aloes in powder, and the ſaffron; continue the digeſtion for two days longer, ſuffer the faces to ſubſide, and pour off the clear elixir.

These two formulæ, though the mode of preparation be ſomewhat varied, do not materially differ from each other; and both may be conſidered as being the *elixir proprietatis* of Paracelſus, improved with regard to the manner of

of preparation. The myrrh ſaffron, 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 ſcarcely to take up any of the myrrh; while a tincture, extracted firſt from the myrrh, readily diſſolves a large quantity of the others. The alkaline ſalt, commonly ordered in theſe preparations with a view to promote the diſſolution of the myrrh, is uſeleſs; and is accordingly now omitted. Inſtead of employing the rectified ſpirit alone, the Edinburgh college have uſed an equal portion of proof ſpirit, which is not only a more complete menſtruum, but alſo renders the medicine leſs heating.

This medicine is highly recommended, and not undeſervedly, as a warm ſtimulant and aperient. It ſtrengthens the ſtomach, evacuates the inteſtinal canal, and promotes the natural ſecretions in general. Its continued uſe has frequently done much ſervice in cachectic and icteric caſes, uterine obſtructions, and other ſimilar diſorders; particularly in cold, pale, phlegmatic habits. Where the patient is of a hot, bilious conſtitution, and florid complexion, this warm ſtimulating medicine is leſs proper, and ſometimes more prejudicial. The doſe may be from twenty drops to a tea ſpoonful or more, twice or thrice a day, according to the purpoſes it is intended to anſwer.

TINCTURA ALOES VITRIOLATA, vulgo ELIXIR PROPRIETATIS VITRIOLICUM.

Edinb.

Vitriolated Tincture of Aloes, commonly called Vitriolic Elixir Proprietatis.

Take of
- Myrrh,
- Socotorine aloes, of each an ounce and an half;
- Engliſh ſaffron, one ounce;
- Spirit of vitriolic ether, one pound.

Digeſt the myrrh with the ſpirit for four days in a cloſe veſſel; then add the ſaffron and aloes.

Digeſt again four days; and when the feces have ſubſided, pour off the tincture.

The Edinburgh College have reformed this preparation conſiderably; and eſpecially by directing the myrrh to be digeſted firſt, for the ſame reaſons as were obſerved on the preceding article. Here the ſpirit of vitriolic ether is very judiciouſly ſubſtituted for the ſpirit of ſulphur, ordered in other books of pharmacy to be added to the foregoing preparations; 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 tincture poſſeſſes the general properties of the preceding, and is, in virtue of the menſtruum, preferred to it in hot conſtitutions, and weakneſs of the ſtomach.

TINCTURA

TINCTURA AROMATICA, ſive CINNAMOMI COMPOSITA.

Edinb.

Aromatic Tincture, or *Compound Tincture of Cinnamon.*

Take of
Cinnamon, ſix drachms;
Leſſer cardamom ſeeds, one ounce;
Garden angelica root, three drachms;
Long pepper, two drachms;
Proof ſpirit, two pounds and an half;
Macerate for ſeven days, and filter the tincture.

This preparation is improved from the preceding editions by omiſſion of ſome articles, either ſuperfluous or foreign to the intention; galingal, gentian, zedoary, bay berries, and calamus aromaticus. As now reformed, it is a ſufficiently elegant warm aromatic.

This very warm aromatic is too hot 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 other ſimilar complaints; and in theſe caſes it is often employed with advantage.

TINCTURA ASAFŒTIDÆ.

Lond.

Tincture of Aſafetida.

Take of
Aſafetida, four ounces;
Rectified ſpirit of wine, two pints;
Digeſt with a gentle heat for ſix days; and ſtrain.

TINCTURA ASÆFŒTIDÆ, vulgo TINCTURA FŒTIDA.

Edinb.

Tincture of Aſafetida, commonly called *Fetid Tincture.*

Take of
Aſafetida, four ounces;
Rectified ſpirit of wine, two pounds and an half.
Digeſt for ſix days; and ſtrain.

This tincture poſſeſſes the virtues of the aſafetida itſelf; and may be given in doſes of from ten drops to fifty or ſixty. It was firſt propoſed to be made with proof ſpirit; this diſſolves more of the aſafetida than a rectified one: But the tincture proves turbid; and therefore rectified ſpirit, which extracts a tranſparent one, is very juſtly preferred: And with this menſtruum we can at leaſt exhibit the aſafetida in a liquid form to a greater extent.

TINCTURA AURANTII CORTICIS.

Lond.

Tincture of Orange Peel.

Take of
Freſh orange peel, three ounces;
Proof ſpirit, two pounds.
Digeſt for three days; and ſtrain.

This tincture is an agreeable bitter, flavoured at the ſame time with the eſſential oil of the orange peel.

TINCTURA

TINCTURA BALSAMI PERUVIANI.
Lond.
Tincture of Balsam of Peru.

Take
Balsam of Peru, four ounces;
Rectified spirit of wine, one pint.
Digest until the balsam be dissolved.

The whole of the Peruvian balsam is dissolved by spirit of wine; this therefore may be considered as a good method of freeing it from its impurities; while at the same time it is thus reduced to a state under which it may be readily exhibited: But at present it is very little employed, unless in composition, either under this or any other form.

TINCTURA BALSAMI TOLUTANI.
Lond.
Tincture of Balsom of Tolu.

Take of
Balsam of Tolu, one ounce and an half;
Rectified spirit of wine, one pint;
Digest until the balsam be dissolved, and strain.

TINCTURA TOLUTANA.
Edin.
Tincture of Tolu.

Take of
Balsam of Tolu, an ounce and an half;
Rectified spirit of wine, one pound.
Digest until the balsam be dissolved; and then strain the tincture.

This solution of Balsam of Tolu possesses all the virtues of the balsam itself. It may be taken internally, with the several intentions for which that balsam 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 balsamic syrup.

TINCTURA BENZOES COMPOSITA.
Lond.
Compound Tincture of Benzoin.

Take of
Benzoin, three ounces;
Storax strained, two ounces;
Balsam of Tolu one ounce;
Socotorine aloes, half an ounce;
Rectified spirit of wine, two pints.
Digest with a gentle heat for three days, and strain.

TINCTURA BENZOINI COMPOSITA, vulgo BALSAMUM TRAUMATICUM.
Edin.
Compound tincture of benzoin, commonly called *Traumatic Balsam.*

Take of
Benzoin, three ounces;
Balsam of Peru, two ounces;
Hepatic aloes, half an ounce;
Rectified spirit of wine, two pounds.
Digest them in a sand heat, for the space of ten days, and then strain the balsam.

Although

Although the London college have changed the name of this compoſition, yet they have made very little alteration on the formula which, in their laſt edition, had the name of *Traumatic Balſam*; both of them are elegant contractions of ſome very complicated compoſitions, which were celebrated under different names; ſuch as Baume de Commandeur, Wade's Balſam, Friar's balſam, Jeſuit's drops, &c. Theſe, in general, conſiſted of a confuſed farrago of diſcordant ſubſtances. They, however, derived conſiderable activity from the benzoin and aloes; and every thing to be expected from them may readily be obtained from the preſent formulæ.

The compound tincture of benzoin, or traumatic balſam, ſtands highly recommended, externally, for cleanſing and healing wounds and ulcers, for diſcuſſing cold tumours, allaying gouty, rheumatic, and other old pains and aches; and likewiſe internally, for warming and ſtrengthening the ſtomach and inteſtines, expelling flatulencies, and relieving colic 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.

There is, however, reaſon to think that its virtues have been conſiderably over rated; and at preſent it is much leſs employed than formerly, recourſe being chiefly had to it, in caſes of recent wounds, with the view of ſtopping hæmorrhagies, and of promoting healing, by the firſt intention, as it is called.

TINCTURA CANTHARIDIS.

Lond.

Tincture of the Spaniſh Fly.

Take of
Bruiſed cantharides, two drachms;
Cochineal, powdered, half a drachm;
Proof ſpirit, one pint and an half.
Digeſt for eight days, and ſtrain.

Edin.

Take of
Cantharides, one drachm;
Proof ſpirit, one pound.
Digeſt for four days, and ſtrain through paper.

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. The two tinctures are ſcarcely different in virtue from each other. The cochineal is uſed only as a colouring ingredient: The gum guaiacum, camphor, and eſſential oil of juniper berries, which were formerly added, however well adapted to the intentions of cure, could be of little conſequence in a medicine limited to ſo ſmall a doſe. If any additional ſubſtances ſhould be thought requiſite for promoting the effect of the cantharides, whether as a diuretic, as a detergent of ulceration in the urinary paſſages, or as a ſpecific reſtringent of ſeminal gleets and the fluor albus, they are more advantageouſly joined extemporaneouſly to the tincture, or interpoſed by themſelves at proper intervals. The uſual doſe

of

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.

The tincture of cantharides has of late been highly celebrated as a successful remedy in diabetic cases; and in some instances of this kind, its use has been pushed to a very considerable extent, without giving rise to any strangurious affections: But we have not found it productive of a change for the better in any of those cases of diabetes in which we have tried it.

TINCTURA CARDAMOMI.

Lond.

Tincture of Cardamom.

Take of
- Lesser cardamom seeds, husked and bruised, three ounces;
- Proof spirit, two pints.

Digest for eight days, and strain.

Edin.

Take of
- Lesser cardamom seeds, four ounces;
- Proof spirit, two pounds and an half.

Macerate for eight days, and strain through paper.

Tincture of cardamoms has been in use for a considerable time. It is a pleasant, warm cordial; and may be taken, along with any proper vehicle, in doses of from a drachm to a spoonful or two.

TINCTURA CARDAMOMI COMPOSITA.

Lond.

Compound Tincture of Cardamom.

Take of
- Lesser cardamom seeds, husked,
- Caraway seeds,
- Cochineal, each powdered, two drachms;
- Cinnamon, bruised, half an ounce;
- Raisins, stoned, four ounces;
- Proof spirit, two pints.

Digest for fourteen days, and strain.

This tincture contains so small a proportion of cardamoms as to be hardly intitled to derive its name from that article; and from the large proportion of raisins which it contains, the influence of the aromatics must be almost entirely prevented.

TINCTURA CASCARILLÆ.

Lond.

Tincture of Cascarilla.

Take of
- The bark of cascarilla, powdered, four ounces:
- Proof spirit, two pints.

Digest with a gentle heat for eight days and strain.

Proof spirit readily extracts the active powers of the cascarilla; and the tincture may be employed to answer most of those purposes for which the bark itself is recommended: But in the cure of intermittents, it in general requires to be exhibited in substance.

TINCTURA

TINCTURA CASTOREI.
Lond.
Tincture of Caſtor.

Take of
Ruſſia caſtor, powdered, two ounces;
Proof ſpirit, two pints.
Digeſt for ten days, and ſtrain.

Edinb.

Take of
Ruſſia caſtor, an ounce and a half;
Rectified ſpirit of wine, one pound.
Digeſt them for ſix days, and afterwards ſtrain off the liquor.

An alkaline ſalt was formerly added in this laſt preſcription, which is here judiciouſly rejected, as being at leaſt an uſeleſs, if not prejudicial, ingredient. It has been diſputed, whether a weak or rectified ſpirit, and whether cold or warm digeſtion, are preferable for making this tincture.

From ſeveral experiments made to determine this queſtion, it appears that caſtor macerated without heat, gives out its finer and moſt grateful parts to either ſpirit, but moſt perfectly to the rectified: That heat enables both menſtrua to extract greateſt part of its groſſer, and more naufeous 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 ſervice though many have complained of its proving ineffectual. The doſe is from twenty drops to forty, fifty, or more.

TINCTURA CASTOREI COMPOSITA.
Edin.
Compound Tincture of Caſtor.

Take of
Ruſſia caſtor, one ounce;
Aſafetida, half an ounce;
Spirit of ammonia, one pound.
Digeſt for ſix days in a cloſe ſtopped phial, and ſtrain.

This compoſition is a medicine of real efficacy, particularly in hyſterical diſorders, and the ſeveral ſymptoms which accompany them. The ſpirit here uſed is an excellent menſtruum, both for the caſtor and the aſafetida, and greatly adds to their virtues.

TINCTURA CATECHU.
Lond.
Tincture of Catechu.

Take of
Catechu, three ounces;
Cinnamon, bruiſed, two ounces;
Proof ſpirit, two pints.
Digeſt for three days, and ſtrain.

TINCTURA CATECHU, vulgo TINCTURA JAPONICA.
Edin.
Tincture of Catechu, commonly called *Japonic Tincture.*

Take of
Inſpiſſated juice of catechu, three ounces;
Proof ſpirit, two pounds and a half.
Digeſt for eight days, and ſtrain.

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 preferable for general

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 catechu, not only as it warms the ſtomach, &c. but likewiſe as it improves the roughneſs and aſtringency of the other.

The tincture is of ſervice in all kinds of defluxions, catarrhs, looſeneſſes, uterine fluors, and other 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 CINNAMOMI.

Lond.

Tincture of Cinnamon.

Take of
Cinnamon, bruiſed, one ounce and an half;
Proof ſpirit, one pint.
Digeſt for ten days, and ſtrain.

Edin.

Take of
Cinnamon, three ounces;
Proof ſpirit, two pounds and a half.
Macerate for eight days, and ſtrain.

The tincture of cinnamon poſſeſſes the reſtringent virtues of the cinnamon, as well as its aromatic cordial ones; and in this reſpect it differs from the diſtilled waters of that ſpice.

TINCTURA CINNAMOMI COMPOSITA.

Lond.

Compound Tincture of Cinnamon.

Take of
Cinnamon, bruiſed, ſix drachms;
Leſſer cardamom ſeeds, huſked, three drachms;
Long pepper,
Ginger, of each, in powder, two drachms;
Proof ſpirit, two pints.
Digeſt for eight days, and ſtrain.

From the different articles, which this tincture contains, it muſt neceſſarily be of a more hot and fiery nature than the former, though much leſs ſtrongly impregnated with the cinnamon.

TINCTURA COLOMBÆ.

Lond.

Tincture of Colomba.

Take of
Colomba root, powdered, two ounces and an half;
Proof ſpirit, two pints.
Digeſt for eight days, and ſtrain.

Edinb.

Take of
Colomba root, powdered, two ounces;
Proof ſpirit, two pounds.
Digeſt for eight days and ſtrain.

The colomba readily yields its active qualities to the menſtruum here employed; and accordingly, under this form, it may be advantageouſly employed againſt bilious vomitings, and thoſe different ſtomach ailments, in which the colomba has been found uſeful; but where there does not occur ſome objection to its uſe in ſubſtance, that

that form is in general preferable to the tincture.

TINCTURA CINCHONÆ, five CORTICIS PERUVIANI.
Lond.
Tincture of Peruvian bark.

Take of
Peruvian bark, powdered, six ounces;
Proof ſpirit, two pints.
Digeſt with a gentle heat for eight days, and ſtrain.

TINCTURA CORTICIS PERUVIANI.
Edin.
Tincture of Peruvian bark.

Take of
Peruvian bark, four ounces;
Proof ſpirit, two pounds and a half.
Digeſt for ten days, 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 pharmacopœias. Some have employed highly rectified ſpirit of wine as a menſtruum; which they have taken carefully to ſaturate, by digeſtion on a large quantity of the bark. Others have thought of aſſiſting the action of the ſpirit by the addition of a little fixed alkaline ſalt, which does not, however, appear to be of any advantage; and others have given the preference to the vitriolic acid, which was ſuppoſed, by giving a greater conſiſtence 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, thoſe above directed are the moſt convenient of any, the proof ſpirit extracting nearly all the virtues of the bark. It may be given in doſes of from a tea ſpoonful to half an ounce, or an ounce, according to the different purpoſes it is intended to anſwer.

TINCTURA CINCHONÆ, five CORTICIS PERUVIANI COMPOSITA.
Lond.
Compound Tincture of Peruvian bark.

Take of
Peruvian bark, powdered, two ounces;
Exterior peel of Seville oranges, dried, one ounce and an half;
Virginian ſnake root, bruiſed, three drachms;
Saffron, one drachm;
Cochineal, powdered, two ſcruples;
Proof ſpirit, twenty ounces.
Digeſt for fourteen days, and ſtrain.

This has been for a conſiderable time celebrated under the title of *Huxham's tincture of bark.*

The ſubſtances here joined to the bark, in ſome caſes, promote its efficacy in the cure of intermittents, and are ſometimes abſolutely neceſſary. In ſome ill habits, particularly where the viſcera and abdominal glands are obſtructed, the bark, by itſelf, proves unſucceſsful, if not injurious; while given in conjunction with ſtimulating ſtomachics and deobſtruents, it more rarely fails of the due effect. Orange peel and Virginian ſnake root are among the beſt additions for this purpoſe;

purpose; to which it is thought by some necessary to join chalybeate medicines also.

As a corroborant and stomachic, it is given in doses of two or three drachms: But when employed for the cure of intermittents, it must be taken to a greater extent. For this purpose, however, it is rarely employed, unless with those who are averse to the use of the bark in substance, or whose stomachs will not retain it under that form.

TINCTURA CINCHONÆ, sive CORTICIS PERUVIANI, AMMONIATA.

Lond.

Ammoniated Tincture of Peruvian Bark.

Take of
- Peruvian bark, powdered, four ounces;
- Compound spirit of ammonia, two pints.

Digest them in a close vessel for ten days, and strain.

As proof spirit sufficiently extracts the qualities of the bark, this composition seems unnecessary.

TINCTURA CROCI.

Edin.

Tincture of Saffron.

Take of
- English saffron, one ounce;
- Proof spirit, fifteen ounces.

After digesting them for five days, let the tincture be strained through paper.

The proof spirit is a very proper menstruum for extracting the medical virtues of the saffron, and affords a convenient mode of exhibiting that drug, the qualities of which were mentioned in the Materia Medica.

TINCTURA FERRI MURIATI.

Lond.

Tincture of muriated Iron.

Take of
- The rust of iron, half a pound;
- Muriatic acid, three pounds;
- Rectified spirit of wine, three pints.

Pour the muriatic acid on the rust of iron in a glass vessel; and shake the mixture now and then during three days. Set it by that the feces may subside; then pour off the liquor; evaporate this to one pint, and, when cold, add to it the vinous spirit.

TINCTURA FERRI, vulgo TINCTURA MARTIS.

Edinb.

Tincture of Iron.

Take of
- The scales of iron, purified and powdered three ounces;
- Muriatic acid, as much as is sufficient to dissolve the powder.

Digest with a gentle heat; and the powder being dissolved, add of rectified spirit of wine as much as will make up of the whole liquor two pounds and a half.

Of these two formulæ, that of the Edinburgh college is, in several respects, intitled to the preference. The scales are much fitter for giving a proper solution than the rust. The strength of the muriatic acid is so variable that the quantity is left to the judgment of the operator. If the acid be superabundant, the solution is of a green colour; if it be fully saturated with the iron, it is more or less

of

of a reddiſh or yellow colour; and this ſerves as a pretty accurate criterion. As the muriatic acid combines leſs intimately with rectified ſpirit than any of the foſſil acids, ſo the after-proceſs of dulcification ſcarcely, if at all, impairs the ſolvent power of the acid; though, when the dulcification happens to be more than uſually complete, a ſmall quantity of ferrugineous matter is ſometimes precipitated on adding rectified ſpirit to the ſolution. But as the rectified ſpirit increaſes the volatility of the acid, ſo if it was added at firſt, we ſhould loſe much more of the menſtruum by the heat employed during the digeſtion. When this tincture is well prepared, it is of a yellowiſh red colour; if the acid be ſuperabundant, it is more or leſs of a greenish hue; and if the rectified ſpirit has been impregnated with the aſtringent matter of oak caſks, it aſſumes an inky colour.

All the tinctures of iron are no other than real ſolutions of the metal made in acids, and combined with vinous ſpirits. The tinctures here directed differ from each other only in ſtrength, the acid being the ſame in both. In our former pharmacopœias, there was a tincture from the matter which remains after the ſublimation 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 menſtruum; but though this readily diſſolves the metal, it does not keep it ſuſpended. The muriatic acid is the only one that can be employed for this purpoſe.

Theſe tinctures are greatly preferable 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 entirely the inteſtinal tube with little effect; while the tinctures ſcarce ever fail. From ten to twenty drops of either of the tinctures may be taken twice or thrice a day, in any proper vehicle.

TINCTURA FERRI AMMONIACALIS.

Lond.

Ammoniac tincture of Iron.

Take of
Ammoniacal iron, four ounces;
Proof ſpirit, one pint.
Digeſt and ſtrain.

This is the old *tinctura ſ. rum martiatum*, and is not near ſo elegant a preparation as the foregoing. Why it has been reſtored after having been omitted does not appear.

TINCTURA GALBANI.

Lond.

Tincture of Galbanum.

Take of
Galbanum, cut into ſmall pieces, two ounces;
Proof ſpirit, two pints.
Digeſt with a gentle heat for eight days, and ſtrain.

This tincture is now for the firſt time introduced by the London college, and may be uſefully employed for anſwering ſeveral purpoſes in medicine. Galbanum is one of the ſtrongeſt of the fetid gums; and although leſs active, yet much leſs diſagreeable than aſafetida: And under the form of tincture it may be ſucceſsfully employed in caſes of flatulence and hyſteria, where its effects are immediately

mediately required, particularly with thoſe who cannot bear aſafetida.

TINCTURA GENTIANÆ COMPOSITA.

Lond.

Compound tincture of Gentian.

Take of
- Gentian root, ſliced and bruiſed, two ounces;
- Exterior dried peel of Seville oranges, one ounce;
- Leſſer cardamon ſeeds, huſked and bruiſed, half an ounce:
- Proof ſpirit, two pints.

Digeſt for eight days, and ſtrain.

TINCTURA AMARA, ſive GENTIANÆ COMPOSITA, vulgo ELIXIR STOMACHICUM.

Edin.

Bitter Tincture, or compound tincture of Gentian, commonly called *ſtomachic Elixir.*

Take of
- Gentian root, two ounces;
- Seville orange peel, dried, one ounce;
- Canella alba, half an ounce;
- Cochineal, half a drachm;
- Proof ſpirit, two pounds and a half.

Macerate for four days, and ſtrain through paper.

THESE are very elegant ſpirituous bitters. As the preparations are deſigned for keeping, lemon peel, an excellent ingredient in the watery bitter infuſions, has, on account of the periſhableneſs of its flavour, no place in theſe. The aromatics are here very comodious ingredients, as in this ſpirituous menſtruum they are free from the inconvenience with which they are intended in other liquors, of rendering them untranſparent.

TINCTURA GUAIACA, vulgo ELIXIR GUAIACINUM.

Edin.

Tincture of Guaiacum, commonly called *Elixir of Guaiacum.*

Take of
- Gum guaiacum, one pound;
- Rectified ſpirit of wine, two pounds and a half.

Digeſt for ten days, and ſtrain.

THIS tincture may be conſidered as nearly agreeing in medical virtues with the two following. It is, however, leſs in uſe; but it may be employed with advantage in thoſe caſes where an objection occurs to the menſtruum uſed.

TINCTURA GUAIACI.

Lond.

Tincture of Guaiacum.

Take of
- Gum guaiacum, four ounces;
- Compound ſpirit of ammonia, a pint and a half.

Digeſt for three days, and ſtrain.

TINCTURA GUAIACI AMMONIATA, vulgo ELIXIR GUAIACINUM VOLATILE.

Edin.

Ammoniated tincture of Guaiacum, commonly called *Volatile Elixir of Guaiacum.*

Take of
- Gum guaiacum, four ounces;
- Diſtilled oil of ſaſſafras, half a drachm;
- Spirit of ammonia, a pound and a half.

Macerate

Macerate for ſix days in a cloſe veſſel, and ſtrain.

Theſe are very elegant and efficacious tinctures; the volatile ſpirit excellently diſſolving the gum, and at the ſame time promoting its medicinal virtue. In rheumatic cases, a tea, or even table, ſpoonful, taken every morning and evening in any convenient vehicle, particularly in milk, has proved of ſingular ſervice.

TINCTURA HELLEBORI NIGRI.

Lond.

Tincture of black Hellebore.

Take of
Black hellebore root, in coarſe powder, four ounces;
Cochineal, powdered, two ſcruples;
Proof ſpirit, two pints.
Digeſt with a gentle heat for eight days, and ſtrain.

TINCTURA MELAMPODII, ſive HELLEBORI NIGRI.

Edin.

Tincture of Melampodium, or *black Hellebore.*

Take of
Black hellebore root, four ounces;
Cochineal, half a drachm;
Proof ſpirit two pounds and a half.
Digeſt for eight days, and filter the tincture through paper.

This is perhaps the beſt preparation of hellebore, when deſigned 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 ſanguine conſtitutions, where chalybeates are hurtful, it ſeldom fails of exciting the menſtrual evacuations, and removing the ill conſequences of their ſuppreſſion. So great, according to ſome, is the power of this medicine, that wherever, from an ill conformation of the parts, or other cauſes, the expected diſcharge does not ſucceed on the uſe of it, the blood, as Dr. Mead has obſerved, is ſo forcibly propelled, as to make it's way through other paſſages. A tea ſpoonful of the tincture may be taken twice a day in warm water or any other convenient vehicle.

TINCTURA JALAPII.

Lond.

Tincture of Jalap.

Take of
Powdered Jalap root, eight ounces;
Proof ſpirit, two pints.
Digeſt with a gentle heat for eight days, and ſtrain.

TINCTURA JALAPPÆ.

Edin.

Tincture of Jalap.

Take of
Jalap, in coarſe powder, three ounces;
Proof ſpirit, fifteen ounces.
Digeſt them for eight days, and ſtrain the tincture.

Rectified ſpirit of wine was formerly ordered for the preparation of this tincture; but rectified ſpirit diſſolving little more than the pure reſinous parts of the jalap, rendered the uſe of the medicine ſomewhat leſs commodious than that of the tincture prepared with proof ſpirits. Moſt of the tinctures made in rectified ſpirit,

diluted with water, so as to be fit for taking, form a turbid white mixture. Many of them are safely taken in this form, without any further addition: But the cathartic ones are never to be ventured on without an admixture of syrup or mucilage to keep the resin united with the liquor; for if it separates in it's pure undivided state, it never fails to produce violent gripes.

Some have preferred to the tinctures of jalap, a solution in spirit of wine of a known quantity of the resin 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 resides in its resin, and as all jalap appears from experiment not to be equally resinous, some sorts yielding five, and others not three ounces of resin from sixteen, it follows, that although the root be always taken in the same proportion to the menstruum, and the menstruum always exactly of the same strength, it may, nevertheless, according to the degree of goodness of the jalap, be impregnated with different quantities of resin, and consequently prove different in degree of efficacy. Though this objection against the tincture does not reach so far as some seem to suppose, it certainly behoves the apothecary to be careful in the choice of the root. The inferior sorts may be employed for the making *resina jalappæ*, which they yield in as great perfection, though not in so large quantity, as the best. Neumann thinks even the worm eaten jalap as good for that purpose as any other.

TINCTURA KINO.

Ed. nb.

Tincture of Gum Kino.

Take of
Gum kino, two ounces;
Proof spirit a pound and an half.
Digest eight days, and strain.

The substance called *gum kino* seems to be really a gum resin; on which account proof spirit is its most proper menstruum. This preparation must therefore possess the virtues of the substance; and it is one of the best forms under which it can be exhibited in obstinate diarrhœas, and in cases of hæmaturia: But in hemorrhagies, it is in general proper to exhibit it either in substance or diffused.

SPIRITUS LAVENDULÆ COMPOSITA.

Lond.

Compound Spirit of Lavender.

Take of
Spirit of lavender, three pints;
Spirit of rosemary, one pint;
Cinnamon, bruised,
Nutmegs, bruised, of each half an ounce;
Red saunders, one ounce.
Digest for ten days, and strain.

SPIRITUS LAVENDULÆ COMPOSITUS.

Lond.

Compound Spirit of Lavender.

Take of
Simple spirit of lavender, three pounds;
Simple spirit of rosemary, one pound;
Cinnamon, one ounce;
Cloves, two drachms;
Nutmeg,

Nutmeg, half an ounce;
Red ſaunders, three drachms.
Macerate ſeven days, and ſtrain.

These two compoſitions although varying a little from each other, may be conſidered as the ſame.

Theſe ſpirits are grateful reviving cordials: Though conſiderably more ſimple, they are not leſs elegant or valuable, than many other more elaborate preparations; which have been long held in great eſteem, under the name of Palsy drops, in all kinds of languors, weakneſs of the nerves, and decays of age.

TINCTURA MOSCHI.

Edin.

Tincture of Muſk.

Take of
Muſk, two drachms;
Rectified ſpirit of wine, one pound.
Digeſt for ten days, and ſtrain.

Rectified ſpirit is the moſt complete menſtruum for muſk; but in this form it is often impoſſible to give ſuch a quantity of the muſk as is neceſſary for our purpoſe; and hence this article is more frequently employed under the form of julep or bolus.

TINCTURA MYRRHÆ.

Lond.

Tincture of Myrrh.

Take of
Myrrh, bruiſed, three ounces:
Proof ſpirit, a pint and an half;
Rectified ſpirit of wine half a pint.
Digeſt with a gentle heat for eight days and ſtrain.

TINCTURA MYRRHÆ.

Edin.

Tincture of Myrrh.

Take of
Myrrh, three ounces;
Proof ſpirit, two pounds and a half.
After digeſtion for ten days, ſtrain off the tincture.

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 aſſiſtance of fixed alkaline ſalts. But it appears from proper experiments, that theſe ſalts only heighten the colour of the tincture, without enabling the menſtruum 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 reſin: And proof ſpirit diſſolves almoſt the whole of the drug, except its impurities; hence the combination of theſe two directed by the London college, is perhaps preferable to either by itſelf.

Tincture of myrrh is recommended internally for warming the habit, ſtrengthening the ſolids, opening obſtructions, and reſiſting putrefaction. The doſe is from fifteen 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 cleanſing foul ulcers, and promoting the exfoliation of carious bones.

TINCTURA

TINCTURA OPII.

Lond.

Tincture of Opium.

Take of
Hard putrified opium, powdered, ten drachms;
Proof spirit, one pint.
Digest for ten days, and strain.

TINCTURA OPII, sive THEBAICA, vulgo LAUDANUM LIQUIDUM.

Edin.

Tincture of Opium, or *Thebaic tincture*, commonly called *Liquid Laudanum.*

Take of
Opium, two ounces;
Proof spirit two pounds.
Digest four days, and strain off the tincture.

These are very elegant liquid opiates, and as they are now directed by both the pharmacopœias, they are of the same strength, or contain the same proportion, of opium; a drachm of each tincture, containing, as is found by evaporating the tincture, three grains and an half of pure opium. Objections had formerly been made to these liquid opiates which contain so large a proportion of opium, as the dose of them was very uncertain in the usual manner of giving it by drops, drops being sometimes (as when dropt from a phial with a thick lip) much larger than at others. To remedy this inconvenience the Edinburgh college have adopted measures for proportioning the doses by weight. See page 57.

TINCTURA OPII CHAMPHORATA.

Lond.

Camphorated Tincture of Opium.

Take of
Hard purified opium,
Flowers of benzoin, of each one drachm;
Camphor, two scruples;
Oil of aniseed, one drachm;
Proof spirit, two pints.
Digest for ten days, and strain.

TINCTURA OPII AMMONIATA, vulgo ELIXIR PAREGORICUM.

Edin.

Ammoniated Tincture of Opium, commonly called *Paregoric Elixir.*

Take of
Acid of benzoin,
English saffron, of each three drachms;
Opium, two drachms;
Distilled oil of aniseeds, half a drachm;
Spirit of ammonia sixteen ounces.
Digest four days in a close vessel, and strain.

These two preparations, though they differ in their composition, are nevertheless nearly of the same medical qualities.

The most material differences in the last formula from the first are the substitution of the spirit of ammonia for the proof spirit, and a larger proportion of opium; the spirit of ammonia is not only perhaps, a more powerful menstruum, but in most instances coincides with the virtues of the preparation, but as the opium is the ingredient on which we place the principal dependance, so its proportion is increased, in order that

that we may give it in such a dose as that the acrimony of the menstruum shall not prove hurtful to the stomach.

The London formula is taken from Le Mort, with the omission of three unnecessary ingredients, honey, liquorice, and alkaline salt. It was originally called ELIXIR ASTHMATICUM, which name it does not ill deserve. It contributes to allay the tickling which provokes frequent coughing; and at the same time is supposed to open the breast, and give greater liberty of breathing: The opium procures a temporary relief from the symptoms; while the other ingredients tend to remove the cause, and prevent their return. It is given to children against the chincough, &c. in doses of from five drops to twenty: To adults, from twenty to an hundred. In the London formula, half an ounce by measure contains about a grain of opium; but in the Edinburgh formula, the proportion of opium is larger.

TINCTURA RHABARBARI.

Lond.

Tincture of Rhubarb.

Take of
- Rhubarb, sliced, two ounces;
- Lesser cardamom seeds, bruised, half an ounce;
- Saffron, two drachms;
- Proof spirit, two pints.

Digest for eight days, and strain.

TINCTURA RHEI.

Edin.

Tincture of Rhubarb.

Take of
- Rhubarb, three ounces;
- Lesser cardamom seeds, half an ounce;
- Proof spirit two pounds and a half.

Digest for seven days, and strain.

TINCTURA RHABARBARI COMPOSITA.

Lond.

Compound Tincture of Rhubarb.

Take of
- Rhubarb sliced, two ounces;
- Ginger, powdered,
- Saffron, each two drachms;
- Liquorice root, bruised, half an ounce;
- Distilled water, one pint;
- Proof spirit, twelve ounces by measure.

Digest for fourteen days, and strain.

TINCTURA RHEI AMARA.

Edin.

Bitter Tincture of Rhubarb.

Take of
- Rhubarb, two ounces;
- Gentian root, half an ounce;
- Virginian snake root one drachm;
- Proof spirit, two pounds and a half.

Digest for seven days, and strain.

TINCTURA RHEI DULCIS.

Edin.

Sweet Tincture of Rhubarb.

It is made by adding to the strained tincture of rhubarb, four ounces of sugar candy.

THE last of these preparations is improved from the former editions. Two ounces of liquorice and one of raisins are supplied by an increase of the sugar candy.

All the foregoing tinctures of rhubarb are designed as stomachics and corroborants, as well as purgatives: Spirituous liquors excellently extract those parts of the rhubarb

bark in which the two first qualities reside, and the additional ingredients considerably promote their efficacy. In weakness of the stomach, indigestion, laxity of the intestines, diarrhœas, colic and other similar complaints, these medicines are frequently of great service: The fourth 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 with these intentions, a spoonful or two may be taken for a dose, and occasionally repeated.

TINCTURA RHEI CUM ALOE, vulgo ELIXIR SACRUM.

Edin.

Tincture of Rhubarb with aloes, commonly called *Sacred Elixir.*

Take of
- Rhubarb, ten drachms;
- Socotorine aloes, six drachms;
- Lesser cardamom seeds, half an ounce;
- Proof spirit, two pounds and a half.

Digest for seven days, and strain.

This preparation is very much employed as a warming cordial purge, and for the general purposes of aloetics; with which, however, it combines the medical properties of rhubarb.

TINCTURA SABINÆ COMPOSITA.

Lond.

Compound Tincture of Savin.

Take of
- Extract of savin one ounce,
- Tincture of castor one pint;
- Tincture of myrrh, half a pint.

Digest till the extract of savin be dissolved, and then strain.

This preparation had a place in a late edition of our pharmacopœia, under the title of *Elixir myrrhæ compositum*; and is an improvement of one described in some former pharmacopœias 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 superadding more effectually the virtues of savin to a tincture of myrrh and castor. It may be given in doses of from five drops to twenty or thirty, or more, in penny royal water, or any other suitable vehicle.

TINCTURA SCILLÆ.

Lond.

Tincture of Squill.

Take of
- Squills, fresh dried, four ounces;
- Proof spirit, two pints.

Digest for eight days, and pour off the liquor.

For extracting the virtues of squills, the menstruum which has hitherto been almost solely employed is vinegar. There are, however, cases in which ardent spirit may be more proper; and by the menstruum here directed its virtues are fully extracted; hence it is with propriety that the London college have introduced this form, as well as the vinegar and oxymel; but, in general, the purposes to be answered by squills may be better obtained by employing it in substance than in any other form.

TINCTURA

TINCTURA SENNÆ.

Lond.

Tincture of Senna.

Take of
Senna, one pound;
Caraway ſeeds, bruiſed, one ounce and an half;
Leſſer cardamom ſeeds, bruiſed half an ounce;
Raiſins, ſtoned, ſixteen ounces;
Proof ſpirit, one gallon.
Digeſt for fourteen days, and ſtrain.

TINCTURA SENNÆ COMPOSITA, vulgo ELIXIR SALUTIS.

Edinb.

Compound tincture of Senna, commonly called *Elixir of health.*

Take of
Senna leaves, two ounces;
Jalap root, one ounce;
Coriander ſeeds, half an ounce;
Proof ſpirit, three pounds and a half.
Digeſt for ſeven days, and to the ſtrained liquor add four ounces of ſugar candy.

Both theſe tinctures are uſeful carminatives and cathartics, eſpecially to thoſe who have accuſtomed themſelves to the uſe of ſpirituous liquors; they oftentimes relieve flatulent complaints and colics, 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 here deſcribed are equal to any, and ſuperior to moſt of them. The laſt in particular is a very uſeful addition to the caſtor oil, in order to take off its mawkiſh taſte: And coinciding with the virtues of the oil, it is therefore much preferable to brandy, ſhrub, and ſuch like liquors, which are often found neceſſary to make the oil ſit on the ſtomach.

TINCTURA SERPENTARIÆ

Lond.

Tincture of Snake root.

Take of
Virginian ſnake root, three ounces;
Proof ſpirit, two pints.
Digeſt for eight days, and ſtrain.

Edinb.

Take of
Virginian ſnake root, two ounces;
Cochineal, one drachm;
Proof ſpirit, two pounds and a half.
Digeſt for four days, and then ſtrain the tincture.

The tincture of ſnake root was in a former pharmacopœia directed to be prepared 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 choſen. 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 five or ſix hours; and to this extent it often operates as an uſeful diaphoretic.

TINCTURA

TINCTURA VALERIANÆ.
Lond.
Tincture of Valerian.

Take of
The root of wild valerian, in coarse powder, four ounces;
Proof spirit, two pints.
Digest with a gentle heat for eight days, and strain.

The valerian root ought to be reduced to a pretty fine powder, otherwise the spirit will not sufficiently extract its virtues. The tincture proves of a deep colour, and considerably 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, twice or thrice a day.

TINCTURA VALERIANÆ AMMONIATA.
Lond.
Ammoniated Tincture of Valerian.

Take of
The root of wild valerian, in coarse powder, four ounces;
Compound spirit of ammonia, two pints.
Digest for eight days, and strain.

TINCTURA VALERIANÆ AMMONIATA, vulgo TINCTURA VALERIANÆ VOLATILIS.
Edin.
Ammoniated Tincture of Valerian, commonly called *Volatile tincture of Valerian.*

Take of
Wild valerian root, two ounces;
Spirit of ammonia, one pound.
Macerate for six days in a close vessel, and strain.

The menstrua here employed are excellent, and at the same time considerably promote 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, sive HELLEBORI ALBI.
Edinb.
Tincture of Veratrum, or *white Hellebore.*

Take of
White hellebore root, eight ounces;
Proof spirit, two pounds and a half.
Digest them together for ten days, and filter through paper.

This tincture is sometimes 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.

ACIDUM VITRIOLI AROMATICUM, vulgo ELIXIR VITRIOLI ACIDUM.
Edinb.
Aromatic acid of Vitriol, commonly called *Acid Elixir of Vitriol.*

Take of
Rectified spirit of wine, two pounds;
Drop into it by little and little six ounces

ounces of vitriolic acid; digeſt the mixture with a very gentle heat in a cloſe veſſel for three days, and then add of

Cinnamon, an ounce and a half;
Ginger, one ounce.

Digeſt again in a cloſe veſſel for ſix days, and then filter the tincture through paper in a glaſs funnel.

The intention in this proceſs is, to obtain a tincture of aromatic vegetables, in ſpirit of wine, combined with a conſiderable proportion of vitriolic acid. When the tincture is firſt drawn with vinous ſpirit, and the acid added afterwards, 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, it prevents the diſſolution 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, the inconvenience is ſomewhat leſſened.

This is a valuable medicine in weakneſs and relaxations of the ſtomach, and decays of conſtitution, particularly in thoſe which proceed from irregularities, which are accompanied with ſlow febrile ſymptoms, or which follow the ſuppreſſion of intermittents. It frequently ſucceeds after bitters and aromatics by themſelves had availed nothing; and indeed, great part of its virtues depend on the vitriolic acid; which, barely diluted with water, has, in theſe caſes, where the ſtomach could bear the acidity, produced happy effects.

Fuller relates (in his *Medicina Gymnaſtica*) that he was recovered by Mynſicht's elixir, which was formerly the name of this compound, from an extreme decay of conſtitution, and continual retchings to vomit. It may be given in doſes of 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 ſtomach is moſt empty. It is very uſefully conjoined with the bark, both as covering its diſagreeable taſte and coinciding with its virtues.

SPIRITUS ÆTHERIS VITRIOLICI AROMATICUS, vulgo ELIXIR VITRIOLI DULCE.

Lamb.

Aromatic ſpirit of vitriolic æther, commonly called Sweet Elixir of Vitriol.

This is made of the ſame aromatics, and in the ſame manner as the tinctura aromatica; except that, in place of the vinous ſpirit, ſpirit of vitriolic æther is employed.

This is deſigned for perſons whoſe ſtomachs are too weak to bear the foregoing acid elixir; to the taſte, it is gracefully aromatic, without any perceptible acidity. The dulcified ſpirit of vitriol, here directed, occaſions little or no precipitation on adding it to the tincture.

A medicine of this kind was formerly in great eſteem under the title of *Vigani's volatile elixir of vitriol*; the compoſition of which was firſt communicated to the public in the *Pharmacopœia reformata*. It is prepared by digeſting ſome volatile ſpirits of vitriol upon a ſmall quantity of dried mint leaves till the liquor has acquired a fine green colour. If the ſpirit, as it frequently does, partakes too much of the acid,

this

this colour will not ſucceed: In ſuch caſe, it ſhould be rectified by the addition of a little fixed alkaline ſalt.

TINCTURA ZINZIBERIS.

Lond.

Tincture of Ginger.

Take of
Ginger, powdered, two ounces;
Proof ſpirit, two pounds.
Digeſt in a gentle heat for eight days, and ſtrain.

This ſimple tincture of ginger is a warm cordial and is rather intended as a uſeful addition, in the quantity of a drachm or two, to purging mixtures, than for being uſed alone.

TINCTURA COLOCYNTHIDIS.

Suec.

Tincture of Colocynth.

Take of
Colocynth, cut ſmall, and freed from the ſeeds, one ounce;
Aniſeed, one drachm;
Proof ſpirit, fourteen ounces.
Macerate for three days, and ſtrain through paper.

In this tincture we have the active purgative power of the colocynth. And although it be ſeldom uſed as a cathartic by itſelf, yet even in ſmall quantity it may be advantageouſly employed to brighten the operation of others.

TINCTURA QUASSIÆ.

Suec.

Tincture of Quaſſia.

Take of
Quaſſia, bruiſed, two ounces;
Proof ſpirit, two pounds and an half.
Digeſt for three days, and then ſtrain through paper.

By proof ſpirit the medical properties, as well as the ſenſible qualities of the quaſſia, are readily extracted; and under this form it may be advantageouſly employed for anſwering different purpoſes in medicine.

TINCTURA LACCÆ.

Suec.

Tincture of Lac.

Take of
Gum lac, powdered, one ounce;
Myrrh, three drachms;
Spirit of ſcurvy graſs, a pint and an half.
Digeſt in a ſand heat for three days; after which, ſtrain off the tincture for uſe.

This tincture is principally employed for ſtrengthening the gums, and in bleedings and ſcorbutic exulcerations of them: It may be fitted for uſe with 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, female 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

TINCTURA NUCIS VOMICÆ.

Roſs.

Tincture of Nux Vomica.

Take of

Nux vomica, an ounce and a half;

Proof ſpirit, two pounds.

Digeſt for ſome days, and then ſtrain it.

The nux vomica, a very active vegetable, has of late, as we have already had occaſion to obſerve, been introduced into practice for the cure of intermittents and of contagious dyſentery. In theſe affections it may be employed under the form of tincture as well as in ſubſtance; and in this way it moſt readily admits of being combined with other articles, either as adjuvantia or corrigentia.

TINCTURA SUCCINI.

Succ.

Tincture of Amber.

Take of

Yellow amber, powdered, one ounce;

Vitriolic ether, four ounces.

Digeſt for three days in a veſſel accurately cloſed, frequently ſhaking the veſſel, and after this ſtrain through paper.

The tincture of amber was formerly prepared with rectified ſpirit of wine: But the menſtruum here directed gives a more complete ſolution, and forms a more elegant and active tincture. It poſſeſſes the whole virtues of the concrete; and although it has no place in our pharmacopœia, yet it is a valuable preparation of amber. It has been recommended in a variety of affections, particularly thoſe of the nervous kind, as hyſterical and epileptic complaints. It may be taken in doſes of from a few drops to the extent of a tea ſpoonful in a glaſs of wine or any ſimilar vehicle.

CHAP. XXIII.

MISTURÆ.

MIXTURES.

MISTURA CAMPHORATA.
Lond.
Camphorated Mixture.

Take of
Camphor one drachm;
Rectified ſpirit of wine, a little;
Double refined ſugar, half an ounce;
Boiling diſtilled water, one pint.
Rub the camphor firſt with the ſpirit of wine, then with the ſugar; laſtly, add the water by degrees, and ſtrain the mixture.

WHILE camphor is often exhibited in a ſolid ſtate, it is frequently alſo advantageous to employ it as diffuſed in watery fluids; and with this intention the preſent formula is perhaps one of the moſt ſimple, the union being affected merely by the aid of a ſmall quantity of ſpirit of wine and a little ſugar. The form of emulſion in which the union is affected by triturating the camphor with a few almonds, is much ſuperior to this; for the unctuous quality of the almonds ſerves in a conſiderable degree to cover the pungency of the camphor, without diminiſhing its activity, (See EMULSIO CAMPHORATA.) Camphor, under the preſent form as well as that of emulſion, is very uſeful in fevers, taken to the extent of a table ſpoonful every three or four hours. It is a curious quantity of ſpirit which the London college has ordered; more eſpecially ſince in a former edition the quantity of ſpirit was ſpecified, viz. ten drops.

MISTURA CRETACEA.
Lond.
Chalk Mixture.

Take of
Prepared chalk, one ounce;
Double refined ſugar, ſix drachms;
Gum Arabic, powdered, one ounce;
Diſtilled water, two pints.
Mix them.

POTIO CRETACEA.
Edinb.
Chalk Potion.

Take of
Prepared chalk, one ounce;
Pureſt refined ſugar, half an ounce;
Mucilage

Mucilage of gum arabic, two ounces.
Rub them together, and add by degrees,
Water, two pounds and an half;
Spirit of cinnamon, two ounces.

These two preparations agree pretty much both in their name and in their nature; but that of the Edinburgh college is moſt agreeable to the palate, from containing a proportion of cinnamon water, by which the diſagreeable taſte of the chalk is taken off.

In the former edition of the Edinburgh pharmacopœia, a preparation of this kind ſtood among the decoctions, and the chalk was directed to be boiled with the water and gum: By the preſent formula, the chalk is much more completely ſuſpended by the mucilage and ſugar; which laſt gives alſo to the mixture an agreeable taſte. It is proper to employ the fineſt ſugar, as the redundant acid in the coarſer kinds might form with the chalk a kind of earthy ſalt.

This is a very elegant form of exhibiting chalk, and is an uſeful remedy in diſeaſes ariſing from, or accompanied with, acidity in the primæ viæ. It is frequently employed in diarrhœa proceeding from that cauſe. The mucilage not only ſerves to keep the chalk uniformly diffuſed, but alſo improves its virtues by ſheathing the internal ſurface of the inteſtines. The doſe of this medicine requires no nicety. It may be taken to the extent of a pound or two in the courſe of a day.

MISTURA MOSCHATA.
Lond.
Muſk Mixture.

Take of
Muſk, two ſcruples;
Gum arabic, powdered,
Double refined ſugar, of each one drachm;
Roſe water, ſix ounces by meaſure.
Rub the muſk firſt with the ſugar, then with the gum, and add the roſe water by degrees.

This had formerly the name of *Julepum e moſcho*, and was intended as 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 difficultly 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 ſame time loſes great part of its virtue. This inconvenience may be prevented by thoroughly grinding the muſk with gum Arabic before the addition of the water; 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 ſomewhat more of the muſk diſſolved than it would otherwiſe retain.

LAC AMYGDALÆ.
Lond.
Almond Milk.

Take of
Sweet almonds, one ounce and an half;

Double refined sugar, half an ounce;
Distilled water, two pints.
Beat the almonds with the sugar; then rubbing them together, add by degrees the water, and strain the liquor.

EMULSIO COMMUNIS.

Edin.
Common Emulsion.

Take of
Sweet almonds, one ounce;
Common water, two pounds and a half.
Beat the blanched almonds in a stone mortar, and gradually pour on them the common water, working the whole well together; then strain off the liquor.

EMULSIO ARABICA.

Edin.
Arabic Emulsion.

This is made in the same manner as the preceding; only adding, while beating the almonds,
Mucilage of gum arabic, two ounces.

All these may be considered as possessing nearly the same qualities. But of the three the last is the most powerful demulcient.

Great care should be taken, that the almonds be not become rancid by keeping; which will not only render the emulsion extremely unpleasant, a circumstance of great consequence in medicine that requires to be taken in large quantities, but likewise give it injurious qualities.

These liquors are principally used for diluting and obtunding acrimonious humours; particularly in heat of urine and stranguries arising either from a natural sharpness of the juices, or from the operation of cantharides, and other irritating medicines: In these cases, they are to be drank frequently, to 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 distinctly on the surface. Acids and vinous spirits produce a like decomposition. On standing also for some days, without addition, the oily matter separates and rises to the top, not in a pure form, but like thick cream. These experiments prove the composition of the emulsions made from the oily seeds of kernels, and at the same time point out some cautions to be attended to in their preparation and use.

EMULSIO CAMPHORATA.

Edin.
Camphorated Emulsion.

Take of
Camphor, one scruple;
Sweet almonds, blanched, ten;
Double refined sugar, one drachm;
Water, six ounces.
This is to be made in the same manner as the common emulsion.

This is a much better preparation for exhibiting camphor in a liquid form than the *mistura camphorata* above described, the almonds being an excellent medium not only for dividing the camphor, but for keeping it suspended in the water.

LAC

LAC AMMONIACI.

Lond.

Ammoniacum Milk.

Take of

Ammoniacum, two drachms;
Diſtilled water, half a pint.

Rub the gum reſin with the water, gradually poured on, until it becomes a milk.

In the ſame manner may be made a milk of aſafetida, and of the reſt of the gum reſins.

The ammoniacum milk is uſed for promoting expectoration, in humoural aſthma, and coughs. It may be given to the quantity of two ſpoonfuls twice a day.

The lac aſafetida is employed in ſpaſmodic, hyſterical, and other nervous affections, and it is alſo frequently uſed under the form of injection. It anſwers the ſame purpoſe as aſafetida in ſubſtance.

SPIRITUS ÆTHERIS VITRIOLICI COMPOSITUS.

Lond.

Compound Spirit of Vitriolic Ether.

Take of

Spirit of vitriolic ether, two pounds;
Oil of wine, three drachms.

Mix them.

This is ſuppoſed to be, if not preciſely the ſame, at leaſt very nearly, the celebrated *Liquor anodynus mineralis* of Hoffman. We learn from his own writings, that the liquor which he thus denominated, was formed of rectified ſpirit of vitriol and the aromatic oil which ariſes after it; but he does not tell us in what proportions theſe were combined. It has been highly extolled as an anodyne and antiſpaſmodic medicine: And with theſe intentions it is frequently employed in practice.

SPIRITUS AMMONIÆ COMPOSITUS.

Lond.

Compound Spirit of Ammonia.

Take of

Spirit of ammonia, two pints;
Eſſential oil of lemon, nutmeg, of each two drachms.

Mix them.

This differs almoſt only in name from the following.

SPIRITUS AMMONIÆ AROMATICUS, vulgo SPIRITUS SALINUS AROMATICUS.

Edin.

Aromatic Spirit of Ammonia, commonly called *Saline aromatic ſpirit.*

Take of

Spirit of ammonia, eight ounces;
Diſtilled oil of roſemary, one drachm and a half;
Diſtilled oil of lemon peel, one drachm.

Mix them that the oils may be diſſolved.

By the method here directed, the oils are as completely diſſolved as when diſtillation is employed.

Volatile ſalts, thus united with aromatics, are not only more agreeable in flavour, but likewiſe more acceptable to the ſtomach, and leſs acrimonious than in their pure ſtate. Both the foregoing compoſitions turn out excellent ones, provided the oils are good. The doſe is from five or ſix drops to ſixty or more.

SPIRITUS

SPIRITUS AMMONIÆ SUCCINATUS.

Lond.

Succinated Spirit of Ammonia.

Take of
Alkohol, one ounce;
Water of pure ammonia, four ounces, by measure;
Rectified oil of amber, one scruple;
Sope, ten grains.
Digest the sope and oil of amber in the alkohol till they be dissolved; then add the water of pure ammonia, and mix them by shaking.

This composition is extremely penetrating, and has been long in great esteem, particularly for smelling to in lowneſſes and faintings, under the name of *Eau de luce*. It is not quite limpid, for the oil of amber dissolves only imperfectly in the spirit: And if the volatile spirit be not exceedingly strong, scarcely any of the oil will be imbibed.

The *Eau de luce* is not only used with the view of making an impression on the nose, but is taken internally in the same cases. It has likewise of late been celebrated as a remedy for the bite of the viper snake, when used internally, and applied externally to the wounded part.

SPIRITUS CAMPHORATUS.

Lond.

Camphorated Spirit.

Take of
Camphor, four ounces;
Rectified spirit of wine, two pints;
Mix them, so that the camphor may be dissolved.

SPIRITUS VINOSUS CAMPHORATUS.

Edinb.

Camphorated Spirit of wine.

Take of
Camphor, one ounce;
Rectified spirit of wine, one pound.
Mix them together, that the camphor may be dissolved.
It may also be made with a double, triple, &c. proportion of camphor.

These solutions of camphor are employed chiefly for external uses, against rheumatic pains, paralytic numbneſſes, inflammations, for discussing tumors, preventing gangrenes, or restraining their progress. They are 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 separates and runs together into little masses.

Hoffman, Rothen, and others, mention a camphorated spirit not subject to this inconvenience. It is prepared by grinding the camphor with somewhat more than an equal weight of fixed alkaline salt, then adding a proper quantity of proof spirit, and drawing off one half of it by distillation. This spirit was proposed to be received into our pharmacopœias, under the title of *Spiritus camphoræ tartarisatus*; but on trial, it did not answer expectation: Some of the camphor rises with the spirit in distillation, though but a small quantity; whence, mixed with a large portion of water, it does not sensibly render it turbid; but in a proper quantity, it exhibits the same appearance as the more common camphorated spirit: It did not

appear,

appear, that ſpirit diſtilled from camphor, with or without the alkaline ſalt, differed at all in this reſpect.

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 mixes 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.

OLEUM CAMPHORATUM.

Edin.

Camphorated Oil.

Take of
Freſh olive oil, two ounces;
Camphor half an ounce.
Mix them ſo that the camphor may be diſſolved.

This is deſigned for external purpoſes, and is uſeful againſt burns, bruiſes, rheumatic pains, &c.

EMULSIO OLEOSA SIMPLEX.

Gen.

Simple oily Emulſion.

Take of
Almond oil, one ounce;
Syrup of marſh mallows, an ounce and a half;
Gum arabic, half an ounce;
Spring water, ſix ounces.
Mix, and make an emulſion according to art.

EMULSIO OLEOSA VOLATILIS.

Gen.

Volatile oily Emulſion.

Take of
Almond oil, an ounce and a half;
Syrup of marſh mallow, one ounce;
Gum arabic, half an ounce;
Volatile alkali, one drachm;
Spring water, ſeven ounces.
Mix them according to art.

Both theſe are elegant and convenient modes of exhibiting oil internally; and under theſe forms it is often advantageouſly employed in caſes of cough, hoarſeneſs, and ſimilar affections. By means of the alkali, a more intimate union of oil with water is obtained than can be had with the intermedium either of ſyrup or vegetable mucilage; and in ſome caſes, the alkali contributes both to anſwer the intention in view, and to prevent the oil from exciting ſickneſs: But in other inſtances, the pungency which it imparts is diſagreeable to the patient, and unfavourable to the diſeaſe. According to theſe circumſtances, therefore, where an oily mixture is to be employed, the practitioner will have recourſe either to the one or the other formula.

JULAPIUM ACIDUM.

Gen.

Acid Julep.

Take of
Weak vitriolic acid, three drachms;
Simple ſyrup, three ounces;
Spring water, two pounds.
Mix them.

In

In this ſtate, the vitriolic acid is ſufficiently diluted to be taken with eaſe in conſiderable doſes. And it may thus be advantageouſly employed in various affections; concerning which we have already had occaſion to make ſome remarks in the Materia Medica, and which are to be anſwered, either by its action on the ſtomach, or on the ſyſtem in general.

JULAPIUM ÆTHEREUM.

Gen.

Ether Julep.

Take of
- Pure vitriolic ether, two ſcruples;
- Spring water, ſix ounces;
- Refined ſugar, half an ounce.

Mix them according to art.

Although it is in general proper that ether ſhould be diluted only when it is to be immediately uſed, yet it is ſometimes neceſſary that it ſhould be put into the hands of the patient in the ſtate in which it is to be taken. In ſuch inſtances the preſent formula is a very proper one; and the addition of a little ſugar tends both to cover the pungency of the ether in the mouth, and to retain it in a ſtate of mixture with the water.

JULAPIUM SUCCINATUM.

Gen.

Amber Julep.

Take of
- Tincture of amber, two drachms;
- Refined ſugar, half an ounce;
- Spring water, ſix ounces.

Mix them according to art.

Under this form, the tincture of amber is ſo far diluted and ſweetened, as to form an agreeable mixture; and in this manner it may often be advantageouſly employed for counteracting nervous affections, and anſwering thoſe other purpoſes for which we have already mentioned that this article is had recourſe to in practice.

MIXTURA SALINA.

Suec.

Saline Mixture, or Julep.

Take of
- Fixt vegetable alkali, three drachms;
- River water half a pound.

To this lixivum add,
- Lemon juice, half a pound, or as much as is ſufficient to ſaturate the alkali;
- Syrup of black currants, one ounce.

This mixture is frequently preſcribed in the febrile diſeaſes as a means of promoting a ſlight diſcharge by the ſurface: For where the ſkin is parched with great increaſed heat, it generally operates as a gentle diaphoretic. It often alſo promotes a diſcharge by urine, and is frequently employed to reſtrain vomiting. With theſe intentions it is in daily uſe among us, although it has no place in our pharmacopœias, from its being entirely an extemporaneous preſcription.

SOLUTIO MINERALIS ARSENICI.

Mineral Solution of Arſenic.

Take of
- White arſenic, reduced to a ſubtile powder,
- Fixed vegetable alkali, each ſixty four grains;
- Diſtilled water, half a pint.

Put

Put them into a florentine flask, and let this be placed in a sand heat, so that the water may boil gently till the arsenic be completely dissolved; then add to the solution when cold half an ounce of spirit of lavender, and as much distilled water as to make the solution amount to a pint.

For the introduction of this remedy we are indebted to Dr. Fowler, of Stafford. We have already had occasion to mention it when treating of arsenic in the Materia Medica: And we then observed, that if it be not precisely the same, it is at least supposed to be very analogous to a remedy which has had a very extensive sale in some parts of England under the name of the *Tasteless ague drop*; and which has been employed with very great success in the cure of obstinate intermittents; but whether the present formula in any degree approaches to the tasteless ague drop or not, there can be no doubt, from the concurring testimony of many eminent practitioners, that it is equally successful in combating intermittents. For this purpose it is given, according to the age and other circumstances of the patient, in doses of from two to twenty drops, once, twice, or oftener, in the course of the day: And its use has been found to be attended with remarkable success, although with some patients even very small doses have been found to excite severe vomiting. Besides distinctly marked intermittents, this solution has also been sometimes successful in obstinate periodical headachs, and in cutaneous affections of the leprous kind, resisting every other mode of cure; and in every case where arsenic can be employed with safety or advantage internally, this preparation is preferable to any other.

CHAP.

CHAP. XXIV.

SYRUPI.

SYRUPS.

SYRUPS are ſaturated ſolutions of ſugar, made in water, or watery or vinous infuſions, or in juices. They were formerly conſidered as medicines of much greater importance than they are thought to be at preſent. Syrups and diſtilled waters were for ſome ages uſed as the greateſt alteratives; inſomuch that the evacuation of any peccant humour was never attempted, till by a due courſe of theſe it had firſt been ſuppoſed to be regularly prepared for expulſion. Hence aroſe the exuberant collection of both, which we meet with in pharmacopœias. As multitudes of diſtilled 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 conſiſt of ſugar, and 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 are uſed for ſweetening draughts and juleps, for reducing powders into boluſes, pills, or electuaries, and other ſimilar purpoſes. Some likewiſe may not improperly be conſidered as medicines themſelves; as thoſe of ſaffron, buckthorn berries, and ſome others.

To the chapter on ſyrups the London college, in their pharmacopœia, have premiſed the following general obſervations.

In the making of ſyrups, where we have not directed either the weight of the ſugar, or the manner in which it ſhould be diſſolved, this is to be the rule:

Take of

Double refined ſugar, twenty-nine ounces;

Any kind of liquor, one pint.

Diſſolve the ſugar in the liquor, in a water bath; then ſet it aſide for twenty four hours; take off the ſcum, and pour off the ſyrup

ſyrup from the feces, if there be any.

THE following are the general rules which have commonly been given with reſpect to preparation of ſyrups.

I.

ALL the rules laid down for making decoctions are likewiſe to be obſerved in the decoctions for ſyrups. Vegetables, both for decoctions and infuſions, ought to be dry, unleſs they are expreſsly ordered otherwiſe.

II.

In both the London and Edinburgh pharmacopœias, only the pureſt or double refined ſugar is allowed.

In the ſyrups prepared by boiling, it has been cuſtomary to perform the clarification with whites of eggs after the ſugar had been diſſolved in the decoction of the vegetable. This method is apparently injurious to the preparation; ſince not only the impurities of the ſugar 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 them. Nor indeed is the clarification and deſpumation of the ſugar, by itſelf, very adviſable; 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. It appears therefore moſt eligible to employ fine ſugar for all the ſyrups; 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 offenſiveneſs.

III.

Where the weight of the ſugar is not expreſſed, twenty nine ounces are to be taken in every pint of liquor. The ſugar is to be reduced into powder, and diſſolved in the liquor by the heat of a water bath, unleſs ordered otherwiſe.

Although in the formula of ſeveral of the ſyrups, a double weight of ſugar to that of the liquor is directed, yet leſs will generally be ſufficient. Firſt, therefore, diſſolve in the liquor an equal weight of ſugar, then gradually add ſome more in powder, till a little remains undiſſolved at the bottom, which is to be afterwards incorporated by ſetting the ſyrup in a water bath.

The quantity of ſugar ſhould be as much as the liquor is capable of keeping diſſolved in the cold: If there is more, 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 ſour liquor. If in cryſtalliſing, only the ſuperfluous ſugar be ſeparated, it would be of no inconvenience; but when part of the ſugar has candied, the remaining ſyrup is found to have an under proportion, and is as ſubject to fermentation as if it had wanted ſugar at firſt.

IV.

Copper veſſels, unleſs they be well tinned, ſhould not be employed in the making of acid ſyrups, or ſuch as are compoſed of the juices of fruits.

The confectioners, who are the moſt dexterous people at theſe

kinds

kinds of preparations, to avoid the expence of frequently new tinning their veſſels, rarely uſe any other than copper ones untinned, in the preparation even of the moſt acid ſyrups, as of oranges and lemons. Nevertheleſs, by taking due care, that their coppers be well ſcoured and perfectly clean, and that the ſyrup remain no longer in them than is abſolutely neceſſary, they avoid giving it any ill taſte or quality from the metal. This practice, however, is by no means to be recommended to the apothecary.

V.

The ſyrup, when made, is to be ſet by till next day, if any ſaccharine cruſt appears upon the ſurface, it is to be taken off.

SYRUPUS ACETI.

Edinb.

Syrup of Vinegar.

Take of

Vinegar, two pounds and an half;

Double refined ſugar, three pounds and an half.

Boil them till a ſyrup be formed.

This is to be conſidered as ſimple ſyrup merely acidulated, and is by no means unpleaſant. It is often employed in mucilaginous mixtures, and the like; and on account of its cheapneſs it is often preferred to ſyrup of lemons.

SYRUPUS ALTHÆÆ.

Lond.

Syrup of Marſhmallow.

Take of

Freſh root of marſhmallow, bruiſed, one pound;

Double refined ſugar, four pounds;

Diſtilled water, one gallon.

Boil the water with the marſhmallow root to one half, and preſs out the liquor when cold. Set it by twelve hours; and, after the feces have ſubſided, pour off the liquor. Add the ſugar, and boil it to the weight of ſix pounds.

Edin.

Take of

Freſh marſhmallow roots, one pound;

Water, ten pounds;

Double refined ſugar, four pounds.

Boil the water with the roots to the conſumption of one half, and ſtrain the liquor, ſtrongly expreſſing it. Suffer the ſtrained liquor to reſt till the feces have ſubſided; and when it is free from the dregs, add the ſugar; then boil ſo as to make a ſyrup.

The ſyrup of marſhmallow ſeems to have been a ſort of favourite among diſpenſatory writers, who have taken great pains to alter and amend it, but have been wonderfully tender in retrenching any of its articles. In theſe preſcriptions it is loſt of its ſuperfluities, without any injury to its virtues. It is chiefly uſed in nephritic caſes, for ſweetening emollient decoctions, and the like.

SYRUPUS CARYOPHYLLI RUBRI.

Lond.

Syrup of Clove July flower.

Take of

Freſh clove July flowers, the heels being cut off, two pounds;

Boiling diſtilled water, ſix pints.

Macerate

Macerate the flowers for twelve hours in a glass vessel; and, in the strained liquor, dissolve the double refined sugar, that it may be made a syrup.

SYRUPUS CARYOPHILLORUM RUBRORUM.

Edin.

Syrup of Clove July flowers.

Take of

Clove July flowers, fresh gathered and freed from the heels, one pound,

Double refined sugar, seven pounds and a quarter;

Boiling water, four pounds.

Macerate the flowers in the water for a night; then to the strained liquor add the sugar previously powdered, and dissolve it by gentle heat, to make the whole into a syrup.

This syrup is of an agreeable flavour, and a fine red colour; and for these it is chiefly valued. Some have substituted for it one easily preparable at seasons when flowers are not to be procured: An ounce of clove spice is infused for some days in twelve ounces of white wine, the liquor strained, and, with the addition of twenty ounces of sugar, is boiled to a proper consistence; a little cochineal renders the colour of this syrup exactly similar to that prepared from the clove July flower; and its flavour is of the same kind, though not so pleasant. The abuse may be readily detected by adding to a little of the syrup some alkaline salt or ley; which will change the genuine syrup to a green colour; but in the counterfeit, it will make no such alteration, only varying the shade of the red.

As the beauty of the colour is a principal quality in this syrup, no force in the way of expression should be used in separating the liquor from the flowers.

SYRUPUS COLCHICI.

Edin.

Syrup of Colchicum.

Take of

Colchicum root, fresh and succulent, cut into small pieces, one ounce;

Vinegar, sixteen ounces;

Double refined sugar, twenty six ounces.

Macerate the root in the vinegar two days, now and then shaking the vessel; then strain with a gentle pressure. To the strained liquor add the sugar, and boil a little, so as to form a syrup.

This syrup seems to be the best preparation of the colchicum; great care is required to take up the root in the proper season: And from errors of this kind we are to ascribe the uncertainty in the effects of this medicine as found in the shops.

The syrup of colchicum is often successfully employed as a diuretic, and may be taken in doses of from a drachm or two to the extent of an ounce or more.

SYRUPUS

SYRUPUS CORTICIS AURANTII.

Lond.

Syrup of Orange peel.

Take of
- Fresh outer rind of Seville oranges, eight ounces;
- Boiling distilled water, five pints.

Macerate for twelve hours in a close vessel; and, in the strained liquor, dissolve double refined sugar to make a syrup.

Edin.

Take of
- Fresh outer rind of Seville orange peel, six ounces;
- Boiling water, three pounds.

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 in it four pounds and a quarter of double refined powdered sugar, so as to make it into a syrup with a gentle heat.

In making this syrup, it is particularly necessary that the sugar be previously powdered, and dissolved 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 flavour of the orange peel.

SYRUPUS CROCI.

Lond.

Syrup of Saffron.

Take of
- Saffron, one ounce;
- Boiling distilled water, one pint.

Macerate the saffron, in the water, for twelve hours, in a close vessel; and dissolve double refined sugar in the strained liquor that it may be made a syrup.

Saffron is very well fitted for making a syrup, as in this form a sufficient dose of it is contained in a reasonable compass. This syrup is at present frequently prescribed; it is a pleasant cordial, and gives a fine colour to juleps.

SYRUPUS LIMONIS SUCCI.

Lond.

Syrup of Lemon juice.

Take of
- Lemon juice, strained after the feces have subsided, two pints;
- Double refined sugar, fifty ounces;

Dissolve the sugar, that it may be made a syrup.

SYRUPUS SUCCI LIMONUM.

Edin.

Syrup of Lemon juice.

Take of
- Juice of lemons, suffered to stand till the feces have subsided, and afterwards strained, three parts;
- Double refined sugar, five parts.

Dissolve the sugar in the juice, so as to make a syrup.

SYRUPUS SUCCI FRUCTUS MORI.

Lond.

Syrup of Mulberry juice.

SYRUPUS

SYRUPUS SUCCI FRUCTUS RUBI IDÆI.

Lond.

Syrup of Raſpberry juice.

SYRUPUS SUCCI FRUCTUS RIBIS NIGRI.

Lond.

Syrup of Black Currants.

Theſe three are directed by the London college to be prepared in the ſame manner as ſyrup of lemons.

All theſe are very pleaſant cooling ſyrups; and with this intention they are occaſionally uſed 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 PAPAVERIS ALBI.

Lond.

Syrup of the White Poppy.

Take of

The heads of white poppies, dried, three pounds and an half;

Double refined ſugar, ſix pounds.

Diſtilled water, eight gallons.

Slice and bruiſe the heads, then boil them in the water, to three gallons, in a water bath ſaturated with ſea ſalt, and preſs out the liquor. Reduce this by boiling to about four pints, and ſtrain it while hot, firſt through a ſieve, then through a thin woollen cloth, and ſet it aſide for twelve hours, that the feces may ſubſide. Boil the liquor, poured off from the feces, to three pints, and diſſolve the ſugar in it that it may be made a ſyrup.

SYRUPUS PAPAVERIS ALBI, vulgo SYRUPUS DIACODION.

Edin.

Syrup of white Poppies, commonly called *Diacodium*.

Take of

White poppy heads, dried, and freed from the ſeeds, two pounds;

Boiling water, thirty pounds;

Double refined ſugar, four pounds.

Macerate the bruiſed heads in the water for a night; next boil till only one third part of the liquor remain; then ſtrain it by expreſſing it ſtrongly. Boil the ſtrained liquor to the conſumption of one half, and ſtrain again; laſtly, add the ſugar and boil to a ſyrup.

This ſyrup, impregnated with the opiate matter of the poppy heads, is given to children in doſes of two or three drachms; to adults from half an ounce to an ounce and upwards, for eaſing pain, procuring reſt, and anſwering the other intentions of mild opiates. Particular care is requiſite in its preparation, that it may be always made, as nearly as poſſible, of the ſame ſtrength; and accordingly the colleges have been very minute in their deſcription of the proceſs.

SYRUPUS

SYRUPUS PAPAVERIS ERRATICI.

Lond.

Syrup of the red Poppy.

Take of

The fresh flowers of red poppy, four pounds;

Boiling distilled water, four pints and an half.

Put the flowers, by degrees, into the boiling water, in a water bath, constantly stirring them. After this, the vessel being taken out of the bath, macerate for twelve hours; then press out the liquor, and let it apart, that the feces may subside. Lastly, make it into a syrup, with double refined sugar.

The design of putting the flowers into boiling water in a water bath is, that they may be a little scalded, so as to shrink enough to be all immerged in the water; without this artifice, they can scarcely be all got in: But they are to be no longer continued over the fire than till this effect is produced, lest the liquor become too thick, and the syrup rendered ropy.

This syrup has been recommended in disorders 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. It might indeed be very safely superseded altogether; and accordingly it has now no place either in the Edinburgh pharmacopœia, or some of the best foreign ones, though still retained by the London college.

SYRUPUS ROSÆ.

Lond.

Rose syrup.

Take of

The dried leaves of the damask rose, seven ounces;

Double refined sugar, six pounds;

Boiling distilled water, four pints.

Macerate the rose leaves in water for twelve hours, and strain. Evaporate the strained liquor to two pints and an half, and add the sugar, that it may be made a syrup.

SYRUPUS ROSARUM PALLIDARUM.

Edin.

Syrup of pale Roses.

Take of

Pale roses, fresh gathered, one pound;

Boiling water, four pounds;

Double refined sugar, three pounds;

Macerate the roses in the water for a night; then to the liquor strained, and freed from the dregs, add the sugar; and boil them into a syrup.

This syrup may likewise be made from the liquor remaining after the distillation of rose water, depurated from its feces.

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 while the infusion is boiling to its consistence. This syrup is an agreeable and mild purgative for children, in the dose of half a spoonful, or a spoonful. It like-

wise

wife proves gently laxative to adults; and with this intention may be of ſervice in coſtive habits. Its principal uſe is in ſolutive glyſters.

SYRUPUS ROSARUM RUBRARUM.

Edin.

Syrup of red Roſes.

Take of
Red roſes, dried, ſeven ounces;
Double refined ſugar, ſix pounds;
Boiling water, five 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 ſyrup 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.

SYRUPUS SCILLITICUS.

Edin.

Syrup of Squills.

Take of
Vinegar of ſquills, two pounds;
Double refined ſugar, three pounds and a half.
Make them into a ſyrup with a gentle heat.

This ſyrup was formerly prepared with ſome ſpices, intended to alleviate the offenſiveneſs of the ſquills; but while they had not this effect, they often counteracted the intention in view, and are therefore omitted. It is uſed chiefly in doſes of a ſpoonful or two, for promoting expectoration, which it does very powerfully.

SYRUPUS SIMPLEX, ſive COMMUNIS.

Edin.

Simple or common Syrup.

Take of
Double refined ſugar, fifteen parts;
Water, eight parts.
Let the ſugar be diſſolved by a gentle heat.

This preparation is a plain liquid ſweet, void of flavour or colour; and is more convenient in extemporaneous preſcription than ſugar undiſſolved.

SYRUPUS SPINÆ CERVINÆ.

Lond.

Syrup of Buck thorn.

Take of
The juice of ripe and freſh buck thorn berries, one gallon;
Ginger, bruiſed, one ounce;
Pimento, powdered, one ounce and a half;
Double refined ſugar, ſeven pounds.
Set by the juice for ſome days, that the feces may ſubſide, and ſtrain. Macerate the ginger and pimento in a pint of the ſtrained juice, for four hours, and ſtrain. Boil away the reſt of the juice to three pints; then add that part of the juice in which the ginger and pimento have been macerated; and, laſtly, the ſugar that it may be made a ſyrup.

SYRUPUS RHAMNI CATHARTICI, vulgo e SPINA CERVINA.

Edin.

Syrup of Buck thorn.

Take of
The juice of ripe buck thorn berries,

ries, depurated, seven pounds and a half;
Double refined sugar, three pounds and a half.
Boil them to the consistence of a syrup.

Both these preparations, in doses of three or four spoonfuls, operate as brisk cathartics. The principal inconveniences attending them are, their being very unpleasant, and their occasioning a thirst and dryness of the mouth and fauces, and sometimes violent gripes: These effects may be prevented by drinking freely of water gruel, or other warm liquids, during the operation. The ungratefulness of the buck thorn 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.

SYRUPUS TOLUTANUS.

Lond.

Syrup of Tolu.

Take of
The balsam of Tolu, eight ounces;
Distilled water, three pints.
Boil for two hours. Mix with the liquor, strained after it is cold, the double refined sugar, that it may be made a syrup.

SYRUPUS TOLUTANUS, vulgo SYRUPUS BALSAMICUS.

Edin.

Syrup of Tolu, commonly called *Balsamic Syrup.*

Take of
Simple syrup, just made, and warm from the fire, two pounds;
Tincture of Tolu, one ounce.
When the syrup has grown almost cold, stir into it the tincture, by little at a time, agitating them well together, till perfectly united.

This last method of making the balsamic syrup was dropt in one of the preceding editions of the Edinburgh pharmacopœia, on a complaint that the spirit spoiled the taste of the syrup; which it did in a great degree when the tincture was drawn with malt spirits, the nauseous oil, which accompanies all the common malt spirits, communicating that quality; and this was particularly the case when the spirituous part was evaporated from the syrup, as was directed in the former edition of the Edinburgh pharmacopœia. Particular care therefore should be taken, that the spirit, 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.

In some pharmacopœias, a syrup of this kind is prepared from a tincture of balsam of Peru, with rose water, and a proper quantity of sugar.

SYRUPUS

SYRUPUS VIOLÆ.

Lond.

Syrup of violets.

Take of

The freſh petals of the violet, two pounds;

Boiling diſtilled water, five pints.

Macerate for twenty four hours; afterwards ſtrain the liquor, without preſſing, through thin linen. Add double refined ſugar, that it may be made a ſyrup.

SYRUPUS VIOLARUM.

Edin.

Syrup of Violets.

Take of

Freſh violets, one pound;

Boiling water, four pounds;

Double refined ſugar, ſeven pounds and a half.

Macerate the violets in the water, for twenty four hours in a glaſs or a glazed earthen veſſel, cloſe covered; then ſtrain without expreſſion, and to the ſtrained liquor add the ſugar, powdered, and make into a ſyrup.

This ſyrup is of a very agreeable flavour; and in the quantity of a ſpoonful or two proves to children gently laxative. It is apt to loſe, in keeping, the elegant blue colour, for which it is chiefly valued; and hence ſome 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 ſyrup be genuine, the acid will change it red, and the alkali 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 ſhou'd expect to give any blue tinge to acidulated or alkaliſed juleps or mixtures, by the addition of the blue ſyrup.

SYRUPUS ZINGIBERIS.

Lond.

Syrup of Ginger.

Take of

Ginger, bruiſed, four ounces;

Boiling diſtilled water, three pints.

Macerate for four hours, and ſtrain; then add double refined ſugar, and make into a ſyrup.

Edin.

Take of

Powdered ginger, three ounces;

Boiling water, four pounds;

Double refined ſugar, ſeven pounds and a half.

Macerate the ginger in the water in a cloſe veſſel, for twenty four hours then to the liquor ſtrained, and freed from the feces, add the powdered ſugar, and make them into a ſyrup.

These are agreeable and moderately aromatic ſyrups, impregnated with the flower and virtues of the ginger.

SYRUPUS ACIDUS.

Gen.

Acid Syrup.

Take of

Weak ſpirit of vitriol, two drachms;

Syrup of lemons, ſix ounces.

Mix them.

Where we wiſh to obtain a ſyrup, not only ſtrongly acidulated, but alſo powerfully aſtringent, this formula

formula may be considered as well suited to answer the purpose.

SYRUPUS ALKALINUS.
Gen.
Alkaline Syrup.

Take of
Salt of tartar, three drachms;
Simple syrup, six ounces.
Mix them.

In this syrup we have in some degree the converse of the preceding; and it may be usefully employed, either for the destruction of acid in the stomach, or for the formation of neutral or effervescent mixtures.

SYRUPUS ALLII.
Suec.
Syrup of Garlic.

Take of
The fresh root of garlic, sliced, one pound;
Boiling water, two pounds.
Macerate them in a close vessel for an hour; add to the strained liquor,
Refined sugar, two pounds.
Boil them to a syrup.

This syrup formerly held a place in our pharmacopœias, and was recommended for promoting expectoration, in cases of chronic catarrh, and other affections of the breast: But as well as the *oxymel ex allio*, it is now banished from them: And there can be little doubt that the same intentions may in general be answered by less disagreeable medicines. Yet where we wish to employ garlic in a watery menstruum, this formula is perhaps one of the best under which it can be exhibited.

SYRUPUS AMYGDALINUS.
Suec.
Syrup of Almonds.

Take of
Sweet almonds, one pound;
Bitter almonds, two drachms.
Let the almonds be blanched and beat in a stone mortar, with a wooden pestle; then by degrees add barley water two pounds; strain the liquor, and form it into a syrup, with as much double refined sugar as may be necessary.

The agreeable flavour of the almonds, is in this formula communicated to a syrup, which may be advantageously employed to sweeten mixtures, or to form a pleasant drink when diffused in water; and the flavour is not a little improved by the addition of the proportion of bitter almonds here directed.

SYRUPUS CINNAMOMI.
Ross.
Syrup of Cinnamon.

Take of
Cinnamon, bruised, five ounces;
Spirituous cinnamon water, two pounds.
Digest them in a close glass vessel for twenty four hours; then add to the strained liquor double refined sugar, three pounds; boil it to a syrup.

This syrup is strongly impregnated with the cinnamon; and where we wish to sweeten any mixture, at the same time adding to it an agreeable aromatic, it is perhaps one of the best articles we can employ.

SYRUPUS

SYRUPUS EMETICUS.

Brun.

Emetic Syrup.

Take of

Glaſs of antimony, finely powdered, two drachms;

Rhenish wine, twelve ounces.

Let them be digeſted for three days in a gentle heat, then ſtrain the liquor through paper, and mix with the ſtrained liquor thirty ounces of double refined ſugar. Let it be formed into a ſyrup, and kept in a cloſe veſſel.

THERE can be no doubt of this ſyrup being ſtrongly impregnated with the emetic quality of the antimony; and it will at leaſt have ſo far the advantage of being very agreeable to the taſte, that it may be readily taken by children. But every good effect to be obtained from it may be had with more certainty, by adding to ſimple ſyrup any quantity that may be thought neceſſary of the *antimonium tartariſatum*, previouſly diſſolved in a ſmall proportion of water.

SYRUPUS HYDRARGYRI.

Succ.

Syrup of Quickſilver.

Take of

Purified quickſilver, one drachm;

Gum arabic, three drachms;

Roſe water, as much as is ſufficient for reducing the gum to a mucus.

Let them be rubbed in a mortar, till the quickſilver totally diſappears; then by degrees mix with it ſimple ſyrup, four ounces.

IN this we have a preparation ſimilar to the mercurial ſolution of Dr. Plenck, formerly mentioned; and which while it does not poſſeſs any other advantage than mere ſweetneſs of taſte, is liable to the objections formerly urged againſt that preparation.

CHAP.

CHAP. XXV.

MELLITA.

MEDICATED HONEYS.

THE more fixed parts of vegetables, diſſolved in watery liquors may be thence transfered 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 conſiſtence. Honey has not probably however, any very peculiar advantage over ſugar; and it is liable to many inconveniences which ſugar is free from: In particular, it is much more liable to run into fermentation, and in many conſtitutions produces gripes and often violent effects: The Edinburgh college have therefore rejected all the oxymels from their laſt edition of the pharmacopœia. And the number of preparations with honey in moſt of the foreign pharmacopœias is now greatly diminiſhed. Still, however, ſeveral are much employed by practitioners of eminence, and retained in the London pharmacopœia.

MEL ACETATUM.
Lond.
Acetated Honey.

Take of
Clarified honey, two pounds;
Diſtilled vinegar, one pound by weight.
Boil them in a glaſs veſſel with a gentle fire to the conſiſtency of a ſyrup.

THIS is the old *oxymel ſimplex* of former pharmacopœias, and was once in great repute as a cooling and attenuating medicine; it is ſcarcely uſed in modern practice, except in colds attended with coughs, and in ſore throats, for which when diluted with ſome aromatic or aſtringent infuſion, as ſage tea, roſe flower tea, &c. it makes uſeful gargles.

MEL ROSÆ.
Lond.
Honey of Roses.

Take of
Dried red rose buds, four ounces;
Boiling distilled water, three pints;
Clarified honey, five pounds.
Macerate the rose leaves in the water for six hours; then mix the honey with the strained liquor, and boil the mixture to the thickness of a syrup.

This preparation is not unfrequently used as a mild cooling detergent, particularly in gargarisms for ulcerations and inflammation of the mouth and tonsils. The rose buds here used should be hastily dried; the design of doing so is, that they may the better preserve their astringency.

MEL SCILLÆ.
Lond.
Honey of Squills.

Take of
Clarified honey, three pounds;
Tincture of squills, two pints.
Boil them in a glass vessel to the thickness of a syrup.

The honey will here be impregnated with all the active parts of the squills which the tincture before contained, and may be employed as an useful expectorant or diuretic.

OXYMEL ÆRUGINNIS.
Lond.
Oxymel of Verdegris.

Take of
Prepared verdegris, one ounce;
Vinegar, seven ounces;
Clarified honey, fourteen ounces.
Dissolve the verdegris in the vinegar, and strain it through linen; then add the honey, and boil the whole to a proper thickness.

This is an improvement of what was formerly known in our pharmacopœias under the title of *Mel Ægyptiacum*; which, however, was, as then prepared, very uncertain with respect to strength. It is used only externally for cleansing foul ulcers, and keeping down fungous flesh. It is also often serviceable in venereal ulcerations of the mouth and tonsils; But there is some danger from its application to places from the situation of which it is apt to be swallowed; for even a small quantity of verdegris passing into the stomach may be productive of distressing, if not deleterious effects.

OXYMEL COLCHICI.
Lond
Oxymel of Meadow Saffron.

Take of
The fresh root of meadow saffron, cut into thin slices, one ounce;
Distilled vinegar, one pint;
Clarified honey, two pounds.
Macerate the root of meadow saffron, with the vinegar, in a glass vessel, with a gentle heat, for forty eight hours. Strain the liquor, pressed out strongly from the root, and add the honey. Lastly, boil the mixture, frequently stirring it with a wooden spoon, to the thickness of a syrup.

This oxymel may be considered as very analogous to the syrupus colchici

colchici of which we have already made some observations. Under this form it was first introduced by Dr. Stoerk; and although with certain constitutions the syrup is unquestionably preferable, yet it well deserves a place in our pharmacopœias, as being an active medicine.

OXYMEL SCILLÆ.

Lond.

Oxymel of Squills.

Take of

Clarified honey, three pounds;
Vinegar of squills, two pints.

Boil them in a glass vessel, with a slow fire, to the thickness 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 this means the impurities of the squills, with which the vinegar was impregnated, were also separated. For this reason the college of London have now judiciously ordered the honey for all these kinds of preparations to be previously clarified by itself.

Oxymel of squills is an useful aperient, detergent, and expectorant, and of great service in asthmas, coughs, and other disorders where thick phlegm abounds. It is given in doses of two or three drachms, 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 ex ALLIO.

Dan.

Oxymel of Garlic.

Take of

Garlic, cut in slices, an ounce and a half;
Caraway seeds,
Sweet fennel seeds, each two drachms;
Clarified honey, ten ounces;
Vinegar, half a pint.

Boil the vinegar for a little time, with the seeds bruised, in a glazed earthen vessel: Then add the garlic, and cover the vessel close; when grown cold, press out the liquor, and dissolve in it the honey by the heat of a water bath.

This oxymel is recommended for promoting expectoration, and the fluid secretions in general. It is doubtless a medicine of considerable efficacy, though very unpleasant, the flavour of the garlic prevailing, notwithstanding the addition of the aromatic seeds.

CHAP.

CHAP. XXVI.

PULVERES.

POWDERS.

THIS form receives ſuch materials only as are capable of being ſufficiently dried to become pulveriſable, without the loſs of their virtue. There are many ſubſtances, however, of this kind, which cannot be conveniently taken in powder; bitter, acrid, fetid drugs are too diſagreeable; emollient and mucilaginous herbs and roots are too bulky; pure gums cohere, and become tenacious in the mouth; fixt alkaline ſalts liquefy on expoſition to the air; and volatile alkalies exhale. Many of the aromatics, too, ſuffer a great loſs of their odorous principle when kept in powder; as in that form they expoſe a much larger ſurface to the air.

The doſe of powders, in extemporaneous preſcription, is generally about half a drachm: It rarely exceeds a whole drachm; 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 powders, particularly thoſe prepared from metallic ſubſtances, require a more conſiſtent vehicle, as ſyrups; for from thin ones they ſoon ſubſide: Reſinous ſubſtances likewiſe are moſt commodiouſly taken in thick liquors: In thin ones, they are apt to run into lumps, which are not eaſily again ſoluble.

General Rules for making powders.

I.

Particular care ought to be taken that nothing corrupted, decayed, or impure, be mixed in the compoſition of powders: The ſtalks and corrupted parts of plants are to be ſeparated.

II.

The dry aromatics ought to be ſprinkled, during their pulveriſation, with a few drops of water.

III.

The moiſter aromatics may be dried with a very gentle heat, before they

they are committed to the mortar.

IV.

Gums, and such other substances as are difficultly pulverisable, should be pounded along with drier ones, that they may pass the sieve together.

V.

No part should be separated for use, until the whole quantity put into the mortar has passed the sieve, and the several siftings mixed together; for those parts of the subject, which are first powdered, are different, in their degree of efficacy, from the rest.

VI.

Powders of aromatics are to be prepared only in small quantities at a time, and be kept in glass vessels very closely stopt.

If powders are long kept, and not carefully secured from the air, their virtue is in a great measure destroyed, although the parts in which it consists should not in other circumstances prove volatile. Thus, though the virtues of ipecacuanha are so fixt as to remain entire even in extracts made with proper menstrua, yet if the powdered root be long exposed to the air, it loses its emetic quality.

PULVIS ALOES CUM CANELLA.

Lond.

Powder of aloes with Canella.

Take of

Socotorine aloes, one pound;
White canella, three ounces.

Powder them separately, and then mix them.

This composition has long been known in the shops under the title of *Hiera picra*. It furnishes us with an useful aloetic purgative, the canella operating as a good corrigent for the aloes. But it is more frequently employed as the basis of electuaries, or pills, or of a tincture, which was for a long time distinguished by the appellation of *Sacred tincture*.

PULVIS ALOES CUM FERRO.

Lond.

Powder of aloes with Iron.

Take of

Socotorine aloes, powdered, an ounce and an half;
Myrrh, powdered, two ounces;
Dry extract of gentian,
Vitriolated iron, of each, in powder, one ounce.

Mix them.

In this powder we have an aloetic and chalybeate conjoined. It consists of nearly the same articles which formerly entered the composition of the *Pilulæ ecphracticæ chalybeatæ*, as they were called; and it is perhaps more frequently employed when brought to the form of pills by means of syrups, than in powder: But in either way it is an useful medicine, and is particularly employed with advantage in cases of obstructed menstruation.

PULVIS ALOES CUM GUAIACO.

Lond.

Powder of aloes with Guaiacum.

Take of

Socotorine aloes, one ounce and an half;
Gum guaiacum one ounce;
Aromatic powder, half an ounce.

Powder

Powder the aloes and gum guaiacum feparately; then mix all the ingredients together.

In the guaiacum as well as the aloes, we have a warm gummi refinous purgative; and both are corrected, as well as more minutely divided, from their combination with the aromatics. This therefore furnifhes us with an ufeful purgative: But when taken only in fmall dofes, its chief effect is that of promoting perfpiration. It is, however, more frequently employed in the form of pills than in the ftate of powder; and indeed it confifts of nearly the fame ingredients which conftituted the *Pilulæ aromaticæ*, of the former edition of the London pharmacopœia.

PULVIS AROMATICUS.

Lond.

Aromatic Powder.

Take of
Cinnamon, two ounces;
Smaller cardamom feeds,
Ginger,
Long pepper, of each one ounce.
Powder them together.

PULVIS AROMATICUS, vulgo SPECIES AROMATICÆ.

Edinb.

Aromatic powder, commonly called *Aromatic Species.*

Take of
Cinnamon,
Leffer cardamom feeds,
Ginger, of each two ounces.
Reduce them together into a powder, to be kept in a well ftopt phial.

Both thefe compofitions are agreeable, hot, fpicy medicines; and as fuch may be ufefully taken in cold phlegmetic habits and decayed conftitutions, for warming the ftomach, promoting digeftion, and ftrengthening the tone of the viícera. The dofe is from ten grains to a fcruple and upwards.

PULVIS ASARI COMPOSITUS.

Lond.

Compound powder of Afarabacca.

Take of
Dried leaves of afarabacca,
fweet marjoram,
Syrian herb maftich,
Dried flowers of lavender, of each one ounce.
Powder them together.

PULVIS ASARI COMPOSITUS, vulgo PULVIS STERNUTATORIUS.

Edin.

Compound powder of afarabacca, commonly called *Sternutatory.*

Take of
The leaves of afarum, three parts;
Marjoram,
Lavender flowers, of each one part.
Powder them together.

Though the former of thefe powders be more compound than the latter, yet they differ very little. They are both agreeable and efficacious errhines, and fuperior to moft of thofe ufually fold under the name of *herb fnuff*. They are often employed with great advantage in cafes of obftinate headach, and of opthalmias refifting other modes of cure. Taken under

der the form of snuff to the extent of five or six grains at bed time they will operate the succeeding day as a powerful errhine, inducing frequent sneezing, and a large discharge from the nose. It is, however, necessary, during their operation, to avoid exposure to cold.

PULVIS CERUSSÆ COMPOSITUS.

Lond.

Compound Powder of Ceruse.

Take of
Ceruse, five ounces;
Sarcocoll, an ounce and an half;
Tragacanth, half an ounce.
Powder them together.

This composition is the *Trochisci albi* of Rhazes 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 inflammations.

PULVIS CHELARUM CANCRI COMPOSITUS.

Lond.

Compound Powder of Crabs claws.

Take of
Crabs claws, prepared, one pound;
Chalk,
Red coral, each, prepared, three ounces.
Mix them.

This powder has lost several of its ingredients, without any injury to its virtues; and possibly it would still bear a farther reduction; for the crabs eyes and chalk are by themselves at least as effectual as any composition of them with coral.

PULVIS CONTRAYERVÆ COMPOSITUS.

Lond.

Compound Powder of Contrayerva.

Take of
Contrayerva, powdered, five ounces;
Compound powder of crabs claws, one pound and an half.
Mix them.

This powder was formerly directed to be made up into balls with water, and was then called *Lapis contrayervæ*; a piece of trouble now laid aside 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 preservation; for it is scarcely to be supposed that the powder will lose more by being kept for a reasonable length of time in a close stopt glass, than the balls will from humectation with water, and exsiccation in the air, before they are fit for being put by to keep. This medicine has a very good claim to the title of an elexipharmac and sudorific. The contrayerva by itself proves very serviceable in low fevers, where the vis vitæ is weak, and a diaphoresis to be promoted. It is possible, that the crabs claws are of no farther service than as they divide this powerful ingredient, and make it sit more easily on the stomach.

PULVIS

PULVIS CRETÆ COMPOSITUS.

Lond.

Compound Powder of Chalk.

Take of
Prepared chalk, half a pound;
Cinnamon, four ounces;
Tormentil,
Gum arabic, of each, three ounces;
Long pepper, half an ounce.
Powder them separately, and mix them.

PULVIS CRETACEUS.

Edinb.

Chalk Powder.

Take of
White chalk, prepared, four ounces;
Nutmeg, half a drachm;
Cinnamon, one drachm and an half.
Powder them together.

The addition of the aromatics in the above formulæ, coincides with the general intention of the remedy, which is indicated for weakness and acidity in the stomach; and for looseness from acidity.

PULVIS CRETÆ COMPOSITUS CUM OPIO.

Lond.

Compound Powder of Chalk with Opium.

Take of
Compound powder of chalk, eight ounces;
Hard purified opium, powdered, one drachm and an half.
Mix them.

From the addition of the opium this remedy becomes still more powerful than the above in restraining diarrhœa.

PULVIS IPECACUANHÆ COMPOSITUS.

Lond.

Compound Powder of Ipecacuanha.

Take of
Ipecacuanha,
Hard purified opium, of each, powdered, one drachm;
Vitriolated kali, powdered, one ounce.
Mix them.

PULVIS IPECACUANHÆ COMPOSITUS, vulgo PULVIS DOVERI.

Edin.

Compound Powder of Ipecacuanha, commonly called *Dover's powder.*

Take of
Ipecacuanha,
Purified opium, each one drachm;
Vitriolated lixive, one ounce.
Mix and grind them accurately together, so as to make an uniform powder.

The vitriolated lixive from the grittiness of its crystals, is perhaps better fitted for tearing and dividing the tenacious opium than any other salt; this seems to be its only use in the preparation. The operator ought to be careful that the opium and ipecacuanha be equally diffused through the whole mass of powder, otherwise different portions of the powder must have differences in degree of strength. The hard purified opium, directed by the London college, is, from this circumstance, preferable to opium in its ordinary state, employed by the Edinburgh college.

This

This powder is one of the moſt certain ſudorifics, and as ſuch, was recommended by Dr. Dover as an effectual remedy in rheumatiſm. Modern practice confirms its reputation, not only in rheumatiſm, but alſo in dropſy and ſundry other diſeaſes, where it is often difficult by other means to produce a copious ſweat. The doſe is from five to ten or twelve grains, according as the patient's ſtomach and ſtrength can bear it. It is convenient to avoid much drinking immediately after taking it, otherwiſe it is very apt to be rejected by vomiting before any other effects are produced.

PULVIS JALAPPÆ COMPOSITUS.

Edinb.

Compound Powder of Jalap.

Take of
Jalap root, one ounce;
Cryſtals of tartar, two ounces.
Mix, and diligently grind them together for ſome time, ſo as to form a very fine powder.

The uſe of the cryſtals in this preparation is to break down and divide the jalap into very minute particles, whereby its operation is thought to be meliorated; and on this account the two articles are directed to be pounded together, and not ſeparately. This powder is a uſeful and active purgative, in every caſe where it is neceſſary to produce both a full evacuation of the inteſtinal canal, and a free diſcharge from the ſyſtem in general.

PULVIS MYRRHÆ COMPOSITUS.

Lond.

Compound Powder of Myrrh.

Take of
Myrrh,
Dried ſavin,
Rue,
Ruſſian caſtor, of each, an ounce.
Powder them together.

This is a reformation of the *Trochiſci e myrrha*, a compoſition contrived by Razes againſt uterine obſtructions. From a ſcruple to a drachm of it may be taken in any convenient vehicle, or made into boluſes, twice or thrice a day.

PULVIS OPIATUS.

Lond.

Opiate Powder.

Take of
Hard purified opium, powdered, one drachm;
Burnt and prepared hartſhorn, nine drachms.
Mix them.

The hartſhorn is here intended merely to divide the opium, and to reduce it to the form of powder, which on ſome occaſions is preferable to its being given either in a liquid form or in that of pills. As ten grains of this powder contain preciſely one of the opium, the requiſite doſe may be eaſily adapted to the circumſtances of the caſe. It is often ſucceſsfully employed as a ſweating powder; and has not, like the Pulvis Doveri, the effect of inducing ſickneſs or vomiting.

PULVIS SCAMMONII COMPOSITUS.

Lond.

Compound Powder of Scammony.

Take of
Scammony,
Hard extract of jalap, of each two ounces;
Ginger, half an ounce.
Powder them ſeparately, and mix them.

Edin.

Take of
Scammony,
Cryſtals of tartar, of each two ounces;
Mix, and grind them diligently into a powder.

It is much to be regretted, that in the pharmacopœias publiſhed by authority in Britain, two compoſitions ſhould be diſtinguiſhed by the ſame name, differing conſiderably from each other in their nature and degree of activity.

The compound powder of ſcammony in the former edition of the London pharmacopœias differed conſiderably from the preſent: For there the only addition was calcined hartſhorn, intended merely for the diviſion of the ſcammony. This purpoſe is ſtill better anſwered by the cryſtals of tartar, which at the ſame time conſpire with the operation of the ſcammony as a purgative. But the addition of jalap and ginger, according to the preſent formula of the London pharmacopœia, gives not only a purgative conſiderably different, but alſo increaſes the heating quality of the medicine, while the cream of tartar has an evident refrigerant power. Both may occaſionally be uſeful, but in moſt caſes the Edinburgh formula will be found preferable.

In editions of our pharmacopœias of ſtill older date, this powder was prepared with another very active ingredient, diaphoretic antimony. It was much celebrated, and was diſtinguiſhed by the name of its inventor, being called from its firſt publiſher, *Pulvis Cornachini*. In a former edition of the Edinburgh pharmacopœia it was thus directed to be prepared:

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 drachm or more. In other preſcriptions, the tartar and antimonial calx bear nearly the ſame proportion to the ſcammony as the calcined hartſhorn did in the London pharmacopœia. It appears probable, that neither of theſe ingredients are of any further uſe, than as they divide the texture of the ſcammony: Though Cornachini ſuppoſes very conſiderable 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, though it have no ſenſible operation, he expects ſome ſhare of the ſame ſucceſs which ſometimes attends the rougher preparations of that mineral.

PULVIS

PULVIS SCAMMONII COMPOSITUS CUM ALOE.

Lond.

Compound Powder of Scammony with Aloes.

Take of
Scammony, six drachms;
Hard extract of jalap,
Socotorine aloes, of each an ounce and an half;
Ginger, half an ounce.
Powder them separately, and mix them.

In this formula, the combination of scammony, jalap, and aloes, furnishes a very active purgative, which, with some intentions at least, may be preferable to either of the preceding. From five to ten grains of it operate as a purgative, even in cases of obstinate costiveness.

PULVIS SCAMMONII CUM CALOMELANE.

Lond.

Powder of Scammony with Calomel.

Take of
Scammony, half an ounce;
Calomel,
Double refined sugar, of each two drachms.
Powder them separately and then mix them.

In this formula, we have the scammony in a more simple state, united with such a proportion of calomel as must very considerably aid its purgative power; and accordingly it may be employed with advantage, both in cases of obstinate costiveness, and in dropsical affections, where a considerable discharge is required from the system.

PULVIS SENNÆ COMPOSITUS.

Lond.

Compound Powder of Senna.

Take of
Senna,
Crystals of tartar, of each two ounces;
Scammony, half an ounce;
Ginger, two drachms.
Powder the scammony by itself, and the rest together, then mix them all.

This powder is given as a cathartic, in the dose of two scruples, or a drachm. The spice is 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 senna; the quantity of the latter necessary for a dose, when not assisted by some more powerful material, being too bulky to be conveniently taken in this form.

PULVIS ALUMINIS COMPOSITUS, vulgo PULVIS STYPTICUS.

Edinb.

Compound Powder of alum, commonly called *Styptic Powder.*

Take of
Alum, an ounce and a half;
Gum kino, three drachms.
Powder them together.

In former editions of our pharmacopœia, a powder of this kind was directed to be made with alum and dragon's blood, and was long in repute as an astringent, under the title of *Pulvis stipticus Helvetii.* The gum kino is judiciously substituted for the dragon's blood, as being a much more powerful and certain astringent. The chief use of

of this powder is in hæmorrhagies, especially of the uterus.

PULVIS TRAGACANTHÆ COMPOSITUS.

Lond.

Compound Powder of Tragacanth.

Take of
Tragacanth, powdered,
Gum Arabic,
Starch, of each an ounce and a half;
Double refined sugar, three ounces.
Powder them together.

This composition is somewhat simplified by the rejection of the marsh mallow, and liquorice root, which formerly entered it: But this has not probably produced any diminution of its medical properties. It operates as a mild emollient; and hence becomes serviceable in hectic cases, tickling coughs, strangury, some kinds of alvine fluxes, and other disorders proceeding from acrimony in the intestines. The dose is from half a drachm to two or three drachms, which may be frequently repeated.

PULVIS ANTHELMINTICUS.

Gen.

Anthelmintic Powder.

Take of
Worm seed,
Flowers of tansy, each three drachms;
Sal martis, one drachm.
Mix them.

Both the tansy and worm seed possess a considerable degree of anthelmintic power, which is not a little increased by the salt of steel. And from this combination more effect in the expulsion of worms, particularly of the lumbrici, may be expected, than from any of the articles taken by themselves. This powder may be given to the extent of half a drachm or upwards for a dose, proportioned to the age and circumstances of the patient.

PULVIS DIGESTIVUS.

Suec.

Digestive Powder.

Take of
Bitter purging salts,
Rhubarb, each equal parts.
Mix them.

In this composition, the salt will brisken the operation of the rhubarb as a cathartic, and the astringency of the latter will tend to increase the tone of the stomach: Hence in consequence of evacuating, and at the same time strengthening the alimentary canal, it may be presumed to have considerable influence in promoting digestion.

PULVIS DYSENTERICUS.

Dan.

Dysenteric Powder.

Take of
Rhubarb, one ounce;
Calcined hartshorn, half an ounce;
Gum arabic, three drachms;
Cascarilla bark, two drachms.
Mix them, and reduce them to a very fine powder.

Here the rhubarb is combined with another powerful tonic, the cascarilla; and while the calcined hartshorn serves to neutralise acid, the gum arabic will operate as a demulcent. This composition therefore may be

be very useful in dysenteric cases, after the violence of the disease has been overcome, and when there remains a debilitated and abraded state of the intestinal canal.

PULVIS FUMALIS.

Ross.

Fumigation Powder.

Take of
Olibanum,
Amber,
Mastich, each three parts;
Storax, two parts;
Benzoine,
Labdanum, each one part.
Mix them into a gross powder.

This powder is intended for the purpose of fumigation; and when burnt it gives out a fragrant odour: Hence it may be successfully employed for combating disagreeable smells, and counteracting putrid or other noxious vapours diffused in the atmosphere.

PULVIS INFANTUM.

Suec.

Powder for Infants.

Take of
Magnesia alba, one ounce;
Rhubarb, reduced to a very fine powder, one drachm.
Let them be mixed.

This powder is very useful for destroying acid, and at the same time restoring the diminished tone of the alimentary canal: Hence it is often advantageously employed in cases of diarrhœa, which depend on these morbid conditions; and it is in general a circumstance of considerable advantage, that it does not tend to check looseness very suddenly. It is particularly useful with infants, and hence the origin of the name here affixed to it.

PULVIS NITROSUS.

Suec.

Nitrous Powder.

Take of
Purified nitre, three ounces;
Salt of sorrel, one ounce;
Double refined sugar, ten ounces.
Let them be mixed.

This is a very convenient and agreeable form of exhibiting nitre: For while the sugar serves not only to divide and diffuse it, but also to correct its taste, the salt of sorrel adds to its refrigerant power.

PULVIS THEBAICUS.

Suec.

Thebaic Powder.

Take of
Opium, half a scruple;
Purified nitre, five scruples and a half;
Refined sugar, one ounce.
Mix them together into a powder.

In this powder those inconveniences which sometimes result from opium are corrected, in consequence of the refrigerant power of nitre; and hence it may prove a very useful sedative powder. The sugar is intended merely to give form to the medicine. Each drachm of it contains a grain of opium; so that a practitioner has it in his power easily to regulate the dose according to circumstances.

CHAP.

CHAP. XXVII.

TROCHISCI.

TROCHES.

TROCHES 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, ſo as to paſs by degrees into the ſtomach; and hence theſe preparations have generally a conſiderable proportion of ſugar or other materials grateful to the palate. Some powders have likewiſe been reduced into troches, with a view to their preparation; though poſſibly for no very good reaſons: For the moiſtening, and afterwards drying them in the air, muſt on this account 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 powder for troches.

II.

If the maſs proves ſo glutinous as to ſtick to the fingers in making up, the hands may be anointed with any convenient ſweet or aromatic oil; or elſe ſprinkled with powder of ſtarch, or of liquorice, or with flour.

III.

In order to thoroughly dry the troches, put them on an inverted ſieve, in a ſhady airy place, and frequently turn them.

IV.

Troches are to be kept in glaſs veſſels, or in earthen ones well glazed.

TROCHISCI AMYLI.

Lond.

Troches of Starch.

Take of

Starch, an ounce and an half;
Liquorice, ſix drachms;
Florentine orris, half an ounce;
Double refined ſugar, one pound and a half.

Powder

Powder them, and by means of mucilage of gum tragacanth, make troches.

They may be made, if so chosen, without the orris.

TROCHISCI ARABICI, vulgo TROCHISCI BECHICI ALBI.

Edinb.

Arabic Troches, commonly called *White pectoral Troches.*

Take of

Double refined sugar, one pound;

Gum arabic, four ounces;

Starch, one ounce;

Powder them, and make them into a proper mass with rose water, so as to form troches.

These compositions are very agreeable pectorals, and may be used at pleasure. They are calculated for allaying the tickling in the throat which provokes coughing.

Although the composition in the London and Edinburgh pharmacopœias be somewhat different, yet their effects are very much the same.

TROCHISCI GLYCYRRHIZÆ.

Lond.

Troches of Liquorice.

Take of

Extract of liquorice,

Double refined sugar, of each ten ounces;

Tragacanth, powdered, three ounces.

Make troches by adding water.

TROCHISCI GLYCYRRHIZÆ, vulgo TROCHISCI BECHICI NIGRI.

Edin.

Liquorice Troches, commonly called *Black pectoral Troches.*

Take of

Extract of liquorice,

Gum arabic, each four ounces;

Double refined sugar, eight ounces.

Dissolve them in warm water, and strain; then evaporate the mixture over a gentle fire to a proper consistence for forming troches.

These compositions are designed for the same purposes as the white pectoral troches above described. The dissolving and straining the extract of liquorice and gum arabic, as now ordered in the last of the above prescriptions, is a considerable improvement; not only as they are by that 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 admixture.

TROCHISCI GLYCYRRHIZÆ CUM OPIO, vulgo TROCHISCI BECHICI CUM OPIO.

Edin.

Liquorice Troches with Opium, commonly called *Pectoral Troches with Opium.*

Take of

Pure opium, two drachms;

Tincture of Tolu half an ounce.

Grind the opium with the tincture, till it be thoroughly dissolved, then add by degrees, of

Common

Common syrup, eight ounces;
Extract of liquorice, softened in warm water, five ounces.

While beating them diligently, gradually sprinkle upon the mixture five ounces of powdered gum arabic. Dry them so as to form troches, each weighing ten grains.

These directions for preparing the above troches are so full and particular, that no farther explanation is necessary. Six of the troches prepared in the manner here ordered, contain about one grain of opium. These troches are medicines of approved efficacy in tickling coughs depending on an irritation of the fauces. Besides the mechanical effect of the invisicating matters in involving acrid humours, or aiming and defending the tender membranes, the opium, must, no doubt, have a considerable share, by almost immediately diminishing the irritability of the part themselves.

TROCHISCI NITRI.

Lond.

Troches of Nitre.

Take of
Purified nitre, powdered, four ounces;
Double refined sugar, powdered, one pound;
Tragacanth, powdered, six drachms.

With the addition of water, make troches.

TROCHISCI NITRI.

Edinb.

Troches of Nitre.

Take of
Nitre, purified, three ounces;
Double refined sugar, nine ounces.

Make them into troches with mucilage of gum tragacanth.

This is a very agreeable form for the exhibition of nitre; though, when the salt is thus taken without any liquid (if the quantity be considerable), it is apt to occasion uneasiness about the stomach, which can only be prevented by large dilution with aqueous liquors. The *troches of nitre* have been said to be employed with success in some cases of difficult deglutition.

TROCHISCI SULPHURIS.

Lond.

Troches of Sulphur.

Take of
Washed flowers of sulphur, two ounces;
Double refined sugar, four ounces.

Rub them together; and, with the mucilage of quince seeds, now and then added, make troches.

This composition is to be considered only as an agreeable form for the exhibition of sulphur, no alteration or addition being here made to its virtues.

TROCHISCI CRETÆ.

Lond.

Troches of Chalk.

Take of
Chalk, prepared, four ounces;
Crabs claws, prepared, two ounces;
Cinnamon, half an ounce;
Double refined sugar, three ounces.

Powder them, and add mucilage of gum Arabic, and make troches.

Edin.

Edin.

Take of
Prepared chalk, four ounces;
Gum arabic, one ounce;
Nutmegs one drachm;
Double refined sugar, six ounces;
Powder them, and make them into troches by the addition of water.

TROCHISCI e MAGNESIA.

Lond.

Troches of Magnesia.

Take of
Burnt magnesia, four ounces;
Double refined sugar, two ounces;
Ginger, powdered, one scruple.
With the addition of mucilage of gum Arabic make troches.

These compositions are calculated against the *heartburn*; in which they often give immediate relief, by absorbing and neutralising the acid juices that occasion this disorder. The two former have in general the effect of binding, the latter of opening, the belly; and from this circumstance the practitioner will be determined in his choice, according to the nature of the case.

TROCHISCI CATECHU.

Brun.

Troches of Catechu.

Take of
Catechu, one ounce;
White sugar candy, two ounces;
Ambergris,
Musk, each ten grains;
Mucilage of gum tragacanth, as much as is sufficient.
Make them into troches.

This medicine has long been in esteem as a slight restringent; and restringents thus gradually received into the stomach produce better effects than when an equal quantity is taken down at once. These troches would be more palatable, and perhaps not less serviceable, were the musk and ambergris omitted.

CHAP.

CHAP. XXVIII.

PILULÆ.

PILLS.

TO this form are peculiarly adapted thoſe drugs which operate in a ſmall doſe, and whoſe nauſeous and offenſive taſte or ſmell require them to be concealed from the palate.

Pills diſſolve 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 deſirable; 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.

Gummy reſins, 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, conſerve, or extracts.

Light powders require about half their weight of ſyrup; of honey, about three fourths their weight; to reduce them into a due conſiſtence for forming pills. A drachm of the maſs will make about fifteen pills of a moderate ſize.

General RULES *for making* PILLS.

I.

Gums and inſpiſſated juices, are to be firſt ſoftened with the liquid preſcribed: Then add the powders, and continue beating them thoroughly all together, till they be perfectly mixed.

II.

The maſſes for pills are beſt kept in bladders, which ſhould be moiſtened now and then with ſome of the ſame kind of liquid that the maſs was made up with,

with, or with some proper aromatic oil.

PILULÆ ALOES COMPOSITÆ.

Lond.

Compound Pills of Aloes.

Take of
Socotorine aloes, powdered, one ounce;
Extract of gentian, half an ounce;
Oil of caraway seeds, two scruples;
Syrup of ginger, as much as is sufficient.
Beat them together.

PILULÆ ALOETICÆ.

Edinb.

Aloetic Pills.

Take of
Socotorine aloes, in powder,
Thick extract of gentian, each two ounces;
Make them into a mass with simple syrup.

These pills were formerly directed to be made with Castile soap; from a notion which Boerhaave and some others were very fond of, that soap promoted the solution of resinous and several other substances in the stomach. This, however, seems to be a mistake; and, on the contrary, it is highly probable, that the alkaline part of the soap is in most instances separated from the oily by the acid in the stomach; by which decomposition the soap retards instead of promoting the solution of the aloes. These pills have been much used as laxatives: They are very well suited for the costiveness so often attendant on people of sedentary lives. Like other preparations of aloes, they are also used in jaundice, and in certain cases of obstructed menses. They are seldom used for producing full purging; but if this be required, a scruple or half a drachm of the mass may be made into pills of a moderate size for one dose.

PILULÆ ALOES CUM MYRRHA.

Lond.

Pills of Aloes with Myrrh.

Take of
Socotorine aloes, two ounces;
Myrrh,
Saffron, of each one ounce;
Syrup of saffron, as much as is sufficient.
Powder the aloes and myrrh separately; and afterwards beat all the ingredients together into a mass.

PILULÆ ALOES CUM MYRRHA, vulgo PILULÆ RUFI.

Edin.

Pills of Aloes with myrrh, commonly called *Rufus's Pills.*

Take of
Socotorine aloes, two ounces;
Myrrh, one ounce;
Saffron, half an ounce;
Beat them into a mass with a proper quantity of syrup.

These pills have long continued in practice, without any other alteration than in the syrup with which the mass is made up, and in the proportion of saffron. In our last Pharmacopœia, the syrup of wormwood was ordered, which is here judiciously exchanged by the London College for that of saffron; this preserving and improving the brightness of colour in the medicine, which is the characteristic

aſteriſtic of its goodneſs. The ſaffron, in the compoſition which is attributed to Rufus, is equal in quantity to the myrrh; and in theſe proportions the pill was received in our firſt Pharmacopœia. As the diminution afterwards made in the ſaffron was grounded on very abſurd reaſons, viz "leſt the "former quantity ſhould occaſion a ſpaſmus cynicus,") the London College have now again increaſed it, and reſtored the pill to its original form. The virtues of this medicine may be eaſily underſtood from its ingredients. Theſe 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 ALOES CUM COLOCYNTHIDE vulgo PILULÆ COCCIÆ.

Edin.

Pills of aloes with Colocynth, commonly called *Pilulæ Coccia*.

Take of
- Socotorine aloes,
- Scammony, of each two ounces;
- Sulphureous vitriolated lixive, two drachms;
- Colocynth, one ounce;
- Oil of cloves, two drachms.

Reduce the aloes and ſcammony into a powder with the ſalt; then let the colocynth, beat into a very fine powder, and the oil, be added; laſtly, make it into a proper maſs with mucilage of gum Arabic.

In theſe pills we have a very uſeful and active purgative; and where the ſimple aloetic pill is not ſufficient for obviating coſtiveneſs, this will often effectually anſwer the purpoſe. Little of their activity can depend upon the ſalt which enters the compoſition; but it may aſſiſt in dividing the other articles, particularly the aloes and ſcammony. Theſe pills often produce a copious diſcharge in caſes of obſtinate coſtiveneſs, when taken to the extent only of five or ten grains; but they may be employed in much larger doſes. They are, however, ſeldom uſed with the view of producing proper catharſis. Half a drachm of the maſs contains about five grains of the colocynth, ten of the aloes, and ten of the ſcammony.

PILULÆ CUPRI.

Edin.

Copper Pills.

Take of
- Cuprum ammoniacum, ſixteen grains;
- Bread crumb, four ſcruples;

Water of ammonia, as much as is ſufficient to form them into a maſs, which is to be divided into thirty two equal pills.

These pills had formerly the name of *Pilulæ cæruleæ*, but they are now with greater propriety denominated from the metal which is their baſis.

Each of theſe pills weigh about three grains, and contain ſomewhat more than half a grain of the cuprum ammoniacum. They ſeem to be the beſt form of exhibiting this medicine; for the effects of which, ſee Cuprum Ammoniacum.

PILULÆ

PILULÆ GALBANI COMPOSITÆ.

Lond.

Compound Pills of Galbanum.

Take of
Galbanum,
Opopanax,
Myrrh,
Sagapenum, of each one ounce;
Asafetida, half an ounce;
Syrup of saffron, as much as is sufficient.
Beat them together.

PILULÆ ASAFÆTIDÆ COMPOSITÆ, vulgo PILULÆ GUMMOSÆ.

Edinb.

Compound pills of asafetida, commonly called *Gum pills*.

Take of
Asafetida,
Galbanum,
Myrrh, each one ounce;
Rectified oil of amber, one drachm.
Beat them into a mass with simple syrup.

PILULÆ FŒTIDÆ.

Suec.

Fœtid Pills.

Take of
Asafetida,
Castor, each a drachm and a half;
Salt of amber, half a drachm;
Oil of hartshorn, half a scruple.
Make them into a mass with tincture of myrrh, to be divided into pills of two grains each.

These pills are designed for antihysterics and emenagogues, and are 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 pharmacopœia, 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.

PILULÆ HYDRARGYRI.

Lond.

Quicksilver pills.

Take of
Purified quicksilver, two drachms;
Conserve of roses, three drachms;
Liquorice, finely powdered, one drachm.
Rub the quicksilver with the conserve until the globules disappear; then adding the liquorice powder, mix them together.

PILULÆ HYDRARGYRI, vulgo PILULÆ MERCURIALES.

Edin.

Quicksilver pills, commonly called *Mercurial pills*.

Take of
Quicksilver,
Manna, each one ounce;
Powdered liquorice, two ounces.
Grind the quicksilver with the manna in a glass mortar till the globules disappear, adding occasionally a little mucilage of gum arabic, then add the powdered liquorice, and beat the whole with water into a mass, which is to be immediately divided into four hundred and eighty equal pills.

The quicksilver was formerly directed to be ground with resin of guaiacum

guaiacum and Caſtile ſope. The former was ſuppoſed to coincide with the virtues of the mercury, and the latter was uſed chiefly to divide the globules of mercury; for this laſt intention Doctor Saunders uſed honey: But the ſubſtance here ordered by the Edinburgh college, is the moſt effectual. It is probable that ſomething farther is done in this proceſs than the mere diviſion of the mercurial globules and that part of the quickſilver is as it were amalgamated with the manna. The ſame effect will take place when the pills are prepared with extract of liquorice.

The mercurial pill is one of the beſt preparations of mercury, and may in general ſupercede moſt other forms of this medicine. It is neceſſary to form the maſs immediately into pills, as it ſoon becomes too hard. Sope was undoubtedly a very improper medium for triturating the mercury; it is not only too hard for that purpoſe, but when the preparation entered the ſtomach, the alkaline part of the ſope, being diſengaged by the acid in the compound, the mercury, would in all probability, be immediately ſeparated. The manna and liquorice powder can only be changed by the natural powers of digeſtion, and can never oppreſs the ſtomach. The doſe of the pills is from two to four or ſix in the day, according to the effects we wiſh to produce.

PILULÆ HYDRARGYRI MURIATI MITIS, ſive CALOMELANOS COMPOSITÆ, vulgo PILULÆ PLUMMERI.

Edin.

Pills of mild muriated quickſilver, or *compound pills of calomel*, commonly called *Plummer's pills*.

Take of
Mild muriated quickſilver,
Precipitated ſulphur of antimony, each ſix drachms;
Extract of gentian,
White Spaniſh ſope, each two drachms.

Let the mild muriated quickſilver be triturated with the ſulphur till they be thoroughly mixed, then add the extract and ſope and form a maſs with ſimple ſyrup.

These pills were recommended to the attention of the public near fifty years ago by Dr. Plummer, whoſe name they ſtill bear. He repreſented them in a paper which he publiſhed in the Edinburgh Medical Eſſays, as a very uſeful alterative. The doſe of them is from five to twelve grains twice a day.

PILULÆ OPII.

Lond.

Opium Pills.

Take of
Hard purified opium, two drachms;
Extract of liquorice, one ounce.

Beat them until they are perfectly united.

PILULÆ OPII, five THEBAICÆ vulgo PILULÆ PACIFICÆ.

Edinb.

Pills of opium, or thebaic pills, commonly called *Pacific Pills*.

Take of
Opium, half an ounce;
Extract of liquorice, two ounces;
Caſtile ſope, an ounce and a half;
Jamaica pepper, one ounce.
Soften the opium and extract ſeparately with proof ſpirit, and having beat them into a pulp, mix them; then add the ſope, and the pepper beat into a powder; and laſtly, having beat them well together, form the whole into a maſs.

These two compoſitions, though differing in ſeveral particulars, are yet fundamentally very much the ſame. The firſt is a ſimple opiate, in which every five grains of the maſs contains one of opium; and in the opium alone can we ſuppoſe that the activity of the medicine depends.

Although ſome of the articles, contained in the latter compoſition, may perhaps be ſuppoſed to operate as corrigentia, yet the former compoſition, which is the moſt ſimple, is in general preferable.

Pills ſimilar to the ſecond were contrived by Starkey, and communicated by him to Matthews, under whoſe name they were ſome time ago greatly celebrated. The form here given differs conſiderably from the original, in omitting many ingredients of no great ſervice. Nor indeed are any of the ingredients of much conſequence, except the opium; their quantity being too inconſiderable to anſwer any uſeful purpoſe. Ten grains of the compoſition contain one of opium.

PILULÆ SCILLÆ.

Lond.

Squill pills.

Take of
Freſh dried ſquills, powdered, one drachm;
Ginger, powdered,
Sope, of each three drachms;
Ammoniacum, two drachms;
Syrup of ginger, as much as is ſufficient.
Beat them together.

PILULÆ SCILLITICÆ.

Edin.

Squill Pills.

Take of
Dried root of ſquills, in fine powder, one ſcruple;
Gum ammoniac;
Leſſer cardamom ſeeds, in powder,
Extract of liquorice, each one drachm.
Mix, and form them into a maſs with ſimple ſyrup.

These are elegant and commodious forms for the exhibition of ſquills, whether for promoting expectoration, or with the other intentions to which that medicine is applied. As the virtue of the compound is derived chiefly from the ſquills, the other ingredients are often varied in extemporaneous preſcription.

PILULÆ

PILULÆ RHEI COMPOSITÆ, vulgo PILULÆ STOMACHICÆ.

Edinb.

Compound pills of Rhubarb, commonly called *Stomachic Pills.*

Take of
Rhubarb, one ounce;
Socotorine aloes, six drachms;
Myrrh, half an ounce;
Vitriolated lixive, one drachm;
Essential oil of mint, half a drachm.
Make them into a mass, with a sufficient quantity of syrup of Orange peel.

This pill is intended for moderately warming and strengthening the stomach, and gently opening the belly. A scruple of the mass may be taken twice a day.

PILULÆ BECHERI.

Gen.

Becher's Pill.

Take of
Extract of black hellebore,
Purified myrrh, each one ounce;
Powder of carduus benedictus, two scruples.
Mix them into a mass according to art, to be dried in the air till it be fit for the formation of pills, each weighing one grain.

These pills have been strongly recommended as a most effectual remedy in dropsical cases, and have been alledged to unite an evacuant and tonic power. Hence they have been considered as particularly suited to those cases where remarkable weakness and laxity occurs. Under the hands of Dr. Becher the inventor, they acquired so great reputation, that after a trial in the military hospitals at Paris, the receipt was purchased by the French king, and published by authority. But like many other nostrums, Becher's pill, since its publication, has by no means supported the reputation which it had when kept a secret. The dose is varied according to circumstances, from one to thirty pills in the course of the day.

PILULÆ de GAMBOGIA.

Dan.

Gamboge pills.

Take of
Socotorine aloes,
Extract of black hellebore,
Sweet mercury,
Gamboge, each two drachms;
Distilled oil of juniper, half a drachm;
Syrup of Buckthorn as much as is sufficient for forming a mass of pills.

From the ingredients of which these pills are compoled, they must prove a very powerful purgative. The gamboge, from which they derive their name, is unquestionably a very active purge.

PILULÆ e MERCURIO CORROSIVO ALBO.

Suec.

Pills of corrosive sublimate Mercury.

Take of
Corrosive sublimate,
Purified sal ammoniac, each one scruple;
Distilled water, as much as is sufficient to dissolve them;
Powder of the root of marshmallow, sixteen scruples;
Honey, two drachms.
Mix them into a mass for the formation

mation of pills, each weighing three grains.

Corrosive ſublimate in ſubſtance was long conſidered as being ſo violent in its effects, that it could not with ſafety be taken internally; but for a conſiderable time it has been uſed with advantage under the form of ſolution, either in water or ſpirits. But to both theſe a conſiderable objection occurs from their diſagreeable brakiſh taſte. This objection is however entirely obviated, by reducing the ſolution, after it is formed, to a ſolid maſs, by means of crumb of bread, or any proper powder: And by the aid of a little ſal ammoniac, the ſolution may be made in a very ſmall quantity of water; ſo that leſs of any ſolid intermedium will be ſufficient to bring it to the form of pills. The formula here directed ſeems well ſuited for the purpoſe intended. Each of the pills contains about an eighth of a grain of the corroſive; thus the doſe may be eaſily regulated according to the intention in view. Theſe pills are not unfrequently employed with advantage, both in combating venereal and cutaneous affections, and for the expulſion of worms from the alimentary canal. With the latter of theſe intentions, a ſimilar pill was particularly recommended by Dr. Gardner, in a paper publiſhed in the Edinburgh Phyſical and Literary Eſſays. And although not received into our pharmacopœia, it has been frequently uſed at Edinburgh.

PILULÆ PICEÆ.

Dan.

Tar pills.

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 nevertheleſs a very uſeful addition, not only for procuring it a due conſiſtence, 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 Infirmary, half a drachm of the maſs, made into middle ſized pills is given every morning and evening in diſorders of the breaſt, ſcurvies, &c.

PILULÆ e STYRACE.

Suec.

Storax Pills.

Take of

Strained ſtorax, five ſcruples;
Extract of liquorice, three drachms;
Opium, one drachm.

Let the opium, diſſolved in wine, be added to the other ingredients, ſo as to form a maſs of proper conſiſtence, to be made into pills, each weighing three grains.

These pills are principally active in conſequence of the opium which they contain; and they are chiefly meant with a view to a ſlow ſolution in the ſtomach, and conſequently producing more gradual and laſting effects. One grain of opium is contained in ſeventeen grains of the maſs.

CHAP. XXIX.

ELECTUARIA.

ELECTUARIES.

ELECTUARIES 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.

Electuaries receive chiefly the milder alterative medicines, and ſuch as are not ungrateful to the palate. The more powerful drugs, as cathartics, emetics, opiates, and the like (except in officinal electuaries to be diſpenſed by weight), are ſeldom truſted in this form, on account of the uncertainty of the doſe; diſguſtful ones, acrids, bitters, fetids, cannot be conveniently taken in it; nor is the form of an electuary well fitted for the more ponderous ſubſtances, as mercurials, theſe being apt to ſubſide in keeping, unleſs the compoſition be made very ſtiff.

The lighter powders require thrice their weight of honey, or ſyrup boiled to the thickneſs of honey, to make them into the conſiſtence of an electuary; of ſyrups of the common conſiſtence twice the weight of the powder is ſufficient.

Where the common ſyrups are employed, it is neceſſary to add likewiſe a little conſerve, to prevent the compound from drying too ſoon. Electuaries of Peruvian bark, for inſtance, made up with ſyrup 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 mucilage than with ſyrup, honey, or conſerve. The three latter ſtick about the mouth and fauces, and thus occaſion the taſte of the medicine to remain for a conſiderable time: While 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 inconveniences of the more adheſive ſweets.

The quantity of an electuary, directed at a time, in extemporaneous preſcription, varies much according to its conſtituent parts,

but

but it is rarely less than the size of a nutmeg, or more than two or three ounces.

General rules for making electuaries.

I.

The rules already laid down for decoctions and powders in general, are likewise to be observed in making decoctions and powders for electuaries.

II.

Gums, inspissated juices, and such other substances as are not pulverisable, 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 equal and uniform mixture.

III.

Astringent electuaries, and such as have pulps of fruit in their composition, should be prepared only in small quantities at a time: For astringent medicines lose much of their virtue on being kept in this form, and the pulps of fruits are apt to become sour.

IV.

The superfluous moisture of the pulps should be exhaled over a gentle fire, before the other ingredients are added to them.

V.

Electuaries, if they grow dry in keeping, are to be reduced to a due consistence, with the addition of a little Canary wine, and not with syrup or honey; by this means, the dose will be the least uncertain; a circumstance deserving particular regard, especially in those which contain opium.

ELECTUARIUM CASSIÆ.

Lond.

Electuary of Cassia.

Take of

The fresh extracted pulp of cassia, half a pound;
Manna, two ounces;
Pulp of tamarinds, one ounce;
Rose syrup, half a pound.

Beat the manna, and dissolve it over a slow fire in the rose syrup; then add the pulps; and, with a continued heat, evaporate the whole to the proper thickness of an electuary.

ELECTUARIUM CASSIÆ, vulgo DIACASSIA.

Edinb.

Electuary of Cassia, commonly called *Diacassia.*

Take of

Pulp of cassia fistularis, six ounces;
Pulp of tamarinds,
Manna, each an ounce and a half;
Syrup of pale roses, six ounces;

Having beat the manna in a mortar, dissolve it with a gentle heat in the syrup; then add the pulps, and evaporate them with a regularly continued heat to the consistence of an electuary.

These compositions are very convenient officinals, to serve as a basis for purgative electuaries and other similar purposes. The tamarinds give them a pleasant taste, and do not subject them, as might be expected, to turn sour. After standing for four months, the composition has been found no sourer than when first made. This electuary likewise

wise is usefully taken by itself, to the quantity of two or three drachms occasionally, for gently loosening the belly in costive habits.

ELECTUARIUM SCAMMONII.

Lond.

Electuary of Scammony.

Take of
- Scammony, in powder an ounce and a half;
- Cloves,
- Ginger, of each six drachms;
- Essential oil of caraway seeds, half a drachm;
- Syrup of roses as much as is sufficient.

Mix the spices, powdered together with the syrup; then add the scammony, and lastly the oil of caraway.

This electuary is a warm, brisk purgative. It is a reform of the *Electuarium caryocostinum* 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 drachm and a half of this, which contains fifteen grains of scammony, is equivalent to half an ounce of the other.

ELECTUARIUM SENNÆ.

Lond.

Electuary of Senna.

ELECTUARIUM SENNÆ, vulgo ELECTUARIUM LENITIVUM.

Edin.

Electuary of Senna, commonly called *Lenitive electuary.*

Take of
- Senna, eight ounces;
- Figs, one pound;
- Pulp of tamarinds,
  - of cassia,
  - of prunes, each half a pound;
- Coriander seeds, four ounces;
- Liquorice, three ounces;
- Double refined sugar, two pounds and an half.

Powder the senna with the coriander seeds, and sift out ten ounces of the mixt powder. Boil the remainder with the figs and liquorice, in four pints of distilled water, to one half; then press out and strain the liquor. Evaporate this strained liquor to the weight of about a pound and an half; then add the sugar, and make a syrup; add this syrup by degrees to the pulps, and lastly mix in the powder.

This electuary, is now freed from some superfluous ingredients which were left in it at former revisals; viz. polypody root French mercury leaves, fenugreek seeds, and lintseed.

It is a very convenient laxative, and has long been in common use among practitioners. Taken to the quantity of a nutmeg or more, as occasion may require, it is an excellent laxative for loosening the belly in costive habits.

ELECTUARIUM CATECHU, vulgo CONFECTIO JAPONICA.

Edinb.

Electuary of Catechu, commonly called *Japonic Confection.*

Take of
- Extract of catechu, four ounces;
- Gum kino, three ounces;
- Cinnamon,
- Nutmeg, each one ounce:
- Opium diffused in a sufficient quantity

quantity of Spaniſh white wine, one drachm and a half;
Syrup of dried roſes boiled to the conſiſtence of honey, two pounds and a quarter.
Mix and make them into an electuary.

The ingredients in this electuary are extremely well choſen, and are ſo proportioned to one another, that the quantity of opium is the ſame as in the diaſcordium of the former Edinburgh pharmacopœias viz. one grain in ten ſcruples. The gum kino, now ſubſtituted for the tormentil root, is an excellent improvement of the formula.

ELECTUARIUM JOVIALE.

Brun.

Tin Electuary.

Take of
Pure tin,
Quickſilver, each one ounce.
Let them be formed into an amalgam.
Oyſter ſhells, prepared, one ounce;
Reduce the whole to a powder.
Take of
This powder,
Conſerve of wormwood, each one ounce, and form an electuary with ſyrup of mint.

Tin, as we have already had occaſion to obſerve under the article Stannum Pulveriſatum, has long been celebrated for the expulſion of tænia. And it is alſo well known, that in mercury we have one of the moſt powerful anthelmintics. Such a combination as the preſent then, might be ſuppoſed well ſuited, for the removal of worms from the alimentary canal; and accordingly it has been alleged, that this electuary has ſometimes ſucceeded after other remedies have failed. It may be taken twice a day to the extent of two or three drachms for a doſe.

ELECTUARIUM GINGIVALE.

Suec.

Electuary for the Gums.

Take of
Powdered myrrh, three drachms;
Cream of tartar,
Cochineal, each a drachm and a half.
Grind them together in a glaſs mortar; then add
Melted honey four ounces;
Cloves, in powder, one drachm.

Myrrh, particularly under the form of tincture has long been a favourite application to the gums, when in a ſpongy or ulcerated ſtate; but the ſpirituous menſtruum there employed, although ſometimes favouring the intention in view, in other inſtances occurs as an objection to its uſe. In theſe caſes, the benefit to be derived from the myrrh may be obtained from this electuary which may always be applied with ſafety, and ſometimes with advantage.

ELECTUARIUM e MANNA.

Suec.

Electuary of Manna.

Take of
Manna,
Refined ſugar, pounded,
Fennel water, each two ounces.
Strain the mixture, uſing expreſſion; then add,
Fine powder of the root of florentine orris, one drachm;
Freſh drawn almond oil, one ounce.

In

In this electuary we have a gently emollient laxative, which is very useful in these cases, where obstipation either arises from indurated feces, or is supported by that cause; but its cathartic powers are by no means considerable.

ELECTUARIUM NITROSUM.

Gen.

Nitrous Electuary.

Take of

Purified nitre, half an ounce;

Conserve of roses, four ounces.

Mix them.

Under this formula, nitre may be introduced to a considerable extent, without offending the stomach, while at the same time its refrigerant power is combined with the astringency of the roses. From these circumstances it may be advantageously employed in different cases, but particularly in instances of hæmoptysis.

ELECTUARIUM TEREBINTHINATUM.

Suec.

Terebinthinate Electuary.

Take of

Spirit of turpentine, half an ounce;

Honey, one ounce;

Powder of liquorice, as much as is sufficient for the formation of an electuary.

Under this form, the oil of turpentine may be introduced with less uneasiness, than perhaps under almost any other; and it may thus be employed for different purposes, but particularly with a view to its diuretic power. It has been especially celebrated for the cure of obstinate rheumatisms, and above all, for that modification of rheumatism which has the name of *sciatica*, and which is found in many instances, obstinately to resist other modes of cure.

LINCTUS LENIENS.

Suec.

Lenient Linctus.

Take of

Gum arabic, bruised, two drachms;

Cherry water, half an ounce.

By trituration in a mortar, mix with them,

Almond oil, fresh drawn,

Syrup of almonds, each seven ounces.

In this we have a very agreeable emollient linctus, highly useful in recent catarrhal affections, for lubricating the throat and sauces. It may be taken at pleasure to any extent that the stomach may easily bear.

CHAP. XXX.

CONFECTIONES.

CONFECTIONS.

ALTHOUGH the London college have ſeparated theſe from electuaries, yet they differ ſo little that in moſt pharmacopœias they are ranked under the ſame head. But as no inconvenience ariſes from the ſeparation; and as we have followed the order of the London pharmacopœia in other particulars, it would be improper to deviate from it in this.

CONFECTIO AROMATICA.

Lond.

Aromatic Confection.

Take of

Zedoary, in coarſe powder,
Saffron, of each half a pound;
Diſtilled water, three pints.

Macerate for twenty four hours; then preſs and ſtrain. Reduce the ſtrained liquor, by evaporation, to a pint and a half, to which add,

Compound powder of crabs claws, ſixteen ounces;
Cinnamon,
Nutmegs, of each two ounces;
Cloves, one ounce;
Smaller cardamom ſeeds, half an ounce;
Double refined ſugar, two pounds.

Make a confection.

THIS confection is compoſed of the more unexceptionable ingredients of a compoſition formerly held in great eſteem, and which was called, from its author, CONFECTIO RALEIGHANA. The original confection was compoſed of no leſs than five and twenty ingredients.

The confection, as now reformed, is a ſufficiently grateful and moderately warm cordial; and frequently given with that intention, in doſes of from eight or ten grains to a ſcruple or upwards, in boluſes or draughts. The formula might perhaps be ſtill more ſimplified without any loſs. The crabs claw powder does not appear to be very neceſſary, and is inſerted rather in compliance with the original, than from its contributing any thing to the intention of the medicine; and the following formula of the Edinburgh pharmacopœia ſeems preferable to that of the

the London, even in its preſent improved ſtate.

ELECTUARIUM AROMATICUM, vulgo CONFECTIO CARDIACA.

Edinb.

Aromatic Electuary, commonly called *Cordial Confection.*

Take of
- Aromatic powder, three ounces;
- Syrup of orange peel, boiled to the conſiſtency of honey, ſix ounces.

Mix them by rubbing them well together ſo as to form an electuary.

In the above ſimple and elegant formula, a number of trifling ingredients are rejected, and thoſe ſubſtituted in their place are medicines of approved efficacy. This preparation is therefore an uſeful remedy for the purpoſes expreſſed in its title.

CONFECTIO OPIATA.

Lond.

Confection of Opium.

Take of
- Hard purified opium, powdered, ſix drachms;
- Long pepper,
- Ginger,
- Caraway ſeeds, of each two ounces;
- Syrup of white poppy, boiled to the conſiſtence of honey, three times the weight of the whole.

Mix the purified opium carefully with the ſyrup gently heated: Then add the reſt, rubbed to powder.

ELECTUARIUM OPIATUM, vulgo ELECTUARIUM THEBAICUM.

Edinb.

Opiate Electuary, commonly called *Thebaic Electuary.*

Take of
- Aromatic powder, ſix ounces;
- Virginian ſnake root, in fine powder, three ounces;
- Purified opium diffuſed in a ſufficient quantity of Spaniſh white wine, half an ounce;
- Clarified honey, thrice the weight of the powders.

Mix them, and form an electuary.

These compoſitions conſiſt of very powerful ingredients, and are doubtleſs capable of anſwering every end that can be reaſonably expected from the more voluminous Theriaca of Andromachus. The London college alſo had formerly their Theriac compoſed of the leſs exceptionable ingredients of Andromachus's. But as theſe medicines have for a long time been chiefly employed for external purpoſes, by the way of cataplaſm, *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 theriacs are at preſent ſo much regarded as they have been heretofore; practitioners having introduced in their room extemporaneous boluſes of Virginian ſnake root, 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

With regard to the quantity of opium in the foregoing compositions, one grain of it is contained in thirty six grains of the *Confectio opiata*, and in a drachm of the *Electuarium opiatum*. The proportion of opium will vary a little, according to the time that they have been kept; their moisture by degrees exhaling, so 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 each other.

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 electuaries, is, that it may be more uniformly mixed with the rest.

These compositions fully supply the place of two articles, which though long banished from the shops, we shall here subjoin; as examples of the amazing height to which composition in medicine had at one time proceeded.

MITHRIDATUM, five CONFECTIO DEMOCRATIS.

Mithridate, or the confection of Democrates.

Take of
Cinnamon, fourteen drachms;
Myrrh, eleven drachms;
Agaric,
Indian nard,
Ginger,
Saffron,
Seeds of mithridate mustard,
Frankincense,
Chio turpentine, each ten drachms;
Camels hay,
Costus, or in its stead, Zedoary,
Indian leaf, or in its stead, Mace,
Stechas,
Long pepper,
Hartwort seeds,
Hypocistis,
Storax strained,
Opoponax,
Galbanum strained,
Opobalsam, or in is stead, expressed oil of nutmegs,
Russian castor, each one ounce:
Poley mountain,
Scordium,
Carpobalsam, or in its stead, Cubebs,
White pepper,
Candy carrot seed,
Bdellium strained, each seven drachms;
Celtic nard,
Gentian root,
Dittany of Crete,
Red roses,
Macedonian parsley seed,
Lesser Cardamom seeds husked,
Sweet fennel seed,
Gum Arabic,
Opium strained, each five drachms;
Calamus aromaticus,
Wild valerian root,
Aniseed,
Sagapenum, strained, each three drachms;
Meum athamanticum,
St. John's wort,
Acacia, or in its stead, Terra Japonica,
Bellies of skinks, each two drachms and a half.

Clarified

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 opobalſam (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 ſpices reduced into powder.

THERIACA ANDROMACHI.

Theriaca of Andromachus, or Venice Treacle.

Take of
- Troches of ſquills, half a pound,
- Long pepper,
- Opium, ſtrained,
- Vipers, dried, each three ounces;
- Cinnamon,
- Opobalſam, or in its ſtead, expreſſed oil of nutmegs, each two ounces;
- Agaric,
- Florence orris root,
- Scordium,
- Red roſes,
- Navew ſeeds,
- Extract of liquorice, each an ounce and a half;
- Indian nard,
- Saffron,
- Amomum,
- Myrrh,
- Coſtus, or in its ſtead, Zedoary,
- Camel's hay, each one ounce;
- Cinquefoil root,
- Rhubarb,
- Ginger,
- Indian leaf, or in its ſtead, Mace,
- Dittany of Crete,
- Horehound leaves,
- Calamint leaves,
- Stœchas,
- Black pepper,
- Macedonian parſley ſeed,
- Olibanum,
- Chio turpentine,
- Wild valerian root, each ſix drachms,
- Gentian root,
- Celtic nard,
- Spignel,
- Foley mountain, St. John's wort, Groundpine leaves,
- Germander tops with the ſeed,
- Carpobalſam, or in its ſtead, Cubebs,
- Aniſeed,
- Sweet fennel ſeed,
- Leſſer cardamom ſeeds, huſked,
- Biſhop's weed, Hartwort, Treacle muſtard ſeeds,
- Hypociſtis,
- Acacia, or in its ſtead, 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 ſeed,
- Opopanax,
- Galbanum, ſtrained,
- Ruſſia caſtor,
- Jews pitch, or in its ſtead, white amber prepared,
- Calamus aromaticus, each two drachms;
- Clarified honey, thrice the weight of all the other ingredients.

Let theſe ingredients be mixed together, after the ſame manner as directed

directed in making the mithridate.

These celebrated electuaries are often mentioned by medical writers, and may serve as examples of the wild exuberance of composition which the superstition of former ages brought into vogue. The theriaca is a reformation of the 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 consist in its being a most powerful preservative against all kinds of venom; whoever took a proper quantity in a morning, was ensured from being poisoned during that whole day: This was confirmed by the example of its supposed inventor, who, as Celsus informs us, was by its constant use so fortified against the commonly reputed poisons, that none of them would have any effect upon him; 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 simples, they were under perpetual alarms from an apprehension of poisons, and busied 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 antient physicians; yet it does not appear that they were acquainted with any real poison except the cicuta, aconitum, and bites of venomous animals; and for 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 simples into one form could make a remedy against all diseases.

CHAP.

CHAP. XXXI.

AQUÆ MEDICATÆ.

MEDICATED WATERS.

WE have already taken notice of many articles which are either diſſolved in water, or communicate their virtues to it. And in one ſenſe of the word, theſe may be called *medicated waters*. Sometimes this impregnation is effected by the aid of heat, ſometimes without it, and thus are formed decoctions, infuſions, and the like. But among thoſe articles referred to in this chapter, there takes place mere watery ſolution only, and they are uſed ſolely with the intention of acting topically in the way of lotion, injection, or at the utmoſt of gargarism.

AQUA ALUMINIS COMPOSITA.

Lond.

Compound Alum water.

Take of
Alum,
Vitriolated zinc, of each half an ounce;
Boiling diſtilled water, two pints.

Pour the water on the ſalts in a glaſs veſſel, and ſtrain.

This water was long known in our ſhops under the title of *Aqua aluminoſa Bateana.*

Bates directed the ſalts to be firſt powdered and melted over the fire; but this is needleſs trouble, ſince 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 ſometimes likewiſe employed as a collyrium; and as an injection in the gonorrhœa and fluor albus, when not accompanied with virulence.

AQUA

AQUA CUPRI AMMONIATI.

Lond.

Water of ammoniated Copper.

Take of
Lime water, one pint;
Sal ammoniac, one drachm.
Let them ſtand together, in a copper veſſel, till the ammonia, be ſaturated, with copper.

This water is at preſent pretty 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 ſmall.

This preparation directed by the London college is much inferior to the *Aqua Æruginis ammoniatæ* of the Edinburgh pharmacopœia mentioned in page 420.

AQUA LITHARGYRI ACETATI COMPOSITA.

Lond.

Compound Water of acetated Litharge.

Take of
Acetated water of litharge, two drachms;
Diſtilled water two pints;
Proof ſpirit, two drachms.
Mix the ſpirit with the acetated water of litharge; then add the diſtilled water.

This liquor is of the ſame nature with ſolutions of *ſaccharum ſaturni*, and is analogous to the Vegeto mineral water of Mr. Goulard. It is only uſed externally, as a coſmetic againſt cutaneous eruptions, redneſs, inflammation, &c.

AQUA ZINCI VITRIOLATI CUM CAMPHORA.

Lond.

Water of vitriolated Zinc with Camphor.

Take of
Vitriolated zinc, half an ounce;
Camphorated ſpirit, half an ounce by meaſure;
Boiling water two pints.
Mix, and filter through paper.

This is an improved method of forming the *Aqua vitriolica camphorata* of the former editions of the London pharmacopœia. It is uſed externally as a lotion for ſome ulcers, particularly thoſe in which it is neceſſary to reſtrain a great diſcharge. It is alſo not unfrequently employed as a collyrium in ſome caſes of ophthalmia, where a large diſcharge of watery fluid takes place from the eyes with but little inflammation; but when it is to be applied to this tender organ, it ought at firſt, at leaſt, to be diluted by the addition of more water.

AQUA ZINCI VITRIOLATA, vulgo AQUA VITRIOLICA.

Edin.

Vitriolated Water of Zinc, commonly called *Vitriolic Water*.

Take of
Vitriolated zinc, ſixteen grains;
Water, eight ounces;
Diluted vitriolic acid, ſixteen drops.
Diſſolve the vitriolated zinc in the water

water, and then adding the acid, ſtrain through paper.

Where the eyes are watery or inflamed, this ſolution of vitriolated zinc is a very uſeful application: The ſlighter inflammations will frequently yield to this medicine, without any other aſſiſtance: In the more violent ones, veneſection and cathartics are to be premiſed to its uſe.

CHAP. XXXII.

EMPLASTRA.

PLASTERS.

PLASTERS are compoſed chiefly 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 fingers; that it may be ſoft and pliable in a low degree of heat, and that by the warmth 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 conſiſtence of plaſters, according to the purpoſes they are to be applied to: Thus, ſuch as are intended for the breaſt and ſtomach ſhould be very ſoft and yielding; while thoſe deſigned for the limbs are made firmer and more adheſive. 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 likewiſe be made of reſins, gummy reſins, &c. without wax, eſpecially in extemporaneous preſcription: For officinals theſe compoſitions are leſs proper, as they ſoon grow too ſoft 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 fluid ſtate: Much leſs can plaſters, made with ſuch oils, re-

ceive

ceive 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 on the addition of hot water, if the plaſter be extremely hot.

EMPLASTRUM AMMONIACUM HYDRARGYRO.

Lond.

Ammoniacum Plaſter with Quickſilver.

Take of
- Strained ammoniacum, one pound.
- Purified quickſilver, three ounces;
- Sulphurated oil, one drachm, or what is ſufficient.

Rub the quickſilver with the ſulphurated oil until the globules diſappear; then add by a little at a time, the melted ammoniacum, and mix them.

This is a very well contrived mercurial plaſter. The ammoniacum in general affords a good baſis for the application of the mercury. In ſome caſes, however, it is not ſufficiently adheſive; but this inconvenience may be remedied by the addition of a ſmall quantity of turpentine.

EMPLASTRUM CANTHARIDIS.

Lond.

Plaſter of Spaniſh Flies.

Take of
- Spaniſh flies, finely powdered, one pound;
- Wax plaſter, two pounds;
- Prepared hogs lard, half a pound.

Having melted the plaſter and lard, ſprinkle in the flies, reduced to a very fine powder a little before they coagulate.

EMPLASTRUM CANTHARIDUM, vulgo VESICATORIUM.

Edinb.

Plaſter of Spaniſh flies, commonly called *Bliſtering plaſter.*

Take of
- Mutton ſuet,
- Yellow wax,
- White reſin,
- Spaniſh flies each equal weights.

Beat the Spaniſh flies into a fine powder, and add them to the other ingredients, previouſly melted, and removed from the fire.

Both theſe formulæ are very well ſuited to excite bliſters; for both are of a proper conſiſtence, and ſufficient degree of tenacity, which are here the only requiſites. Catharides of good quality, duly applied to the ſkin, never fail of producing bliſters. When, therefore, the deſired effect does not take place, it is to be aſcribed to the flies either being faulty at firſt, or having their activity afterwards

wards deſtroyed by ſome accidental circumſtance; ſuch as too great heat in forming, or in ſpreading the plaſter. When due attention is paid to theſe particulars, the ſimple compoſitions now introduced anſwer the purpoſe better than thoſe compound plaſters with muſtard ſeed, black pepper, vinegar, verdigris, &c. which had formerly a place in our pharmacopœias. It is not however improbable, that the pain of bliſtering plaſters might be conſiderably diminiſhed by the addition of a portion of opium, without preventing the good effects otherwiſe to be derived from them.

EMPLASTRUM CERÆ COMPOSITUM.

Lond.

Compound Wax plaſter.

Take of
Yellow wax,
Prepared mutton ſuet, of each three pounds;
Yellow reſin, one pound.
Melt them together, and ſtrain the mixture while it is fluid.

EMPLASTRUM SIMPLEX, five EMPLASTRUM CEREUM.

Edinb.

Simple, or *Wax plaſter.*

Take of
Yellow wax, three parts;
Mutton ſuet,
White reſin, each two parts.
Melt them together into a plaſter.

This plaſter had formerly the title of *Emplaſtrum attrahens*, and was chiefly employed as a dreſſing after bliſters, to ſupport ſome diſcharge; and is a very well contrived plaſter for that purpoſe. Sometimes however it irritates too much on account of the reſin; and hence, 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 dreſſing bliſters: Their conſiſtence makes them ſit uneaſy, and their adheſiveneſs renders the taking them off painful. Cerates, which are ſofter and leſs adheſive, appear much more eligible: The *Ceratum ſpermatis cæti* will ſerve for general uſe; and for ſome particular purpoſes, the *Ceratum reſinæ flavæ* may be applied.

EMPLASTRUM CUMINI.

Lond.

Cummin plaſter.

Take of
Cummin ſeeds,
Caraway ſeeds,
Bay berries, of each three ounces;
Burgundy pitch, three pounds;
Yellow wax, three ounces.
Melt the pitch and wax together and mix with them the reſt of the ingredients, powdered, and make a plaſter.

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 flatulences: But it is a matter of great doubt, whether it derives any virtue either from the article from which it is named, or from the caraway ſeeds or bay berries which enter its compoſition.

EMPLASTRUM

EMPLASTRUM ASÆFŒTIDÆ, vulgo EMPLASTRUM ANTIHYSTERICUM.

Edinb.

Plaſter of Aſafetida, commonly called *Antihyſteric plaſter.*

Take of
- Litharge plaſter,
- Aſafetida, ſtrained, each two parts;
- Yellow wax,
- Strained galbanum, each one part.

Mix them melted with a gentle heat and make them into a plaſter.

THIS plaſter is applied to the umbilical region, or over the whole abdomen, in hyſteric caſes; and ſometimes with good effect; but probably more from its effect as giving an additional degree of heat to the part, than from any influence derived from the fetid gums. It has indeed been alleged, that from the application of this plaſter to the abdomen, the taſte of aſafetida can be diſtinctly perceived in the mouth; and it is not improbable, that ſome abſorption of its active parts may take place by the lymphatic veſſels of the ſurface: while, at the ſame time, the aſafetida thus applied muſt conſtantly, in ſome degree, act on the nerves of the noſe. But, in both theſe ways, its influence can be inconſiderable only; and much more effect may be obtained from a very ſmall quantity taken internally.

EMPLASTRUM LADANI COMPOSITUM.

Lond.

Compound Ladanum plaſter.

Take of
- Ladanum, three ounces:
- Frankincenſe, one ounce;
- Cinnamon, powdered,
- Expreſſed oil of mace, of each half an ounce;
- Eſſential oil of mint, one drachm.

To the melted frankincenſe add firſt the ladanum, ſoftened by heat; then the oil of mace. Mix theſe afterwards with the cinnamon and oil of mint, and beat them together in a warm mortar, into a plaſter. Let it be kept in a cloſe veſſel.

THIS has been conſidered as 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 fit for keeping) and to be but moderately adheſive, ſo as not to offend the ſkin, and that it may without difficulty be frequently renewed; which theſe ſorts of applications, in order to their producing any conſiderable effect, require to be.

EMPLASTRUM LITHARGYRI.

Lond.

Litharge plaſter.

Take of
- Litharge, in very fine powder, five pounds.
- Olive oil, a gallon;
- Water two pints.

Boil them with a ſlow fire, conſtantly ſtirring until the oil and litharge unite, and have the conſiſtence

consistence of a plaster. It will be proper to add more boiling water, if the water that was first added be nearly consumed before the end of the process.

EMPLASTRUM LITHARGYRI, vulgo EMPLASTRUM COMMUNE.

Edinb.

Litharge plaster, commonly called *Common plaster*.

Take of
Litharge, one part;
Oil olive, two parts.
Boil them, adding water, and constantly stirring the mixture till the oil and litharge be formed into a plaster.

The heat in these processes should be gentle, and the matter kept constantly stirring, otherwise it swells up, and is apt to run over the vessel. If the composition proves discoloured, the addition of a little white lead and oil will improve the colour.

These plasters, which have long been known under the name of *Diachylon*, are the common application in excoriations of the skin, slight flesh 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, however, is by no means allowable, not only as it does not stick so well, but likewise as the lard is apt to grow rancid and acrimonious. The counterfeit is distinguishable by the eye.

EMPLASTRUM LITHARGYRI COMPOSITUM.

Lond.

Compound Litharge plaster.

Take of
Litharge plaster, three pounds;
Strained galbanum, eight ounces;
Turpentine, ten drachms;
Frankincense, three ounces.
The galbanum and turpentine being melted with a slow fire, mix with them the powdered frankincense, and afterwards the litharge plaster melted with a very slow fire, and make a plaster.

EMPLASTRUM GUMMOSUM.

Edinb.

Gum plaster.

Take of
Litharge plaster, eight parts;
Gum ammoniacum, strained,
Strained galbanum,
Yellow wax, each one part.
Melt them together, and make them into a plaster.

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; but it is very doubtful whether they derive any advantage from the gums entering their composition.

EMPLASTRUM

EMPLASTRUM LITHARGYRI CUM HYDRARGYRO.

Lond.

Litharge plaster with Quicksilver.

Take of
Litharge plaster, one pound;
Purified quicksilver, three ounces;
Sulphurated oil, one drachm, or what is sufficient
Make the plaster in the same manner as the ammoniacum plaster with quicksilver.

EMPLASTRUM HYDRARGYRI, vulg. CERULEUM.

Edinb.

Quicksilver or mercurial plaster, commonly called *blue Plaster.*

Take of
Olive oil,
White resin, each one part;
Quicksilver, three parts;
Litharge plaster, six parts.
Melt the oil and resin together, and when this mixture is cold, let the quicksilver be rubbed with it till the globules disappear; then add by degrees the litharge plaster, melted, and let the whole be accurately mixed.

These mercurial plasters are considered as powerful resolvents and discutients, acting with much greater certainty for 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, tophi and beginning indurations of the glands, are said sometimes to yield to them.

EMPLASTRUM LITHARGYRI CUM RESINA.

Lond.

Litharge plaster with Resin.

Take of
Litharge plaster, three pounds;
Yellow resin, half a pound.
To the litharge plaster, melted with a very slow fire, add the powdered resin; mix them well, and make a plaster.

EMPLASTRUM RESINOSUM, vulgo EMPLASTRUM ADHÆSIVUM.

Edinb.

Resinous plaster, commonly called *Sticking plaster.*

Take of
Common plaster, five parts;
White resin, one part.
Melt them together and make a plaster.

These plasters are chiefly used as adhesives for keeping on other dressings, &c.

EMPLASTRUM PICIS BURGUNDICÆ COMPOSITUM.

Lond.

Compound Burgundy Pitch plaster.

Take of
Burgundy pitch, two pounds;
Ladanum, one pound;
Yellow resin,
Yellow wax, of each four ounces;
Expressed oil, of mace, one ounce.
To the pitch, resin, and wax, melted together, add first the ladanum,

ladanum, and then the oil of mace.

This plaſter was at one time much celebrated under the title of *Emplaſtrum cephalicum*, the name which it formerly held in our pharmacopœias. It was applied in weakneſs or pains of the head, to the temples, forehead, &c. and ſometimes likewiſe 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 ſo acrid as to corrode the cuticle: But it is probable, that this was much more the effect of the Burgundy pitch than of any other part of the compoſition; for when applied to very tender ſkin, it often produces even veſication, and in moſt inſtances operates as a rubefacient or emplaſtrum calidum: And as far as it has any good effect in headach, it is probable that its influence is to be explained on this ground.

EMPLASTRUM SAPONIS.

Lond.

Sope plaſter.

Take of
Sope, half a pound;
Litharge plaſter, three pounds;
Mix the ſope with the melted litharge plaſter, and boil them to the thickneſs of a plaſter.

EMPLASTRUM SAPONACEUM.

Edinb.

Saponaceous Plaſter.

Take of
Litharge plaſter, four parts;
Gum plaſter, two parts;
Caſtile ſope, ſcraped, one part.
To the plaſters, melted together, add the ſope; then boil for a little, ſo as to form a plaſter.

These plaſters have been ſuppoſed to derive a reſolvent power from the ſope; and in the laſt, the addition of the gums is ſuppoſed to promote the reſolvent virtue of the ſope: But it is a matter of great doubt, whether they derive any material advantage from either addition.

EMPLASTRUM THURIS COMPOSITUM.

Lond.

Compound Frankincenſe plaſter.

Take of
Frankincenſe, half a pound;
Dragon's blood, three ounces;
Litharge plaſter, two pounds.
To the melted litharge plaſter add the reſt, powdered.

This plaſter had formerly in the London pharmacopœia the title of *Emplaſtrum roborans*, and is a reformation of the complicated and injudicious compoſition deſcribed in former pharmacopœias, under the title of *Emplaſtrum ad herniam*. Though far the moſt elegant and ſimple, it 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 ſervice; though, perhaps, not ſo much from any ſtrengthening

ing 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 aſtringe, the unctuous ingredients neceſſary in their compoſition counteracting and deſtroying the effect of the others.

EMPLASTRUM LITHARGYRI COMPOSITUM, vulgo EMPLASTRUM ROBORANS.

Edinb.

Compound Litharge plaſter, commonly called *ſtrengthening Plaſter*.

Take of
- Litharge plaſter, twenty four parts;
- White reſin, ſix parts;
- Yellow wax,
- Oil olive, each three parts;
- Burnt vitriolated iron eight parts.

Grind the colcothar with the oil, and then add it to the other ingredients previouſly 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. It is alſo uſed in weakneſſes of the large muſcles, as of the loins; and its effects ſeem to proceed from the artificial mechanical ſupport given to the part, which may alſo be done by any other plaſter that adheres with equal firmneſs.

EMPLASTRUM de BELLADONNA.

Brun.

Deadly Night ſhade Plaſter.

Take of
- The juice of the recent herb of belladonna,
- Lintſeed oil, each nine ounces;
- Yellow wax, ſix ounces;
- Venice turpentine, ſix drachms;
- Powder of the herb of belladonna two ounces.

Let them be formed into a plaſter according to art.

There can be no doubt, that the belladonna, externally applied, has a very powerful influence, both on the nerves and blood veſſels of the part; and thus it has very conſiderable effect both on the circulation and ſtate of ſenſibility of the part, and when applied under the form of this plaſter, eſpecially in affections of the mammæ and ſcrotum, it has been ſaid to have very powerful influence in alleviating pain, in diſcuſſing tumours, and in promoting a favourable ſuppuration.

EMPLASTRUM ad CLAVOS PEDUM.

Dan.

Corn Plaſter.

Take of
- Galbanum, diſſolved in vinegar, and again inſpiſſated, one ounce;
- Pitch, half an ounce;
- Diachylon, or common plaſter, two drachms.

Let them be melted together; and then mix with them,
- Verdigris, powdered,
- Sal ammoniac, each one ſcruple;

And make them into a plaſter.

Of

Of this plaſter, as well as the former, we can ſay nothing from our own experience. It has been celebrated for the removal of corns, and for alleviating the pain which they occaſion; and it is not improbable that it may ſometimes have a good effect from the corroſive articles which it contains: But in other caſes from this very circumſtance, it may tend to aggravate the pain, particularly in the firſt inſtance.

EMPLASTRUM e CONIO.

Suec.

Hemlock plaſter.

Take of
- Yellow wax, half a pound;
- Oil olive, four ounces;
- Gum ammoniacum, half an ounce;

After they are melted together, mix with them,
- Powdered herb of hemlock, half a pound.

This correſponds very nearly with the Emplaſtrum de cicuta cum ammoniaco, which had formerly a place in our pharmacopœias, and was ſuppoſed to be a powerful cooler and diſcutient, and to be particularly ſerviceable againſt ſwellings of the ſpleen and diſtentions of the hypochondria. For ſome time paſt, it has been among us entirely neglected: but the high reſolvent power Dr. Stoerk has diſcovered in Hemlock, and which he found it to exert in this as well as in other forms, intitle it to farther trials. The plaſter appears very well contrived, and the additional ingredients well choſen for aſſiſting the efficacy of the hemlock.

EMPLASTRUM CORROSIVUM.

Gen.

Corroſive Plaſter.

Take of
- Corroſive ſublimate mercury, half a drachm;
- Hog's lard, half an ounce;
- Yellow wax, two drachms.

Mix them according to art.

There can be no doubt that the hydrargyrus muriatus here employed is a very powerful corroſive; and there may be ſome caſes in which it is preferable to other articles of the tribe of cauſtics: But this would ſeem to be a very uneconomical mode of applying it, as but a very ſmall portion of what enters the plaſter can act; and even that portion muſt have its action much reſtrained by the unctuous matters with which it is combined.

EMPLASTRUM e FŒNUGRÆCO, vulgo de MUCILAGINIBUS.

Gen.

Plaſter of Fenugreek, or *of Mucilages.*

Take of
- Fenugreek ſeeds, two ounces;
- Linſeed oil warm, half a pound.

Infuſe them according to art, and ſtrain; then,

Take of
- Yellow wax, two pounds, and a half;
- Gum ammoniacum, ſtrained, ſix ounces:
- Turpentine, two ounces.

Melt the gum ammoniacum with the turpentine, and by degrees add the oil and wax, melted in another veſſel, ſo as to form a plaſter.

This

This plaſter had formerly a place in our pharmacopœias, but was rejected; and although ſtill held in eſteem by ſome, it is probably of no great value; at leaſt, it would ſeem to derive but little either from the fenugreek ſeed, with which it is now made, or from the oil and mucilages which formerly entered its compoſition.

EMPLASTRUM ex HYOSCYAMI.

Succ.

Henbane plaſter.

This is directed to be prepared in the ſame manner as the emplaſtrum e conio, or hemlock plaſter.

From the well known ſedative power of this plant, as affecting the nervous energy of the part to which it is applied, we might reaſonably conclude that good effects may be obtained from it when uſed under the form of plaſter; and accordingly it has been with advantage employed in this manner, for allaying pain and reſolving, ſwelling, in caſes of ſcirrhus and cancer.

EMPLASTRUM PICEUM.

Roſſ.

Pitch plaſter.

Take of
White reſin, ſix ounces;
Ship pitch, ſeven ounces;
Yellow wax, five ounces.
Melt them and form them into a plaſter.

Pitch, applied externally, has been ſuppoſed to act on two principles, by its warmth and by its adheſive quality. In the former way it may have ſome effect; but it has much more influence in the latter; and particularly it has thus been found to produce a cure in caſes of tinea capitis. When a pitch plaſter is applied to the affected part of the hairy ſcalp, and allowed to remain there for a few days, it becomes ſo attached to the parts, that it cannot be removed without bringing with it the bulbs of the hair in which the diſeaſe is ſeated: And by this means a radical cure is obtained, after every other remedy has been tried in vain. The cure however is a painful one, and not without danger: For in ſome inſtances, inflammations of an alarming nature, have been excited by the injury thus done to the parts. Hence this mode of cure is rarely had recourſe to till others have been tried without effect: And when it is employed, if the diſeaſe be extenſive, prudent practitioners direct its application only to a ſmall portion of the ſcalp at a time, and after one part is fully cured, by application to another in ſucceſſion, the affection may be ſoon completely overcome. With this intention it is moſt common to employ the pitch in its pure ſtate: But the plaſter here directed, while it is no leſs adheſive, is more manageable and flexible.

CHAP.

CHAP. XXXIII.

UNGUENTA ET *LINIMENTA.*

OINTMENTS AND LINIMENTS.

OINTMENTS and liniments differ from plaſters little otherwiſe than in conſiſtence. Any of the officinal plaſters, diluted with ſo much oil as will reduce it to the thickneſs of ſtiff honey, forms an ointment: By farther increaſing the oil, it becomes a liniment.

In making theſe preparations, the Edinburgh college direct, that fat and reſinous ſubſtances are to be melted with a gentle heat; then to be conſtantly ſtirred, ſprinkling in at the ſame time the dry ingredients, if any ſuch are ordered, in the form of a very fine powder, till the mixture on diminiſhing the heat becomes ſtiff.

UNGUENTUM ADIPIS SUILLÆ.

Lond.

Ointment of Hog's lard.

Take of
Prepared hog's lard, two pounds;
Roſe water, three ounces.
Beat the lard with the roſe water until they be mixed; then melt the mixture with a ſlow fire, and ſet it apart that the water may ſubſide; after which, pour off the lard from the water, conſtantly ſtirring until it be cold.

In the laſt edition of the London pharmacopœia, this was ſtyled *Unguentum ſimplex*, the name given by the Edinburgh college to the following.

UNGUENTUM SIMPLEX.

Edinb.

Simple Ointment.

Take of
Olive oil, five parts;
White wax, two parts.

Both theſe ointments may be uſed for ſoftening the ſkin and healing chaps. The laſt is, however, preferable, on account of its being of one uniform conſiſtence. For the ſame reaſon it is alſo to be preferred as the baſis of other more compounded ointments.

UNGUENTUM

UNGUENTUM ÆRUGINIS.

Edinb.

Ointment of Verdigris.

Take of
Resinous ointment, fifteen parts;
Verdigris, one part.

This ointment is used for cleansing ulcers, and keeping down fungous flesh. Where ulcers continue to run from a weakness in the vessels of the part, the tonic powers of copper promise considerable advantage.

It is also frequently used with advantage in cases of ophthalmia, depending on scrophula, where the palpebræ are principally affected; but when it is to be thus applied, it is in general requisite that it should be somewhat weakened by the addition of a proportion of simple ointment of hog's lard. An ointment similar to the above, and celebrated for the cure of such instances of ophthalmia, has long sold under the name of *Smellon's eye salve.*

UNGUENTUM CALCIS HYDRARGYRI ALBÆ.

Lond.

Ointment of the white calx of Quicksilver.

Take of
The white calx of quicksilver one drachm;
Ointment of hog's lard, one ounce and a half.
Mix, and make an ointment.

This is a very elegant mercurial ointment, and frequently used in the cure of obstinate and cutaneous affection. It is an improvement of the *Unguentum e mercurio præcipitato* of the last London pharmacopœia; the precipitated sulphur being thrown out of the composition, and the quantity of mercury increased.

UNGUENTUM ZINCI.

Edinb.

Ointment of Zinc.

Take of
Simple liniment, six parts;
Flowers of zinc, one part.

This ointment is chiefly used in affections of the eye, particularly in those cases where redness arises rather from relaxation than from active inflammation.

UNGUENTUM CANTHARIDIS.

Lond.

Ointment of Spanish Flies.

Take of
Spanish flies, powdered, two ounces.
Distilled water, eight ounces;
Ointment of yellow resin, eight ounces.
Boil the water with the Spanish flies to one half, and strain. To the strained liquor add the ointment of yellow resin. Evaporate this mixture in a water bath, saturated with sea salt, to the thickness of an ointment.

UNGUENTUM INFUSI CANTHARIDUM, vulgo UNGUENTUM EPISPASTICUM MITIUS.

Edinb.

Ointment of infusion of Cantharides, commonly called *Mild epispastic Ointment.*

Take of
Cantharides,
White resin,

Yellow

Yellow wax, each one ounce;
Hog's 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 water be consumed; then add the resin, wax and turpentine, and make the whole into an ointment.

These ointments, containing the soluble parts of the cantharides, uniformly blended with the other ingredients, are more commodious, occasion less pain, and are no less effectual in some cases, than the compositions with the fly in substance. This, however, does not uniformly hold; and accordingly the Edinburgh college, with propriety, still retain an ointment containing the flies in substance.

UNGUENTUM PULVERIS CANTHARIDUM, vulgo UNGUENTUM EPISPASTICUM FORTIUS.

Edinb.

Ointment of powder of Cantharides, commonly called stronger Epispastic Ointment.

Take of
Resinous ointment, seven parts;
Powdered cantharides, one part.

This ointment is employed 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, is of great service. Particular care should be taken, that the cantharides employed in these compositions be reduced to a very fine powder, and that the mixture be made as equal and uniform as possible.

UNGUENTUM CERÆ.

Lond.

Wax ointment.

Take of
White wax, four ounces;
Spermaceti, three ounces;
Olive oil, one pint.

Stir them, after being melted with a slow fire, constantly and briskly, until cold.

This ointment had formerly the title of *Unguentum album* in the London pharmacopœia. It differs very little from the *Unguentum simplex* of the Edinburgh pharmacopœia, and in nothing from the *Unguentum spermatis ceti* of the London pharmacopœia, excepting that in this ointment the proportion of spermaceti is somewhat less. It is an useful cooling ointment for excoriations and other frettings of the skin.

UNGUENTUM CERUSSÆ ACETATÆ.

Lond.

Ointment of acetated Cerusse.

Take of
Acetated cerusse, two drachms;
White wax, two ounces;
Olive oil, half a pint.

Rub the acetated cerusse, previously powdered, with some part of the olive oil; then add it to the wax, melted with the remaining oil. Stir the mixture until it be cold.

UNGUENTUM

UNGUENTUM CERUSSÆ ACETATÆ, vulgo UNGUENTUM SATURNINUM.

Edinb.

Ointment of acetated Ceruſſe, commonly called *Saturnine Ointment*.

Take of
Simple ointment twenty parts;
Acetated ceruſſe, one part.

Both theſe ointments are uſeful coolers and deſiccatives; much ſuperior both in elegance and efficacy to the *nutritum* or *triphar-macum*, at one time very much celebrated.

UNGUENTUM CERUSSÆ, vulgo UNGUENTUM ALBUM.

Edin.

Ointment of Ceruſſe, commonly called *White Ointment*.

Take of
Simple ointment, five parts;
Ceruſſe, one part.

This is an uſeful cooling, emollient ointment, of great ſervice in excoriations and other ſimilar frettings of the ſkin. The ceruſſe has been objected to by ſome, on a ſuſpicion that it might produce ſome ill effects, when applied, as theſe unguents frequently are, to the tender bodies of children: The ſmall quantity of ceruſſe however which this ointment contains, cannot produce any ill effects without the ointment be applied in too large quantities.

UNGUENTUM ELEMI COMPOSITUM.

Lond.

Compound Ointment of Elemi.

Take of
Elemi one pound;
Turpentine, ten ounces;
Mutton ſuet, prepared, two pounds;
Olive oil, two ounces.
Melt the elemi with the ſuet; and having removed it from the fire, mix it immediately with the turpentine and oil; after which ſtrain the mixture.

This ointment, formerly known by the name of *Linimentum Arcæi*, has long been uſed for digeſting, cleanſing, and incarnating; and for theſe purpoſes is preferred by ſome ſurgeons to all the other compoſitions of this kind.

Theſe, however, are much more proceſſes of nature, than of art, and it is much to be doubted, whether it has in reality any influence.

UNGUENTUM HELLEBORI ALBI.

Lond.

Ointment of White Hellebore.

Take of
The root of white hellebore, powdered, one ounce;
Ointment of hog's lard, four ounces;
Eſſence of lemons, half a ſcruple.
Mix them, and make an ointment.

White hellebore externally applied has long been celebrated in the cure of cutaneous affections; and this is perhaps one of the beſt formulæ under which it can be applied, the hog's lard ointment

ſerving

ſerving as an excellent baſis for it, while the eſſence of lemons communicates to it a very agreeable ſmell.

UNGUENTUM HYDRARGYRI FORTIUS.

Lond.

Stronger Ointment of Quickſilver.

Take of
Purified quickſilver, two pounds;
Hog's lard, prepared, twenty three ounces;
Mutton ſuet, prepared, one ounce.

Firſt rub the quickſilver with the ſuet and a little of the hog's lard, until the globules diſappear; then add what remains of the lard, and make an ointment.

UNGUENTUM HYDRARGYRI MITIUS.

Lond.

Weaker Ointment of Quickſilver.

Take of
The ſtronger ointment of quickſilver, one part;
Hog's lard, prepared two parts.
Mix them.

UNGUENTUM HYDRARGYRI, vulgo UNGUENTUM CÆRULEUM.

Edinb.

Ointment of Quickſilver, commonly called *Blue ointment.*

Take of
Quickſilver,
Mutton ſuet, each one part;
Hog's lard, three parts.

Rub them carefully in a mortar till the globules entirely diſappear.

This ointment may alſo be made with double or treble the quantity of quickſilver.

THESE ointments are principally employed, not with a view to their topical action, but with the intention of introducing mercury in an active ſtate into the circulating ſyſtem; which may be effected by gentle friction on the ſound ſkin of any part, particularly on the inſide of the thighs or legs. For this purpoſe, theſe ſimple ointments are much better ſuited than the more compounded ones with turpentine and the like, formerly employed. For by any acrid ſubſtance topical inflammation is apt to be excited, preventing farther friction, and giving much uneaſineſs. To avoid this, it is neceſſary even with the mildeſt and weakeſt ointment, ſomewhat to change the place at which the friction is performed. It is requiſite that the ointment ſhould be prepared with very great care: For upon the degree of triture which has been employed, the activity of the mercury very much depends. The addition of the mutton ſuet, now adopted by both colleges, is an advantage to the ointment, as it prevents it from running into the ſtate of oil, which the hog's lard alone, in warm weather, or in a warm chamber, is ſometimes apt to do, and which is followed by a ſeparation of parts. We are even inclined to think, that the proportion of ſuet directed by the London college is too ſmall for this purpoſe, and indeed ſeems to be principally intended for the more effectual triture of the mercury: But it is much more to be regretted, that in a medicine of ſuch activity, the two colleges ſhould not have directed the ſame proportion of mercury to the fatty matter. For although both have directed ointments of different ſtrength, neither the weakeſt nor the

the ſtrongeſt agree in the proportion of mercury which they contain.

UNGUENTUM HYDRARGYRI NITRATI.

Lond.

Ointment of nitrated Quickſilver.

UNGUENTUM HYDRARGYRI NITRATI FORTIUS, vulgo UNGUENTUM CITRINUM.

Edinb.

Strong Ointment of nitrated Quickſilver, commonly called *Yellow Ointment.*

Take of
Quickſilver, one ounce;
Nitrous acid, two ounces;
Hog's lard, one pound.

Diſſolve the quickſilver in the nitrous acid, by digeſtion in a ſand heat; and, while 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.

Although the activity of the nitrated quickſilver be very conſiderably moderated by the animal fat with which it is afterwards united, yet it ſtill affords us a very active ointment; and as ſuch it is frequently employed with ſucceſs in cutaneous and other topical affections. In this condition, however, the mercury does not ſo readily enter the ſyſtem, as in the preceding form. Hence it may even be employed in ſome caſes with more freedom; but in other inſtances it is apt to excoriate and inflame the parts. On this account a reduction of its ſtrength is ſometimes requiſite.

UNGUENTUM HYDRARGYRI NITRATI MITIUS.

Edinb.

Milder ointment of nitrated quickſilver.

It is made in the ſame manner as the former, but with double the quantity of the hog's lard.

UNGUENTUM PICIS.

Lond.

Tar Ointment.

Take of
Tar,
Mutton ſuet, prepared, of each half a pound.

Melt them together, and ſtrain.

UNGUENTUM PICIS.

Edinb.

Ointment of Tar.

Take of
Tar, five parts;
Yellow wax, two parts.

These compoſitions cannot be conſidered as differing eſſentially from each other, their activity entirely depending on the tar. It has been ſucceſsfully employed againſt ſome cutaneous affections, particularly thoſe of domeſtic animals. At one time, as well as the black baſilicon of the old pharmacopœias, it was much employed as a dreſſing even for recent wounds.

UNGUENTUM RESINÆ FLAVÆ.

Lond.

Ointment of yellow Resin.

Take of
Yellow resin,
Yellow wax, of each one pound;
Olive oil, one pint.
Melt the resin and wax with a slow fire; then add the oil, and strain the mixture while hot.

UNGUENTUM RESINOSUM, vulgo UNGUENTUM BASILICUM.

Edinb.

Resinous ointment, commonly called *Basilicon Ointment*.

Take of
Hog's lard, eight parts;
White resin, five parts;
Yellow wax, two parts.

These are commonly employed in dressings, for digesting, cleansing, and incarnating wounds and ulcers. They differ very little, if at all, in their effects, from the *Linimentum Arcæi*, or *unguentum elemi*, as it is now more properly styled; but it is probable that no great effect is to be attributed to either. For there can be no doubt that the suppurative and adhesive inflammations are processes of nature, which will occur without the aid of any ointment.

UNGUENTUM SAMBUCI.

Lond.

Elder Ointment.

Take of
Elder flowers, four pounds;
Mutton suet, prepared, three pounds;
Olive oil, one pint.
Boil the flowers in the suet and oil, till they be almost crisp; then strain with expression.

This ointment does not seem superior to some others. It can scarcely be supposed to receive any considerable virtue from the ingredient from which it takes its name; and, accordingly, it is with propriety rejected from the Edinburgh pharmacopœia.

UNGUENTUM SPERMATIS CETI.

Lond.

Ointment of Spermaceti.

Take of
Spermaceti, six drachms;
White wax, two drachms;
Olive oil, three ounces.
Melt them together over a slow fire, stirring them constantly and briskly until they be cold.

This had formerly the name of *Linimentum album*, and it is perhaps only in consistence that it can be considered as differing from the *Unguentum simplex*, already mentioned, or the *Ceratum simplex*, afterwards to be noticed.

UNGUENTUM SULPHURIS.

Lond.

Sulphur Ointment.

Take of
Ointment of hog's lard, half a pound;
Flowers of sulphur, four ounces.
Mix them, and make an ointment.

UNGUENTUM

UNGUENTUM SULPHURIS, vulgo UNGUENTUM ANTIPSORICUM.

Edinb.

Ointment of Sulphur, commonly called *antipsoric Ointment.*

Take of
Hog's lard, four parts;
Sulphur, beat into a very fine powder, one part.
To each pound of this ointment add,
Eſſence of lemons, or
Oil of lavender, half a drachm.

SULPHUR is a certain remedy, for the itch, and ſafer than mercury. Sir John Pringle obſerves, that unleſs a mercurial unction was to touch every part of the ſkin, there can be no certainty of ſucceſs; whereas, from a ſulphureous one, a cure may be obtained by only partial unction, the animalcula, which are ſuppoſed to occaſion this diſorder, being, like other inſects, killed by the ſulphureous 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 undergoing a complete ſalivation for the cure of the lues venerea, without being freed from the itch: But there are alſo a multitude of inſtances of men undergoing a long courſe of ſulphur without effect, and who were afterwards readily cured by mercury.

The quantity of ointment, directed in the London pharmacopœia, ſerves for four unctions: The patient is to be rubbed every night: But to prevent any diſorder 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 ſulphur, not with a view to purify the blood, but to diffuſe the ſteams more certainly through the ſkin; there being reaſon to believe, that the animalcula may ſometimes lie too deep to be thoroughly deſtroyed by external applications.

UNGUENTUM TUTIÆ.

Lond.

Tutty Ointment.

Take of
Prepared tutty, one drachm;
Ointment of ſpermaceti, what is ſufficient.
Mix them ſo as to make a ſoft ointment.

UNGUENTUM TUTIÆ.

Edinb.

Ointment of Tutty.

Take of
Simple liniment, five parts;
Prepared tutty, one part.

THESE ointments have long been celebrated, and are ſtill much employed againſt affections of the eyes.

Tutty is ſometimes very impure, and acts only by means of the zinc it contains; and hence the ointment of tutty may be conſidered as inferior both to the *Ceratum Lapidis calaminaris* and to the *Unguentum zinci*, which have alſo a place in our pharmacopœia.

LINIMENTUM

LINIMENTUM SIMPLEX.

Edinb.

Simple Liniment.

Take of
Olive oil, four parts;
White wax, one part.

This conſiſts of the ſame articles which form the *Unguentum ſimplex* of the Edinburgh pharmacopœia, but merely in a different proportion, ſo as to give a thinner conſiſtence; and where a thin conſiſtence is requiſite, this may be conſidered as a very elegant and uſeful application.

LINIMENTUM AMMONIÆ.

Lond.

Liniment of Ammonia.

Take of
Water of ammonia, half an ounce;
Olive oil, one ounce and an half.
Shake them together in a phial, till they are mixed.

This has long been known in the ſhops under the title of *Linimentum volatile*, but is now more properly denominated from the principal active article, which enters its compoſition. It has been much employed in practice, particularly on the recommendation of Sir John Pringle. He obſerves, that in the inflammatory quinſey, or ſtrangulation of the fauces, a piece of flannel, moiſtened with this mixture, applied to the throat, and 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, a larger proportion of oil may be uſed.

LINIMENTUM AMMONIÆ FORTIUS.

Lond.

Stronger Liniment of Ammonia.

Take of
Water of pure ammonia, one ounce;
Olive oil, two ounces.
Shake them together in a phial.

OLEUM AMMONIATUM, vulgo LINIMENTUM VOLATILE.

Edin.

Ammoniated Oil, commonly called *Volatile Liniment.*

Take of
Olive oil, two ounces;
Water of cauſtic ammonia, two drachms.
Mix them together.

These two articles differ from each other only in ſtrength. When too ſtrong, or too liberally applied, they ſometimes occaſion inflammations, and even bliſters; but they are much more powerful than the preceding one made with the mild volatile alkali.

LINIMENTUM AQUÆ CALCIS.

Edin.

Lime water Liniment.

Take of
Lintſeed oil,
Lime water, of each equal parts.
Mix them.

This

This liniment is extremely uſeful in caſes of ſcalds or burns, being ſingularly efficacious in preventing, if applied in time, the inflammation ſubſequent to burns or ſcalds; or even in removing it after it has come on.

LINIMENTUM CAMPHORÆ COMPOSITUM.

Lond.

Compound Camphor liniment.

Take of
Camphor, two ounces;
Water of pure ammonia, ſix ounces;
Spirit of lavender, ſixteen ounces.

Mix the water of ammonia with the ſpirit; and diſtil from a glaſs retort, with a ſlow fire, ſixteen ounces. Then diſſolve the camphor in the diſtilled liquor.

This formula, which has now for the firſt time a place in the London pharmacopœia, approaches to the volatile eſſence of that celebrated empyric the late Dr. Ward: But the above is a more elegant and active formula than either the receipts publiſhed by Mr. Page, from Dr. Ward's book of receipts; and there is no reaſon to doubt that it will be equally effectual in removing ſome local pains, ſuch as particular kinds of headache.

LINIMENTUM OPIATUM, ſive ANODYNUM, vulgo BALSAMUM ANODYNUM.

Edinb.

The opiate or *Anodyne Liniment*, commonly called *Anodyne Balſam.*

Take of
Opium, one ounce;
White Caſtile ſope, four ounces;
Camphor, two ounces;
Diſtilled oil of roſemary, half an ounce;
Rectified ſpirit of wine, two pounds.

Digeſt the opium and ſope in the ſpirit for three days; then to the ſtrained liquor add the camphor and oil, diligently ſhaking the veſſel.

The ſeveral ingredients in this formula are exceedingly well ſuited for the purpoſes expreſſed in the title of this preparation; the anodyne balſam has accordingly been uſed with much ſucceſs to allay pains in ſtrained limbs, and ſuch like topical affections.

LINIMENTUM SAPONACEUM, vulgo BALSAMUM SAPONACEUM.

Edinb.

Saponaceous Liniment or Balſam.

This is made in the ſame manner and of the ſame ingredients as the foregoing, only omitting the opium.

LINIMENTUM SAPONIS COMPOSITUM.

Lond.

Compound Sope liniment.

Take of
Sope, three ounces;
Camphor,

Camphor, one ounce;
Spirit of rosemary, one pint.
Digest the sope in the spirit of rosemary until it be dissolved, and add to it the camphor.

These two, which do not materially differ, are intended as a simplification of the Opodeldoch of former pharmacopœias, and are employed against bruises, rheumatic pains, and other similar complaints.

UNGUENTUM ÆGYPTIACUM.

Gen.

Egyptian ointment.

Take of
Honey, one pound;
Strong vinegar, half a pound;
Verdegris, powdered, five ounces.
Let the ingredients be boiled together till the verdegris be dissolved, so that the ointment may have a due degree of thickness and a purple colour.

This preparation had formerly a place in our pharmacopœias, under the title of *Mel Ægypticum*: And a similar preparation has now a place under the title of *Oxymel æruginis*. It is a very powerful application for cleansing and detersing foul ulcers, as well as for keeping down fungous flesh; but these purposes may in general be answered by articles less acrid and exciting less pain. Besides this the above preparation is also liable to considerable uncertainty with respect to strength; for a large proportion of the verdegris will in time subside to the bottom: And what is in the top of the pot will prove much less active than that in the bottom.

UNGUENTUM ANODYNUM.

Gen.

Anodyne Ointment.

Take of
Olive oil, ten drachms;
Yellow wax, half an ounce;
Crude opium, one drachm.
Mix them according to art, so as to form an ointment.

Opium thus externally applied, will in some degree be productive of the same effect as when used under the form of the anodyne balsam. In that state it produces its effects more immediately; but under the present form, its effects are more permanent. Besides this, the present ointment furnishes us with an useful dressing for sores attended with severe pain; to which opium when dissolved in spirit cannot be applied. Hence the present or some analogous formula, is well intitled to a place in our pharmacopœias.

UNGUENTUM ad CANCRUM EXULCERATUM.

Brun.

Ointment for an ulcerated Cancer.

Take of
The recently expressed juice of the ricinus, one pound.
Let it be exposed to the rays of the sun in a leaden vessel till it acquire the consistence of an oil; then to one pound of this inspissated juice, add
Calcined lead,
White precipitate of mercury, each one pound.
Let them be properly mixed.

This acrid application must posses a considerable degree of corrosive power. And in some cases

caſes of cancer, by the proper application of corroſives, much benefit may be done: But where the diſeaſe has made any conſiderable progreſs, theſe will in general have the effect rather of haſtening its progreſs than of removing it; particularly if there be a large indolent tumor below the ulcer.

UNGUENTUM DIGESTIVUM.
Roſs.
Digeſtive Ointment.

Take of
Venice turpentine, one pound;
The yolks of eight eggs.
Mix them together according to art.

This warm ſtimulating application is well ſuited to promote the ſuppurative inflammation, and may be advantageouſly had recourſe to, where it is neceſſary to encourage a large diſcharge of pus.

UNGUENTUM HÆMORRHOIDALE.
Hæmorrhoidal Ointment.

Take of
Saturnine ointment, ſix drachms;
Oil of Hyoſcyamus, obtained by boiling, two drachms;
Camphor, powdered, two ſcruples;
Saffron, one ſcruple.
Mix them into an ointment.

The name affixed to this ointment expreſſes the purpoſe for which it is applied. From the articles of which it conſiſts, it may be concluded, that it poſſeſſes a gentle emollient and anodyne power: and may therefore afford conſiderable relief, where much pain ariſes from external hæmorrhoidal tumours.

UNGUENTUM LAURINUM.
Suec.
Laurel Ointment.

Take of
Prepared mutton ſuet, eight ounces.
After it is melted and removed from the fire, add to it,
Oil of bays, one pound;
Ethereal oil of turpentine, one ounce;
Rectified oil of amber, half an ounce.
Let them be mixed and rubbed together till they form an ointment.

This is an improved mode of forming an ointment which had formerly a place in our pharmacopœias under the title of *Unguentum nervinum*. It is a warm ſtimulating nervine application, which may in ſome degree reſtore ſenſe and motion to paralytic limbs: and while it at leaſt ſerves to lead to the careful uſe of friction, this may ſomewhat increaſe the benefit which would reſult from it.

UNGUENTUM e STYRACE.
Suec.
Ointment of Storax.

Take of
Olive oil, a pound and a half;
White reſin,
Gum elemi,
Yellow wax, each ſeven ounces.
After they are melted together and ſtrained, add
Liquid ſtorax, ſeven ounces.
Mix them together, and agitate the mixture till it concretes into an uniform ointment.

An

An ointment ſuppoſed to derive its activity from the ſtorax, although it have no place in our pharmacopœias, is received into moſt of the foreign ones. It has been much celebrated not only as a ſtrengthening application to weakly children, but even for the removal of affections of the bones, as in caſes of rachitis and the like. It is however, very doubtful how far theſe properties depend on the ſtorax. If it have really any good effect, it is probable that this is more the conſequence of the friction merely, than of any of the articles which enter the compoſition of the ointment. But there is reaſon to believe that the virtues attributed to this ointment are more imaginary than real.

UNGUENTUM e CEPA.

Suec.

Onion Ointment.

Take of

Yellow wax,

Reſin, each half a pound.

To theſe melted, add

Onions roaſted under the aſhes, Honey, each two pounds and a half;

Black ſope, half a pound.

Let them be gently boiled together till all the moiſture be conſumed, then ſtrain the liquor, expreſſing it from the materials, and afterwards agitate it with a wooden peſtle that it may unite into one uniform maſs.

This ointment is applied with the intention of promoting ſuppuration. The onion has long been ſuppoſed, eſpecially in its roaſted ſtate, to have a remarkable influence in this way: But there is reaſon to think, that the powers attributed to have been greatly over rated; and there is even ground to preſume that theſe effects totally depend on heat and moiſture. Hence no application is perhaps better ſuited for promoting ſuppuration than a poultice of bread and milk, applied as hot as can be borne with eaſe, and frequently repeated.

CHAP. XXXIV.

CERATA.

CERATES.

CERATES are ſubſtances intended for external application, formed of nearly the ſame materials which conſtitute ointments and plaſters; from which they differ principally in being of an intermediate conſiſtence between the two. Accordingly, they are ſeldom the ſubject of a ſeparate chapter by themſelves, but are claſſed either with the one or the other. In the Edinburgh pharmacopœia they are claſſed among the ointments: But as the London college have referred them to a ſeparate head, we ſhall here alſo conſider them by themſelves.

CERATUM SIMPLEX.

Edinb.

Simple Cerate.

Take of
Olive oil, ſix parts;
White wax, three parts;
Spermaceti, one part.
Unite them according to art.

THIS differs from the ſimple ointment in containing a greater proportion of wax to the oil, and in the addition of the ſpermaceti; by which it obtains only a more firm conſiſtence, without any eſſential change of properties.

CERATUM CANTHARIDIS.

Lond.

Cerate of Cantharides.

Take of
Cerate of ſpermaceti, ſoftened with heat, ſix drachms;
Spaniſh flies, finely powdered, one drachm.
Mix them.

UNDER this form cantharides may be made to act to any extent, that is requiſite. It may ſupply the place either of the bliſtering plaſter or ointment: and there are caſes in which it is preferable to either. It is particularly more convenient than the *Emplaſtrum cantharidum*, where

the skin to which the blister is to be applied is previously much affected, as in cases of small pox; and in supporting a drain under the form of issue, it is less apt to spread than the softer ointment.

CERATUM LAPIDIS CALAMINARIS.

Lond.

Calamine cerate.

Take of
Calamine, prepared,
Yellow wax, of each half a pound;
Olive oil, one pint.
Melt the wax with the oil; and, as soon as the mixture begins to thicken, mix with it the calamine, and stir the cerate until it be cold.

CERATUM LAPIDIS CALAMINARIS.

Edinb.

Cerate of Calamine.

Take of
Simple cerate, five parts;
Calamine prepared, one part.

These compositions are formed on 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 as such are frequently used in practice.

CERATUM LITHARGYRI ACETATI COMPOSITUM.

Lond.

Compound Cerate of acetated Litharge.

Take of
Water of acetated Litharge, two ounces and a half;
Yellow wax, four ounces;
Olive oil, nine ounces;
Camphor, half a drachm.
Rub the camphor with a little of the oil. Melt the wax with the remaining oil, and as soon as the mixture begins to thicken, pour in by degrees the water of acetated litharge, and stir constantly until it be cold; then mix in the camphor before rubbed with oil.

This application has been rendered famous by the recommendations of Mr. Goulard. It is unquestionably in many cases very useful; it cannot, however, be considered as varying essentially from the saturnine ointment, formerly mentioned. It is employed with nearly the same intentions, and differs from it chiefly in consistence.

CERATUM RESINÆ FLAVÆ.

Lond.

Cerate of yellow Resin.

Take of
Ointment of yellow resin, half a pound;
Yellow wax, one ounce.
Melt them together, and make a cerate.

This had formerly the name of *Unguentum citrinum*. It is no otherwise different from the yellow basilicum, or *Unguentum resinæ flavæ*, than

than being of a ſtiffer conſiſtence, which renders it more commodious for ſome purpoſes.

CERATUM SAPONIS.

Lond.

Sope Cerate.

Take of
Sope, eight ounces;
Yellow wax, ten ounces;
Litharge, powdered, one pound;
Olive oil, one pint;
Vinegar, one gallon.
Boil the vinegar with the litharge, over a ſlow fire, conſtantly ſtirring until the mixture unites and thickens; then mix in the other articles, and make a cerate.

NOTWITHSTANDING the name, this cerate may rather be conſidered as another ſaturnine application; its activity depending very little on the ſope: It can hardly be thought to differ in its properties from the cerate of acetated litharge juſt mentioned. For neither the ſmall proportion of camphor which enters the compoſition of the one, nor the ſope which gives name to the other, can be conſidered as having much influence.

CERATUM SPERMATIS CETI.

Lond.

Cerate of Spermaceti.

Take of
Spermaceti, half an ounce;
White wax, two ounces;
Olive oil, four ounces.
Melt them together, and ſtir until the cerate be cold.

THIS had formerly the name of *Ceratum album*, and it differs in nothing from the *Unguentum Spermatis ceti*, or *Liniuentum album*, as it was formerly called, excepting in conſiſtence.

CERATUM LABIALE.

Ruſſ.

Lip ſalve.

Take of
Olive oil, eighteen ounces;
White wax, one pound;
Spermaceti, an ounce and a half;
Oil of rhodium, half a drachm.
Form a cerate, tinging it with alkanet, ſo as to give a red colour.

THE name affixed to this cerate points out the uſe for which it is intended. It is chiefly employed againſt thoſe chaps and excoriations of the lips, which are often the conſequence of cold weather; and it is very well ſuited for removing affections of that kind. Excepting in the colour and ſmell which it derives from the alkanet and rhodium, it differs in nothing from the cerate of ſpermaceti, and cannot be conſidered as more effectually anſwering the intention in view.

CEREI MEDICATI.

Suec.

Bougies.

Take of
Yellow wax, melted, one pound;
Spermaceti, three drachms;
Vinegar of litharge, two drachms.
Mix them, and upon removal from the fire immerſe into the mixture ſlips of linen, of which bougies are to be formed according to the rules of art.
Theſe may alſo be made with double, triple, or quadruple, the quantity of the vinegar of litharge.

It is perhaps rather surprising that no formula for the preparation of bougies has a place in our pharmacopœias: For there can be no doubt that although the preparation of them has hitherto been principally trusted to empirics; yet in the hand of the skilful practitioner they are of great service in combating obstinate affections. Although it has been pretended by some that their influence is to be ascribed to certain impregnations; yet it is on better grounds contended, that they act entirely on mechanical principles. The great object is therefore to obtain the union of a proper degree of firmness and flexibility. These qualities the above composition possesses; and it does not probably derive any material benefit from being prepared with an additional proportion of the *Acetum lithargyri*.

CHAP.

CHAP. XXXV.

CATAPLASMATA.

CATAPLASMS.

BY cataplasms are in general underſtood thoſe external applications, which are brought to a due conſiſtence or form for being properly applied, not by means of oily or fatty matters, but by water or watery fluids. Of theſe not a few are had recourſe to in actual practice; but they are ſeldom prepared in the ſhops of the apothecaries; and in ſome of the beſt modern pharmacopœias, no formulæ of this kind are introduced. The London college, however, although they have abridged the number of cataplaſms, ſtill retain a few; and it is not without ſome advantage that there are fixed forms for the preparation of them.

CATAPLASMA CUMINI.

Lond.

Cataplaſm of Cummin.

Take of
Cummin ſeed, one pound;
Bay berries,
Dry leaves of water germander, or ſcordium,
Virginian ſnake root, of each three ounces;
Cloves, one ounce.

Rub them all together; and, with the addition of three times the weight of honey, make a cataplaſm.

THIS is adopted into the preſent edition of the London pharmacopœia with very little alteration from the laſt. It was then intended as a reformation of the *Theriaca Londinenſis*, which for ſome time paſt has been ſcarcely otherwiſe uſed than as a warm cataplaſm. In place of the numerous articles which formerly entered that compoſition, only ſuch of its ingredients are retained as contribute moſt to this intention: But even the article from which it now derives its name, as well as ſeveral others which ſtill enter it, probably contribute very little

little to any medical properties it may poſſeſs.

CATAPLASMA SINAPEOS.

Lond.

Muſtard cataplaſm.

Take of

Muſtard ſeed, powdered,

Crumb of bread, of each half a pound;

Vinegar as much as is ſufficient.

Mix and make a cataplaſm.

Cataplasms of this kind are commonly known by the name of *Sinapiſms*. They were formerly frequently prepared in a more complicated ſtate, containing garlic, black ſope, and other ſimilar articles; but the above ſimple form will anſwer every purpoſe which they are capable of accompliſhing. They are employed only as ſtimulants: They often inflame the part and raiſe bliſters, but not ſo perfectly as cantharides. They are frequently applied to the ſoles of the feet in the low ſtate of acute diſeaſes, for raiſing the pulſe and relieving the head. The chief advantage they have depends on the ſuddenneſs of their action.

CATAPLASMA ALUMINIS.

Lond.

Alum cataplaſm.

Take of

The whites of two eggs;

Shake them with a piece of alum till they be coagulated.

This preparation is taken from Riverius. It is an uſeful aſtringent cataplaſm for ſore, moiſt eyes, and excellently cools and repreſſes thin defluxions. Slighter inflammations of the eyes, occaſioned by duſt, expoſure to ſun, or other ſimilar cauſes, are generally removed by fomenting them with warm milk and water, and waſhing them with ſolutions of white vitriol. Where the complaint is more violent, this preparation, after the inflammation has yielded a little to bleeding, is to be ſpread on lint, and applied at bed time.

A TABLE *ſhewing in what Proportions* MERCURY *or* OPIUM *enter different Formulæ.*

PULVIS *cretæ compoſitus cum opio. Lond.* In about forty four grains, one grain of opium is contained.

Pulvis ipecacuanhæ compoſitus. Lond. In ten grains, one grain of opium. *Ed.* In eleven grains, one grain of opium.

Pulvis opiatus. Lond. In ten grains, one grain of opium.

Pulvis ſcammonii cum calomelane. Lond. In four grains, one grain of calomel.

Pilulæ opii. Lond. In five grains one grain of opium. *Ed.* In ten grains, one grain of opium.

Pilulæ hydrargyri. Lond. In two grains and a half, one grain of mercury.

Pilulæ hydrargyri. Ed. In four grains, one grain of mercury.

Pilulæ hydrargyri muriati mitis. Ed. In two grains and two thirds, one grain of calomel.

Confectio opiata. Lond. In thirty ſix grains, one grain of opium.

Electuarium catechu. Ed. In about one hundred and ninety three grains, one grain of opium.

Electuarium opiatum. Ed. In every drachm, about one grain of opium.

Trochiſci glycyrrhizæ cum opio. Ed. In every drachm, about one grain of opium.

Theſe trochiſci are not unfrequently ordered *cum duplice opio*, and under this form are kept in many ſhops.

Emplaſtrum ammoniacum cum hydrargyro. Lond. In five ounces, one ounce of mercury.

Emplaſtrum lithargyri cum hydrargyro. Lond. In five ounces, one ounce of mercury.

Emplaſtrum hydrargyri. Ed. In three ounces and two thirds, one ounce of mercury.

Unguentum hydrargyri fortius. Lon. In two drachms, one drachm of mercury.

Unguentum hydrargyri mitius. Lond. In five drachms, one drachm of mercury.

Unguentum hydrargyri. Ed. In five drachms, one drachm of mercury.

Unguentum hydrargyri nitrati. Lond. In one drachm, four grains of nitrated quickſilver.

Unguentum hydrargyri nitrati fortius. Ed. In one drachm, four grains of quickſilver, and eight of nitrous acid.

Unguentum calcis hydrargyri albæ. Lond. In one drachm, four grains and two thirds of the calx hydrargyri alba.

Tinctura, opii, Lond. is made with opium, in the proportion of one grain to about thirteen of the menſtruum. *Ed.* Is made with opium, in the proportion of one grain to twelve of the menſtruum,

menſtruum, but by evaporation each drachm contains three grains and an half of opium.

Tinctura opii, camphorata, Lond. is made with opium, in the proportion of one grain to two hundred and ſixty of the menſtruum.

Tinctura opii, ammoniata, Ed. is made with opium, in the proportion of one grain to ſixty-eight of the menſtruum.

Linimentum opiatum, Ed. is made with opium, in the proportion of one grain to about thirty one of the menſtruum.

TABLE

TABLE *of* NAMES *changed in the* LONDON *and* EDINBURGH PHARMACOPŒIAS.

Names in former pharmacopœias.	*New Names.*
A.	
ACETUM ſcilliticum.	Acetum ſcillæ. Lond.
Æthiops mineralis.	Hydrargyrus cum ſulphure. Lond. ſulphuratus niger. Ed.
Alkali fixum foſſile.	Soda. Ed.
vegetabile.	Lixiva. Ed.
volotile.	Ammonia. Ed.
Aqua aluminoſa Bateana.	Aqua aluminis compoſita. Lond.
calcis ſimplex.	calcis. Lond.
carvi ſpirituoſa.	Spiritus carvi. Ed.
cinnamomi ſimplex.	Aqua cinnamomi. Lond.
ſpirituoſa.	Spiritus cinnamomi. Lond. Ed.
fortis.	Acidum nitroſum dilutum. Lond Ed.
hordeata.	Decoctum hordei. Lond.
juniperi compoſita.	Spiritus juniperi compoſitus. Lon. Ed.
menthæ piperitidis ſimplex.	Aqua menthæ piperitidis. Lond.
ſpirituoſa.	Spiritus menthæ piperitidis. Lon. Ed.
vulgaris ſimplex.	Aqua menthæ ſativæ. Lond.
ſpirituoſa.	Spiritus menthæ ſativæ. Lond.
nucis moſchatæ	nucis moſchatæ. Lon. Ed.
piperis Jamaicenſis.	Aqua pimento. Lond.
pimentæ ſpirituoſa.	Spiritus pimentæ. Ed.
pulegii ſimplex.	Aqua pulegii. Lond.
ſpirituoſa.	Spiritus pulegii. Lond.
raphani compoſita.	raphani compoſitus. Lon.
roſarum damaſcenarum.	Aqua roſæ. Lond.
ſapphirina.	cupri ammoniati. Lond. æruginis ammoniatæ. Ed.
ſeminum anethi.	anethi. Lond.
aniſi compoſita.	Spiritus aniſi compoſitus. Lond.
carui.	carui. Lond.

Names in former pharmacopœias.	*New Names.*
Aqua ſtyptica.	Aqua cupri vitriolati. Ed.
vitriolica.	zinci vitriolati. Ed.
camphorata.	cum camphora. Lond.
Argentum vivum.	Hydrargyrus. Lond. Ed.

B.

Balſamum anodynum.	Linimentum opiatum. Ed.
ſaponaceum.	ſapenaceum. Ed.
ſulphuris Barbadenſe.	Petroleum ſulphuratum. Lond.
ſimplex.	Oleum ſulphuratum. Lond. Ed.
craſſum.	
traumaticum.	Tinctura benzoes compoſita. Lon.
Butyrum antimonii.	Antimonium muriatum. Lon. Ed.

C.

Calamus aromaticus.	Acorus. Ed.
Calomelas.	Hydrargyrus muriatus mitis. Ed.
Calx antimonii.	Antimonium calcinatum. Lond.
nitrata.	uſtum cum nitro. Ed.
Cauſticum antimoniale.	Antimonium muriatum. Lon. Ed.
commune fortius.	Calx cum kali puro. Lond.
lunare.	Argentum nitratum. Lond. Ed.
Chalybis rubigo.	Ferri rubigo. Lond.
Colcothar vitrioli.	Ferrum vitriolatum uſtum. Ed.
Cinnabaris factitia.	Hydrargyrus ſulphuratus ruber. L.
Coagulum aluminoſum.	Cataplaſma aluminis. Lond.
Confectio cardiaca.	Confectio aromatica. Lond.
	Electuarium aromaticum. Ed.
Japonica.	Electuarium catechu. Ed.
Cortex Peruvianus.	Cinchona. Lond.
Crocus metallorum.	Crocus antimonii. Ed.

D.

Decoctum album.	Decoctum cornu cervi. Lond.
commune.	chamœmeli. Ed.
pro clyſtere.	pro enemate. Lond.
lignorum.	guajaci compoſitum. E.
pectorale.	hordei compoſitum. L.
Dens leonis.	Taraxacum. Lond. Ed.
Diacaſſia.	Electuarium caſſiæ. Ed.

Electuarium

Names in former Pharmacopœias.	*New Names.*

E.

Electuarium lenitivum.	Electuarium sennæ. Lond. Ed.
thebaicum.	opiatum. Ed.
Elixir aloes.	Tinctura aloes composita. Lond.
guajacinum.	guajaci. Ed.
volatile.	ammoniata. Ed.
myrrhæ compositum.	sabinæ compositum. Lon.
paregoricum.	opii camphorata. Lond. ammoniata. Ed.
proprietatis.	aloes cum myrrha. Ed.
vitriolicum.	vitriolatæ. Ed.
sacrum.	rhei cum aloe. Ed.
salutis.	sennæ composita. Ed.
stomachicum.	gentianæ composita. Ed.
traumaticum.	benzoës composita. Ed.
vitrioli acidum.	Acidum vitriolicum dilutum. Ed.
dulce.	Spiritus ætheris vitriolici aromaticus. Ed.
Emplastrum adhæsivum.	Emplastrum resinosum. Ed.
antimystericum.	affixæ fœtidæ. Ed.
attrahens.	ceræ compositum. L.
cæruleum.	picis Burgundicæ compositum. Lond.
cephalicum.	lithargyri. Lond. Ed.
commune.	cum resina. Lond.
adhæsivum	compositum Lond.
cum gummi	cum hydrargyro. L.
cum mercurio.	cumini. Lond.
e cymino.	thuris compositum. L.
roborans.	lithargyri compositum Ed.
e sapone.	saponis. Lond.
simplex.	cereum. Ed.
stomachicum.	lapidis calaminaris compositum. L.
vesicatorium.	cantharidum. L. Ed.
Emulsio communis.	Lac amygdalæ. Lond.
Ens veneris.	Ferrum ammoniacale. Lond. ammoniatum. Ed.
Enula campana.	Helenium. Ed.
Extractum catharticum.	Extractum colocynthidis compositum. Lond.

Extractum

Names in former pharmacopœias.	*New Names.*
Extractum ligni Campechenſis.	Extractum hæmatoxyli. Lond.
corticis Peruviani.	cinchonæ. Lond.
thebaicum.	Opium purificatum. Lond.

F.

Flores Benzoine.	Acidum Benzoicum. Ed.
martiales.	Ferrum ammoniacale. Lond. / ammoniatum. Ed.
zinci.	Calx zinci. Lond. / Zincum uſtum. Ed.
Fotus communis.	Decoctum pro fomento. Lond.

H.

Hiera picra.	Pulvis aloes cum canella. Lond.
Helleborus albus.	Veratrum. Ed.

I.

Infuſum amarum.	Infuſum gentianæ compoſitum. L. Ed.
Japonicum.	catechu. Ed.
ſennæ compoſitum.	ſennæ tartariſatum. Lon.
Julepum e camphora.	Miſtura camphorata. Lond.
e creta.	cretacea. Lond.
e moſcho.	moſchata. Lond.

L.

Laudanum liquidum.	Tinctura opii. Lond. Ed.
Lignum campechenſe.	Hæmatoxylum. Lond. Ed.
Lingua cervina.	Scolopendrium. Ed.
Linimentum album.	Unguentum ſpermatis ceti. Lond.
ſaponaceum.	Linimentum ſaponis. Lond.
volatile.	Linimentum ammoniæ. Lond. / Oleum ammoniatum. Ed.
Lithargyrus.	Plumbum uſtum. Ed.
Lixivum cauſticum.	Aqua lixivia cauſtica. Ed.
ſaponarium.	kali puri. Lond.
tartari.	præparati. Lond.

Names in former Pharmacopœias.	*New Names.*
M.	
Mel Ægyptiacum.	Oxymel æruginis. Lond.
Melampodium.	Helleborus niger. Lond.
Mercurius.	Hydrargyrus. Lond. Ed.
calcinatus.	calcinatus. Lond.
corrosivus sublimatus.	muriatus. Lond.
	muriatus corrosivus. Ed.
ruber.	nitratus ruber. Lon. Ed.
dulcis.	Calomelas. Lond.
	Hydrargyrus muriatus mitis. Ed.
emeticus flavus.	vitriolatus flavus. Lond. Ed.
præcipitatus ruber.	nitratus ruber. Ed.
albus.	Calx hydrargyri alba. Lond.
Minium.	Plumbum ustum rubrum. Ed.
N.	
Nitrum vitriolatum.	Kali vitriolatum. Lond.
Nux moschata.	Myristica. Lond. Ed.
O.	
Oculi cancrorum.	Lapilli cancrorum. Ed.
Oleum animale.	Oleum e cornubus rectificatum. Ed.
tartari.	Aqua kali præparati. Lond.
Oxymel simplex.	Mel acetatum. Lond.
P.	
Philonium Londinense.	Confectio opiata. Lond.
Pilulæ aromaticæ.	Pulvis aloeticus cum guajaco. Lon.
calomelanos compositæ.	Pilulæ hydrargyri muriati mitis. Ed.
cocciæ	aloes cum colocynthide. Ed.
ecphracticæ.	Pulvis aloes cum ferro. Lond.
gummosæ.	Pilulæ galbani compositæ. Lond.
	assæ fœtidæ compositæ. Ed.
mercuriales.	hydrargyri.
pacificæ.	opii.
Plummeri.	hydrargyri muriati mitis. Ed.

Pilulæ

Names in former Pharmacopœias.	*New Names.*
Pilulæ Rufi.	Pilulæ aloes cum myrrha. L. Ed.
ſtomachicæ.	rhei compoſitæ.
Piper Jamaicenſe.	Pimenta. Lond. Ed.
Pulvis e bolo compoſitus.	Pulvis cretæ compoſitus. Lond.
cum opio.	cum opio. Lond.
e ceruſſa compoſitus.	ceruſſæ. Lond.
e chelis cancrorum.	cancri chelarum. Lond.
Doveri.	ipecacuanhæ compoſitus. L. Ed.
mercurii cinereus.	Hydrargyrus præcipitatus cinereus. Ed.
ſternutatorius.	Pulvis afari compoſitus. Lon. Ed.
ſtypticus.	aluminis compoſitus. Ed.

R.

Rob ſambuci.	Succus baccarum ſambuci ſpiſſatus. Lond. Ed.

S.

Saccharum Saturni.	Ceruſſa acetata. Lond. Ed.
Sal abſinthii.	Kali præparata. Lond. Lixiva purificata. Ed.
Salalkalinus fixis foſſilis purificatus.	Natron. Lond. Soda purificata. Ed.
vegetabilis purif.	Kali præparata. Lond. Lixiva purificata. Ed.
ammoniacus volatilis.	Ammonia præparata. Lond. Ed.
catharticus amarus.	Magneſia vitriolata. Lond. Ed.
Glauberi.	Natron vitriolatum. Lond. Soda vitriolata. Ed.
chalybis.	Ferrum vitriolatum. Lond. Ed.
Diureticus.	Kali acetata. Lond. Lixiva acetata. Ed.
marinus.	Natron muriatum. Lond. Soda muriata. Ed.
martis.	Ferrum vitriolatum. Lond. Ed.
polychreſtus.	Kali vitriolata, Lond. Lixiva vitriolata. Ed.
plumbi.	Ceruſſa acetata. Lond. Ed.
Rupellenſis. Seignette.	Natron tartariſatum. Lond. Soda tartariſata. Ed.
tartari.	Kali præparata. Lond. Lixiva e tartaro. Ed.

Sal

Names in former Pharmacopœias.	*New Names.*
Sal vitrioli.	Zincum vitriolatum. Lond. Ed.
Species aromaticæ.	Pulvis aromaticus. Lond. Ed.
Spina cervina.	Rhamnus catharticus. Ed.
Sperma ceti.	Sevum ceti. Ed.
Spiritus cornu cervi.	Liquor volatilis cornu cervi. Lon. / Aqua ammoniæ ex ossibus. Ed.
Mindereri.	Aqua ammoniæ acetatæ. Lon. Ed.
nitri.	Acidum nitrosum. Lond. Ed.
dulcis.	Spiritus ætheris nitrosi. Lon. Ed.
salis ammoniaci.	Aqua ammoniæ. Lond. Ed.
dulcis vel vinosus.	Spiritus ammoniæ. Lond. Ed.
cum calce viva.	Aqua ammoniæ caustica. Ed. / pura. Lond.
salis marinus.	Acidum muriaticum. Lon. Ed.
salinus aromaticus.	Spiritus ammoniæ aromaticus. Ed. / compositus. L.
vitrioli tenuis.	Acidum vitriolicum dilutum. Lon. Ed.
dulcis.	Spiritus ætheris vitriolicus. Lond. Ed.
volatilis aromaticus.	Spiritus ammoniæ compositus. L. / aromaticus. Ed.
fœtidus.	fœtidus. Lond. Ed.
Stibium.	Antimonium. Ed.
Succi scorbutici.	Succus cochleariæ compositus. L. Ed.
Sulphur auratum antimonii.	Sulphur antimonii præcipitatum. Lond. Ed.
Syrupus balsamicus.	Syrupus tolutanus. Lond. Ed.
diacodion.	papaveris albi. Lon. Ed.
e meconio.	
e spina cervina.	rhamni cathartici. Ed.

T.

Tabellæ cardialgicæ.	Trochisci cretæ. Lond.
Tartari crystalli.	Tartarum purificatum. Ed.
Tartarum emeticum.	Antimonium tartarisatum. Lond. Ed.
regeneratum.	Kali acetata. Lond. / Lixiva acetata. Ed.
solubile.	Kali tartarisatum. Lond. / Lixiva tartarisata. Ed.
vitriolatum.	Kali vitriolata. Lond. / Lixiva vitriolata. Ed.

Tinctura

Names in former Pharmacopœis.	*New Names.*
Tinctura amara.	Tinctura gentianæ compoſita. L.
aromatica.	cinnamomi compoſita. L. Ed.
corticis Peruviani.	cinchonæ. Lond.
volatilis.	cinchonæ ammoniata. L.
fœtida.	aſæ fœtidæ. Lond. Ed.
florum martialium.	ferri ammoniacalis. Lon.
guajacina volatilis.	guajaci. Lon.
Japonica.	catechu. Lond. Ed.
hellebori albæ.	veratri. Ed.
nigri.	melampodii. Ed.
martis.	ferri muriati. Lond. ferri. Ed.
melampodii.	hellebori nigri. Lond.
rhabarbari ſpirituoſa.	rhabarbari. Lond. rhei. Ed.
vinoſa.	Vinum rhabarbari. Lond. rhei. Ed.
roſarum.	Infuſum roſæ. Lond. roſarum. Ed.
Tinctura ſacra.	Vinum aloes. Lond. aloeticum. Ed.
ſtomachica.	Tinctura cardamomi compoſita. L.
thebaica.	opii. Lond. Ed.
valerianæ volatilis.	valerianæ ammoniata. L. Ed.
Triſolium paluſtri.	Menyanthes trifoliata. Ed.
Trochiſci bechici albi.	Trochiſci amyli. Lond. Arabici. Ed.
cardialgici.	cretæ. Lond.
nigri	glycyrrhizæ. Lond. Ed.
cum opio.	cum opio. Ed.
Turpethum minerale.	Hydrargyus vitriolatus flavus. L. Ed.

U.

Unguentum album.	Unguentum ceræ. Lond. cerufæ. Ed.
antiſporicum.	ſulphuris. Ed.
baſilicum flavum.	reſinæ flavæ. Lond. reſinoſum. Ed.
cæruleum.	hydrargyri. Lond. Ed.
citrinum.	nitrati. L. Ed.

Unguentum

Names in former Pharmacopœias.	*New Names.*
Unguentum epiſpaſticum fortius.	Unguentum cantharidis. Lond. pulveris chantharidum, Ed.
mitius.	infuſi cantharidum. E.
e mercurio præcipitato.	calcis hydrargyri albæ. Lond.
Saturninum.	ceruſſæ acetatæ. Lond. Ed.
veſicatorium.	cantharidum. L. Ed.
Vinum antimoniale.	Vinum antimonii. Lond. tartariſati, Ed.
chalybeatum.	ferri. Lond.
Vitriolum album.	Zincum vitriolatum. Lond. Ed.
cæruleum.	Cuprum vitriolatum. Lond. Ed.
viride.	Ferrum vitriolatum. Lond. Ed.
calcinatum.	exſiccatum. Ed.

ENGLISH INDEX.

A.

B.

D.

E.

F.

Juice

Q.

R.

Spirit

V.

W.

Z.

LATIN INDEX.

A.

Aqua

B.

C.

H.

I.

J.

K.

L.

Q.

R.

Ribes

T.

F I N I S.