Indian Institute, Oxford.
Presented by the Residuary Legatees of
W. E. P. Brown

27.03
MATERIA INDICA;

OR,

SOME ACCOUNT

OF

THOSE ARTICLES WHICH ARE EMPLOYED BY

THE HINDOOS,

AND OTHER EASTERN NATIONS,

IN THEIR

MEDICINE, ARTS, AND AGRICULTURE;

CONTAINING ALSO

FORMULÆ,

WITH PRACTICAL OBSERVATIONS,

NAMES OF DISEASES IN VARIOUS EASTERN LANGUAGES,
AND A COPIOUS LIST OF ORIENTAL BOOKS IMMEDIATELY
CONNECTED WITH GENERAL SCIENCE,
&c. &c.

BY WHITELAW AINSLIE, M.D. M.R.A.S.

LATE OF THE MEDICAL STAFF OF SOUTHERN INDIA.

VOL. I.

LONDON:
PRINTED FOR
LONGMAN, REES, ORME, BROWN, AND GREEN,
PATERNOSTER-ROW.
1826.
"Differre quoque pro natura locorum genera medicinæ, et aliud opus esse Romæ, aliud in Gallia, aliud in Egypto."

TO

HIS MOST GRACIOUS MAJESTY,

THE KING,

THIS WORK

IS,

WITH PERMISSION, DEDICATED,

BY

HIS MAJESTY'S

MOST FAITHFUL, MOST DEVOTED,

AND MOST OBEDIENT

SERVANT AND SUBJECT,

WHITELAW AINSLIE.
### CONTENTS

of

THE FIRST VOLUME.

---

**Preface.**

<table>
<thead>
<tr>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Table shewing the Orthography that has been adopted</td>
<td>xii</td>
</tr>
<tr>
<td>Weights and Measures</td>
<td>xiii</td>
</tr>
<tr>
<td>Forms of Prescription</td>
<td>xvii</td>
</tr>
<tr>
<td>Explanation of the Abbreviations</td>
<td>xviii</td>
</tr>
<tr>
<td>Postscript</td>
<td>xix</td>
</tr>
</tbody>
</table>

**CHAP. I.**

Articles of the British Materia Medica found in India and other Eastern countries. — Their use amongst the native inhabitants, including also some articles of diet for the sick  | 1    |

**CHAP. II.**

Metals and Metallic Substances found in India and other Eastern countries     | 495 |

**CHAP. III.**

Formulæ, with practical Observations                                          | 579 |

A 4
PREFACE.

This publication is, properly speaking, the second edition of that which was printed in India, in 1813, under the title of "Materia Medica of Hindoostan, and Artisans' and Agriculturists' Nomenclature;" but as much new, and, I trust, interesting matter has been obtained since that time, in the various branches treated of, I have thought it advisable to give the book a somewhat more comprehensive appellation.

The very flattering manner in which the Madras edition was received by all the high authorities in India, the general utility of which it was found in that country, the subsequent approbation it met with from the Honourable the Court of Directors, and the numerous applications that have been made for it since out of print, have induced me to lay before the public this enlarged, and, I hope, much improved work.

It had long been a source of regret that there was no where to be procured a correct list of the different articles employed by the natives of Hindoostan in their arts and manufactures, nor any sufficiently full and detailed account of their medicines. It was with a view of remedying these evils in some measure that the treatise was originally undertaken.

In adopting another name for it, I have, at the same
time, deemed it proper to change the arrangement, and have divided it into distinct parts: the first of these comprehends such of our drugs as are found in India and other Eastern territories: in it I have attempted to give some account of their different uses amongst the inhabitants of those regions, and have also noticed several articles of diet as the most proper for the sick and delicate. In fact, it has been my study, to the best of my ability, to supply what has long been wanted, a kind of combining link betwixt the Materia Medica of Europe and that of Asia. Of the other parts of the work I shall say but little here, as each will have its appropriate Preface: thus much, however, I may observe, that in Volume II. will be seen a description of those medicines which are almost exclusively employed by the Hindoos and other Oriental nations; and that the remainder of the Materia Indica will be found to treat of such articles as are used by them in their arts and manufactures; and also of those vegetables which are cultivated as food, and which will be observed to embrace a very numerous list; the natural consequence of this circumstance, that as a large proportion of the natives of India are prohibited by their religion from eating animal food, they have naturally been led to seek for a luxurious variety from another kingdom.

That the volumes now with great diffidence laid before the British public have many defects I am but too well convinced: that they contain matter which may be considered as new in the mother country will not, perhaps, be denied: that they are the result of long and patient investigation I myself
feel. The path which I pursued was no beaten track, but winding, and often scarcely to be traced; overgrown with innumerable useless and noisome weeds, yet occasionally adorned by flowers of rare beauty, and others possessing still more valuable qualities. If I have been so fortunate as to cull a few that may ultimately prove of real utility to mankind, I shall regret neither the time nor the labour that I have bestowed in the search; and may then, too, be excused for having dragged into public notice some of Nature's fairest offerings, with little to recommend them, but "a brilliant aspect and an empty name."

As might naturally be supposed, several of the drugs mentioned in Vol. I. cannot be found in any of the provinces of India in such quantities as to preclude the necessity of regular supplies from established stores; nor are they always to be met with of the best quality; yet it must be gratifying to know what those medicines are that can be procured in the bazars, or gardens of the wealthy inhabitants, in cases of extremity.

The Sanscrit names for many articles are so numerous (synonyms), that there has been some difficulty in selecting; a circumstance which it is necessary to mention, as the reader no doubt will occasionally find amongst them appellations that are not familiar to him; and it is also to be observed, that, as in the wide range of territory in which the different languages are spoken, there cannot fail to be a variety of terms and dialects, the reader must expect, now and then, to meet with spellings and termi-
nations which he is perhaps not accustomed to. For such peculiarities there is no remedy. The Tamool and Tellingoo adopted, are those of the most learned Hindoos of the Southern provinces of India; Brahmans from the pagodas of Madura, Seringham, and Tanjore.

A TABLE SHewing THE ORTHOGRAPHY THAT HAS BEEN ADOPTED IN THIS WORK, IN CONVEYING THE SOUND OF THE ORIENTAL WORDS IN THE ENGLISH CHARACTER:

ä, as in the English word call, or French word baton.
a, as in the English word man.
äi, as the letters aw-ye in the phrase saw ye? pronounced quick.
ay, as the letters ay in the words day and may.
ë, or é accented thus, as the first e in the word elate, or as e in the French word cès.
ee, as ee in the word bee.
ëi, as the letters ay ye in the English phrase say ye? pronounced quick.
g, as g in the English word good, or French word grand.
gh, as gh in the English word ghostly.
ie, as ea in the English word sea, or ie in the French word colonie.
j, as j in the English word join.
oo, as oo in the English word moon, or ou in the French word loup.
u, as u in the English words mud and sun.
y, as y in the English word my, or as ei in the German word schein (bright).

o, as o in the English word bold, or as eau in the French word beau, or au in mauvais.

i, as i in the English word if, or in the French word si.

c and k, indiscriminately, as k in the English word keep, or c in the English word cold.

ch, as ch in the English word charm.

sh, as sh in the English word shame, or as ch in the French word chapeau.

ow, as ow in the English word cow.

ou, as ou in the English word doubt.

When p precedes h, the h is then to be slightly aspirated, as in the word phool (a flower, in Dukhania), pronounced p-hool: in like manner, h following any other consonant is to be slightly aspirated.

This mark (‘), so slanting, over a vowel, or this ("), denote that it must be pronounced quick; but when thus ("), straight or horizontal, over a vowel, it denotes that it is to be pronounced full and broad, as å in war.

N. B. In representing Sanscrit words in Roman letters, u and ü, i and i, are to be pronounced as by the Italians, according to Sir W. Jones’ system of orthography.

WEIGHTS AND MEASURES.

The following account of the weights and measures in use in the peninsula of India is almost entirely taken from Dr. Heyne’s “Statistical Tracts on India.”
The weights or dry measures in India are of two different kinds, both defined very accurately. The former is called the bazar weight, and is used in the sale of what are termed bazar articles; such as tamarinds, turmeric, and all sorts of drugs. The latter is used for grain, both in the bazars and all revenue transactions. The great difficulty lies in the multiplicity of weights employed in different districts; for almost every principal town or small district has weights and measures differing widely from all those of the neighbourhood.

The general and uniform measure and weight is the puca seer, which is properly understood to consist of sixty-four dubs, that is, supposing each dub to weigh four drachms; but sometimes the dubs are lighter than that, in which case more dubs are added to make up the seer. This measure appears in some writings of very old date, for instance, in the Sudra Ganitam.

Both fluids and dry articles are determined by weight, with the exception of oil, for the sale of which a kind of graduated measure is employed. The works which chiefly treat of the subject of weights and measures are the Lilavatī and the Sudra Ganitam, just mentioned: the last is written in Tellingoo, but is said to have been translated from the Sanscrit; the former is a well-known Sanscrit sastrum.

The following weights are the standards for the Circars: as they are derived from the Sanscrit, however, they may be considered as general for Hindoostan:—
PREFACE.

1. Paddy seed (grain of rice in the husk) is 1 visum = $\frac{1}{8}$ grain.
2. Visums are 1 gulivinda*, or 1 patika = 2 grains.
3. Gulivindas are 1 addaga = 4 grains.
4. Addagas are 1 chinun = 8 grains.
5. Chinums are 1 tsavila = 20 grains.
6. Tsavilas are 1 dharamun = 40 grains.
7. Dharanums are 1 mada = 1 drachm 20 grains.
8. Madas are 1 tulam = 4 drachms.
9. Tulams are 1 pava siru = 3 ounces.
10. Pavas are 1 siru = 12 ounces.
11. Sirus are 1 visa = 3 lbs. 12 ounces.
12. Visas are 1 yettu = 7 lbs. 8 ounces.
13. Yettus are 1 arda manugudu = 15 lbs.
14. Arda manugudus are 1 manugudu = 30 lbs.
15. Manugudus are 1 yadum = 150 lbs.
16. Yadums are 1 pandum = 300 lbs.
17. Pandums are 1 puladoo-candy = 600 lbs.

DRY MEASURE.

1. Dubs weight are 1 gidda = 2 ounces.
2. Giddas are 1 arasola = 4 ounces.
3. Arasolas are 1 sola = 8 ounces.

* Dr. Heyne calls this the seed of the abrus precatorius, but in what language I know not, as the common Sanscrit name is rac-tica, and the Hindoostanie retti: the Tamools term it coondoo- munny, the Tellingoos ghoorie ghinza, and the Malays telâe. The appellation of the plant in Hindoostanie is guncha, in Sanscrit gunja; the Mahometans of Lower India bestow on it the name of goomchie. Sir William Jones makes one of the seeds to weigh one grain and five-sixteenths; and informs us, that the retti weight, used by jewellers, is equal to two grains three-sixteenths. See Asiatic Researches, vol. ii. p. 154, and vol. v. p. 92.
The following table of weights was given to me by a Tamool medical practitioner in great repute in Southern India, and who was partially acquainted with the European Materia Medica:

2 Grains of dried paddy* make 1 grain (apoth.)
16 Ditto make 1 gold fanam.
1 Gold fanam makes 8 grains (apoth.)
10 Gold fanams make 1 star pagoda.
1 Star pagoda makes 4 scruples (apoth.)
10 Star pagodas make 1 pollam.
25 Pollams make 1 seer.
40 Pollams make 1 viss.
8 Viss make 1 maund.
20 Maunds make 1 parum or candy, weighing 500 lbs.

In making a trial with regard to the correctness of the above table, it appeared to me, that about five grains of the dried paddy weighed two grains (apoth.); and that the star pagoda was in weight, perhaps, half a gold fanam more than ten gold fanams.

* Rice, while in the husk, is called paddy.
FORMS OF PRESCRIPTION IN USE AMONGST THE
NATIVE MEDICAL PRACTITIONERS.

1. INFUSION. Koodineer குட்டிநையர் (Tam.) Wor-
réveshāna cáshāyum (Tel.) Nookoo نَكُو (Duk.)
A cold infusion is, in Sanscrit, sitaha، انقاع (Arab.)

2. DECOCTION. Cushāium சுசியும் (Tam.)
Wundéné cáshāium (Tel.) Kara كَار (Duk.) Stru-
taha (Sansk.)

3. LINIMENT. Tállum* தேலம் (Tam.) Tayl
ligāna (Duk.) Dallum (Tel.)

4. LINIMENT FOR THE WHOLE BODY. Tooñlay
துளைய (Tam.)

5. ELECTUARY. Layghium லையினை (Tam.)
Kútvā خلوا(Duk.) Layghum (Tel.)

6. POWDER. Shoorúnūm சுறுனும் (Tam.)
Booknee بكنئ (Duk.) Shoorúnūm (Tel.) Kalkaha †
(Sans.)

7. PILL. Mātray மாற்றை (Tam.) Ghūlie
(Al.) Matirloo (Tel.) حب (Arab.)

8. PLASTER. Kālimboo கசிம்பு (Tam.) Molam
(Al.) Molam (Tel.) مهلم (Arab.)

* This properly signifies a liniment for the head.
† This is, more properly speaking, a compound powder of
several well dried plants.
EXPLANATION OF THE ABBREVIATIONS THAT ARE USED IN THIS WORK.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sans.</td>
<td>Sanscrit.</td>
</tr>
<tr>
<td>Fren.</td>
<td>French.</td>
</tr>
<tr>
<td>Tel.</td>
<td>Tellingoo.</td>
</tr>
<tr>
<td>Ital.</td>
<td>Italian.</td>
</tr>
<tr>
<td>Germ.</td>
<td>German.</td>
</tr>
<tr>
<td>Tam.</td>
<td>Tāmool, or Tāmūl.</td>
</tr>
<tr>
<td>Arab.</td>
<td>Arabic.</td>
</tr>
<tr>
<td>Pers.</td>
<td>Persian.</td>
</tr>
<tr>
<td>Can.</td>
<td>Cánárese.</td>
</tr>
<tr>
<td>Cyn.</td>
<td>Cyngalese.</td>
</tr>
<tr>
<td>Guz.</td>
<td>Guzerattie.</td>
</tr>
<tr>
<td>Mal.</td>
<td>Malay.</td>
</tr>
<tr>
<td>Jav.</td>
<td>Jávánese.</td>
</tr>
<tr>
<td>Sum.</td>
<td>Sumātrán.</td>
</tr>
<tr>
<td>Maléal.</td>
<td>Máléalie (language of the Malabar coast).</td>
</tr>
<tr>
<td>Mahr.</td>
<td>Mahratta.</td>
</tr>
<tr>
<td>Dut.</td>
<td>Dutch.</td>
</tr>
<tr>
<td>Port.</td>
<td>Portuguese.</td>
</tr>
<tr>
<td>Hindū.</td>
<td>Hindooie.</td>
</tr>
<tr>
<td>Hind.</td>
<td>Hindoostanie.</td>
</tr>
<tr>
<td>Bāl.</td>
<td>Bāli (island of).</td>
</tr>
<tr>
<td>Braz.</td>
<td>Brazilian.</td>
</tr>
<tr>
<td>Beng.</td>
<td>Bengalie.</td>
</tr>
<tr>
<td>Chin.</td>
<td>Chinese.</td>
</tr>
<tr>
<td>Siam.</td>
<td>Siamese.</td>
</tr>
</tbody>
</table>
POSTSCRIPT.

I cannot conclude this short proem without acknowledging how much I have been indebted to many obliging friends, whose names may be seen in different parts of this work; but I hope that I shall be excused if I here express my peculiar sense of obligation to Mr. Charles Wilkins, for the valuable information so kindly communicated to me on various subjects; and also to Dr. B. Babington, jun., and Captain Michael, for the assistance they have so readily given me in fixing the true orthography of many of the Tamool and Mahratta names.

---

FOR SUCH AS MAY NOT BE CONVERSANT WITH MEDICAL SUBJECTS, IT MAY BE USEFUL TO EXPLAIN CERTAIN SIGNS OR MARKS USED BY PROFESSIONAL MEN: —

gr. — a grain.
Θ — a scruple.
ʒ — a drachm.
ʒ — an ounce.
lb. — a pound weight.

m — a minim.
fr — a fluid drachm.
fr — a fluid ounce.
O — a pint.

2
**APOTHECARIES' WEIGHT.**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>lb. 1</td>
<td>12</td>
<td>96</td>
<td>288</td>
<td>5760</td>
</tr>
<tr>
<td>3 1</td>
<td>8</td>
<td>24</td>
<td>60</td>
<td>20</td>
</tr>
<tr>
<td>3 1</td>
<td>8</td>
<td>60</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**MEASURE, LONDON PHARMACOPEIA.**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8</td>
<td>128</td>
<td>1024</td>
<td>61440</td>
</tr>
<tr>
<td>0 1</td>
<td>16</td>
<td>128</td>
<td>7680</td>
<td></td>
</tr>
<tr>
<td>f 3 1</td>
<td>8</td>
<td>480</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>f 3 1</td>
<td>60</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the Preliminary Observations to Volume Second (page xxxvii.) I have expressed a notion, that in some parts of the Travancore country several of those articles of the Materia Medica, for which the world is now indebted to America or the West Indies, might be produced. I am much inclined to think, that the *calllicocca ipecacuanha* (Brotero) would thrive there as well as in Brazil. So, perhaps, might the *convolvulus jalapæ*, as well as in Mexico and Vera Cruz. In like manner the *guaiacum officinale* might be tried, and should it succeed most valuable would be the acquisition to India: both the wood and gum-resin are medicines of importance; the first is generally given in decoction, the latter in doses of
from grs. x. to 3i.; in combination with a little opium and calomel, it is an admirable alterative and diaphoretic. The atropa belladona, I am quite certain, would grow well in the Mysore country, about Bangalore; so would the colchicum autunnale; the active principle of this plant has been found to depend on the alkaloid termed veratria. The colchicum autunnale is supposed by some to form the basis of the eau medicinale of Huson. In all the forms in which the meadow-saffron is given, it is powerfully and sometimes dangerously narcotic. Sir E. Home has recommended the vinum colchici in gout and rheumatism; the dose of the powder is gr. i., of the acetum f3ss., of the oxymel f3i, of the vinum f3i., and of the spiritus colchici ammoniatus f3i.

The author saw the digitalis purpurea (fox-glove) growing in the botanical garden at Bangalore some years ago, but the plant was not robust. Could it, by any care, be made to thrive in that cool climate it would be a great point gained. The leaves and seeds are used in medicine. Internally, the digitalis is given to diminish the velocity of the circulation in various maladies; to diminish the irritability of the system; to increase the action of the absorbents*; and to increase the discharge of urine. Externally, it has been applied to scrophulous † tumours. The dose of the powder of the digitalis purpurea is from gr. ss. to grs. v., as a diuretic and

* See Dr. Duncan's Edinburgh New Dispensatory for 1826, p. 336.
† See the same.
narcotic; of the infusion from \( f^3\)ss. to \( f^3\)ij., as a diuretic; of the decoction from \( f^3\)i. to \( f^3\)uss., as a diuretic; of the tincture from \( m^viii. \) to \( m^lxxv. \), as a diuretic. The powder is best given in combination with squills. RX Pulv. digit. grs. ss., pulv. scillæ grs. iss., potassæ supertart. 3iiss.; fiat pulvis, ter in die sumendus; in dropsy. Dr. Mossman speaks strongly of the powers of digitalis in obviating pneumonic inflammation, by its directly sedative effect; but, given incautiously, it is apt to injure, I think, the constitution, and certainly is hurtful after the purulent stage of phthisis has come on. The late Dr. Fowler ordered in pneumonia 3ss. of the decoction to be taken twice or thrice in the twenty-four hours; which decoction was made by boiling two ounces of the fresh leaves of the purple fox-glove in a pint of pure water, till only seven ounces and a half remain, and adding to it 3ss. of tincture of cardamoms.

The *conium maculatum* (hemlock) would not, I should think, fail at Bangalore; the powder of the leaves, in doses of from grs. ij. to grs. xv., is narcotic and sedative, so is the extract in doses of from gr. i. to grs. vi., as also the tincture given to the quantity of from \( f^3\)ss. to \( f^3\)i. Whether the *hop* (humulus lupulus) would do well in any part of India is a doubtful question; a chemical bitter principle discovered in it by Dr. Ives of New York, it is thought, contains the active virtues of the plant, which is anodyne; the dose of the extract is from grs. iv. to grs. xv., that of the tincture from \( m^xxv. \) to \( m^l \).
Lettuce (lactuca sativa) is common at Bangalore, as well as other parts of India, but I am not aware that any of the lettuce opium has ever yet been prepared from it; a substance, for a knowledge of the virtues of which the world is indebted to the excellent Dr. Duncan, senior, and subsequently to Dr. Young; it has, though by no means in so great a degree, the quality of opium without its binding effects; it is sometimes called lactucarium: the dose is grs. ij. to grs. v., that of the tinctura lactucarii ml. to f3ss.

The leontodon taraxacum would thrive at Bangalore, or on the Nillgherry mountains; it is the common dandelion; an extract prepared from the whole plant, which contains a bitter milky juice, has been supposed by Pemberton to be of use in hepatic obstructions and dyspepsia, but Dr. Duncan, junior*, thinks it possesses little virtue: the dose is from grs. x. to 5ss.

Of other new medicines, not of Indian produce, I shall simply here mention bismuth and the Prussic acid. The bismuthi subnitras is tonic in doses of from grs. iij. to grs. v. The bismuthi oxydum album, in doses of grs. iij. and given twice daily in combination with grs. xv. of compound powder of tragacanth, is useful in dyspepsia. The Prussic acid, or, as it is sometimes called, hydrocyanic acid, is obtained from bitter almonds and peach and laurel leaves; it was discovered by Scheele in 1789, and first got pure by Gay Lussac; it is

* See Edinburgh New Dispensatory for 1826, p. 392.
liquid, colourless, and transparent, of a powerfully deleterious odour, like that of bitter almonds; it is the most deadly poison known; a single drop, when pure, destroys a dog in an instant. The *medicinal Prussic acid* is made by adding to the pure acid six times its *volume* of distilled water: the dose of this is from a quarter of a drop to two drops; it has been given as a *sedative*, in distilled water and syrup, by Magendie and others, in nervous coughs, asthma, and consumption. Dr. A. T. Thomson found a lotion, prepared with the medicinal hydrocyanic acid, spirit of wine, and distilled water, of use in impetigo.
MATERIA INDICA.

PART I.

CHAPTER I.

ARTICLES OF THE BRITISH MATERIA MEDICA FOUND IN INDIA AND OTHER EASTERN COUNTRIES.—THEIR USE AMONGST THE NATIVE INHABITANTS, INCLUDING ALSO SOME ARTICLES OF DIET FOR THE SICK.

Before proceeding to describe the manner in which the following mineral acids are prepared by the native druggists, I think it proper to observe, that in all operations of this nature they are extremely clumsy and unscientific; their knowledge of chemical decomposition and new combination is confined; and their vessels and utensils are by no means of the most convenient kind. It must be gratifying, however, to the reader, to find that such attempts are made by the Tamool medical men; and I believe this is the first time the formulæ have appeared in an English garb.
I.

ACID SULPHURIC. Ghéndága Tràvagum (Tam.) Gunduck ka utir (Duk.) Gundáká rása (Cyn.) Arékgowgird (Pers.) Rooházim also Maulkibrit (Arab.) Acide sulphurique. (Fr.) Schweffelsaure (Germ.)

ACIDUM SULPHURICUM.

The Tamool vyttians (physicians) prepare this article nearly in the same way that we do; viz. by burning sulphur (ghéndágum) with a small portion of pottle ooppoo (nitre) in strong earthen vessels. They prescribe it, diluted, internally, in scrofulous affections, and in cases of general debility. It is also given in an infusion of cloves in certain bowel complaints, unaccompanied with tenesmus.

The diluted sulphuric acid is a favorite medicine of the Persians, who call it zakāb (Pers.)

European practitioners give the “acidum sulphuricum dilutum” as a tonic, stomachic, antiseptic, and astringent, in doses of from ten to twenty drops. The ancients supposed acids in general to be stomachic. (Cels. lib. ii. cap. 88.)

II.

ACID NITROUS. Pottle ooppoo tràvagum (Tam.) Vedîoonoorása (Cyn.) Shorakateezab (Duk.) Arékishorâ (Pers.) Maulabker (Arab.) Sterkwater (Dut.) Agua forte (Port.) Acide nitrique (Fr.) Salpeter säsür (Germ.)

ACIDUM NITROSUM.
This acid, the Hindoos make a clumsy attempt at preparing, in the following manner, which must not be rigidly criticised by the chemists of Europe: the formula was given to me by a vyitian of Trichinopoly.

Take of pottle ooppoo (salt-petre) - 20 pollums paddicārum (alum) - 16 pollums cǎdālay poolippoo neer † - 18 pollums

Mix, and distil with an increasing heat till the whole of the nitrous acid is condensed in the cooppie (receiver.)

The native practitioners consider pottle ooppoo trāvāgum as a diuretic, they also prescribe it as a tonic when properly diluted, and order it after tedious febrile affections.

European practitioners give the diluted nitric acid as a tonic and antiseptic, in doses of thirty or forty drops diluted with water.

The nitric acid is well known to be obtained in Europe from the nitrous acid, by pouring the latter into a retort, adapting a receiver, and subjecting it to a little heat, until the reddest portion of the acid shall have passed over into the receiver, and that which remains in the retort appears colourless. The diluted nitric acid is no longer supposed to possess any specific virtue in syphilis, but merely to act as a tonic; it has also of late years been used for hepatic affections in the form of a bath, as first recommended by Dr. Scot of Bombay, in 1796: when used as a bath, the diluted acid should be added to the water until it is about as sour as vinegar; or the bath may

* The nitrous acid properly prepared, consists of nitrous gas loosely combined with nitric acid and water.
† See an account of this in a note under acid muriatic.
be prepared with the nitro-muriatic acid, which is the *aqua regia* of the elder chemists,

III.

**ACID MURIATIC.** *Ooppoo trāvāgum* (Tam.) *Lawana trāvāgum* (Tel.) *Nemuk ka teezab* (Duk.) *Loonoo rasa* (Cyg.) *Acide Muriatique* (Fr.) *Kochsalsäure* (Ger.)

**ACIDUM MURIATICUM.**

This acid the Tamool doctors prepare in the following singular manner:

Take of ooppoo (common salt) 8 pollums
paddicārum (alum) 6 pollums
cádálay poolippoo neer* 8 pollums

Let the common salt and alum be first well dried and pounded together, then add the other ingredient, and distill till the whole of the muriatic acid is dis-engaged, and condensed in the *cooppie* (receiver.)

This is considered by the native practitioners as a stomachic and tonic, and is prescribed in conjunction with an infusion of spices.

The muriatic acid is an useful adjunct to gargles in the proportion of from 3 ss to 3 ij in 3 vi of any fluid in ulcerated sore throat; and is considered as tonic and antiseptic, given internally in typhus fever, and in some cutaneous eruptions: it is, without doubt,

* The dews of night falling on clothes spread over the Bengal horse gram (*cicer arietinum*) whilst growing, are rendered slightly acid. The liquor wrung out of the clothes is called in Tamool cádálay poolippoo neer, and is recommended by the vyttians as a cooling drink; and is otherwise used by them as a common menstruum for medical purposes. The Tellingoos call it *sennāgālu*. Examined by Vauquelin, it was found that it contained oxalic, malic, and a little acetic acid. (See Dr. Heyne’s Tracts on India, pages 28, 29.)
powerfully antiseptic. The dose Mr. Thomson recommends in his excellent London Dispensatory, is from ten to twenty drops in a sufficient quantity of any bland fluid; or in an infusion of Cinchona bark. But, perhaps, the most important use of this acid is as a means of purifying the air from contagious miasmas, by being diffused through it in the form of vapour. Dr. Paris informs us in his Pharmacologia (p. 229), that after a copious evacuation of the bowels, he found this acid useful in preventing the generation of worms.

IV.

AGARIC. Garikoon गएरिकू (Tam.) Agāri- kun اگاریکون (Arab. and Duk.) Agaric de chêne (Fr.) Feuerschwamm (Ger.)

Boletus Igniarius (Lin.)

Cl. and Ord. Cryptogamia Fungi. Nat. Ord. Fungi (Lin.)

Agarikoon is the appellation given to this fungus, equally by the Tamoools and Mahomitans of India. It would appear by a passage in Dioscorides to be originally an old Sarmatian word, and to have been thence borrowed by the Arabs. The little that is found in India, is probably brought from Alexandria by way of the Red Sea; Sir William Jones tells us, that agaric is found in Hindoostan* on a tree, the Sanskrit name of which is caraca.

The Boletus Igniarius, a parasitical plant which grows upon the oak, is said to be the most valuable; and is what has been so much celebrated as a styptic,

* See Asiatic Researches, vol. iv. p. 311.
and in preparing the *amadou*, used in some parts of the continent for tinder. Another species, *Boletus pini laricis*, or male agaric, has been given in substance, and is obtained of the best quality from Muscovy and Tartary.

So little is yet known of the fructification of the fungi, that the characters have been hitherto taken from the external form; seven species of *agaricus* are indigenous in Jamaica; and Browne, in his Natural History of that island, informs us, that the *agaricus striatus*, or large white agaric, is the most effectual application hitherto known to restrain the effusion of blood in recent or old wounds, applied in small pieces to the extremity of the vessels. See Hortus Jamaicensis, (vol. ii. p. 528.)

The Arabians place garikoon amongst their *Muffettehat*, متعمقات (Deobstruentia.)

The *Boletus Igniarius*, when prepared, is without smell, but has an astringent taste: chemically examined, it was found to contain, according to Bouillon la Grange, resin, extractive matter similar in its nature to animal gelatin, and different salts. Mr. Eaton has called the attention of the scientific world to this fungus, by its peculiar flesh-like property while growing; if cut, the wound heals up by a sort of first intention, leaving not even a cicatrice nor any evidence of the incision. (Solliman’s Jour. vi. 177.)

V.

**ALMOND, PERSIAN.** *Parsie Vadomcottay* (Tam.) *Waloo Looway* (Cyn.) *Inghoordi* (Sans.) *Parsee Vadomvittooloo* (Tel.) *Amendoas* (Port.) *Badamie Parsie*

Almonds are brought to India from the sea ports of the Persian Gulph. Tavernier in his Travels in Persia (book v. chap. xii.), tells us, that they grow in great abundance in the territories of Yesd and Kerman; where the bitter and sweet kinds are distinguished by the names of badam telkh and badam shereen

The almond tree is a native of Syria, Turkey, and Barbary, but is now naturalized in the south of Europe.* It rises to the height of twenty feet, and divides into many spreading branches; the leaves are about three inches long, and the flowers are similar in form to those of the peach, but larger.

The Hindoos do not appear to use almonds as a medicine; the Arabians and Persians place blanched sweet almonds amongst their Mobehy-adت میوهات (Aphrodisiacae); the bitter sort (which Mr. Gray tells us is poisonous to many birds), they consider as lithontripic, and place it accordingly amongst their Muffutëtëht مغفستات

Three species of amygdalus grow in the botanical garden of Calcutta; the Amygdalus Persica, or peach tree, thrives well in cool situations in India; its

* Spain and Italy; particularly in the kingdom of Naples, in the territories of Bari, Lecce, and Abruzzo.
Arabic name is خوخ (khookh); the Persian is شفتالو (sheftaloo.)

Mr. A. T. Thomson, in his excellent London Dispensatory, informs us, that the two varieties of amygdalus communis, the bitter and sweet, are not distinguished from each other by any particular appearance, and are known only by the taste of the kernel of their fruit; he adds, however, that the Jordan almonds, the best sweet almonds brought to England, are said to be the produce, not of a variety, but of a distinct species of amygdalus.

Almonds now are little used, but as food; though Bergius in his Materia Medica, tells us, of their having cured an intermitting fever, when the Peruvian bark failed. Mr. Thompson found the emulsion of service externally in the impetigo; its internal use is well known in cases of strangury.

Boullay and Proust have confirmed the analogy which had been stated to exist between sweet almonds and the human milk; the former consisting of 54 sweet oil, 24 albumen, 6 sugar, and 3 gum. The bitter almond in addition to these substances contains prussic acid in union with a peculiar volatile oil. Noyau is made with bitter almonds blanched, 3i, proof spirit hss., sugar 3iv. See Paris's Pharmacologia, p. 252. The ancients, as we learn from Pliny, had some curious notions regarding bitter almonds, considering them as soporific, emenagogue, and diuretic. See Natural History, lib. xxiii. cap. xviii.

VI.

ALOES. Cárriabálmum தம்பு (Tam.) Catasha (Māleālie.) Moosumbir مصنبر (Duk.) Co-
marika (Cyngh.) Olowaton وولائي (Malay.) Moomsumbrum (Tel.) Sibbir صبر (Pers.) Aloe (Dut.) Aloes (Port.) Eyhuwa بلهًا (Hind.) Suc. d’aloes (Fr.) Glausinde aloe (Ger.)

Aloe Spicata (Lin.)


The above are the names commonly given to this inspissated juice and gum resin, in India and some other eastern countries; and which is the article, as it is brought from the Cape of Good Hope, or from the Island of Zocotora.* The latter is the best, being of a reddish brown colour, glossy, as if varnished, and of a delightful aromatic odour; they are evidently, however, from the same species of aloe, (Spicata). Its stem in circumference is about four inches in diameter; rising three or four feet in height; leaves spreading, about two feet long, subverticillate, gradually coming to a point, with remote teeth. The whole plant has a dusky hue; and, when cut, there exudes an amber-coloured viscid juice, which has much of the taste and smell of the Socotrine Aloes. It is growing in the Governor’s garden at St. Helena.

The A. Spicata grows in abundance on the Island of Zocotora (now belonging to the princes of Hâdramaut, a province of Arabia, contiguous to Yemen); and also in many parts of the south of Africa, such as in the kingdom of Melinda, where the greater part of the extract is prepared that is now sold under the name of Socotrine Aloes. There is another

* Zocotora was discovered by the Portuguese in 1509; for an account of the island and its capital (Tamerin), see Sir Henry Middleton’s Voyage to the Red Sea, in 1610.
sort of aloes, common in the Indian bazars, and which is of a very inferior quality, resembling more what is called in Europe, Barbadoes Aloes. It is more dusky in its colour, has not the pleasant smell the other has, and is extremely bitter. It is brought from Yemen in Arabia to the western ports of the peninsula, and is, in all probability, obtained from the Aloe Perfoliata. * (Lin.) This species of the plant is common in India; though I cannot learn for certain that any of the drug is prepared from it. The Sanscrit name of it is taruni †; in Hindostanie and Bengalie it is called ghrita koomāree, and is growing in the botanical garden of Calcutta. In Tamool it is termed kattālay and in Canarese, ravana. It is the herba babosa of the Portuguese.

Baconnot conceives aloes to be a substance sui generis, which he calls bitter resin; others regard it as a compound of gum, resin, and extractive matter. The native practitioners of India prescribe it in nearly the same doses that we do; from five to twelve grains as a purge; and like some of the ancient medical writers, suppose it to be less hurtful to the stomach than any other cathartic. "Ideoque omnibus catharticis aloe miscenda est." (Vide Cels. lib. ii. cap. 12). They also apply it externally round the eye, in cases of chronic ophthalmia. The Tamool doctors administer it, when toasted, in certain bowel affections to which women are subject after lying-in. Dr. Paris recommends aloes, in conjunction with assafetida, as a purgative in the dyspepsia of old people.

* This grows to the height of ten or twelve feet, with narrowish leaves of a sea-green colour, very succulent.

† There is a coarse kind of aloe, called musambrum, common in the bazars, which is, perhaps, prepared in India from this species.
The Arabians place it amongst their Mofeshyât (Carminativa). The reader may find the nature of aloes discussed in an Arabic book, entitled قاثوني في ططب (Kanooni-fil-tib). It is the work known in Europe under the name of the Canons of Avicenna.

Virey, in his "Histoire Naturelle des Medicaments" (page 185), tells us, that the agave americana, yields a yellow juice very analogous to the true aloes, and that it is considered as sudorific in decoction.

I shall conclude what I have to say of this article by observing, that it would appear to be most indicated in diseases distinguished by a deficiency of bile, such as sometimes occur after a long residence in India; or when it is necessary to stimulate the uterine vessels or rectum. It is contra-indicated in hæmorrhoidal cases. In delicate habits it is given with most safety when deprived of its resinous part. The ancients prepared with it a kind of eye-water. Vide Cels. lib. vi. p. 296. 304.

VII.

ALUM. 

Paddicārum (Tam.) 
Pttiika (Sans.) 
Chinakarum (Cyn.) 
Püttākāries (Duk.) 
Shebb (Arab.) 
Zajbelur (Pers.) 
Paddicāra (Tel.) 
Pedrahume (Port.) 
Alun (Dut.) 
also Sputica (Sans.) 
Alun (Fr.) 
Alauri (Ger.)

Alumen. Sulphas Aluminae (Edin.)

This article, though scarce, is found in some parts of Upper Hindoostan, and Captain Macdonald Kin-neir, in his very interesting Geographical Memoir of
Persia (p. 224.), informs us, that it is to be met with in its natural state, in mountains south of Kelat, in the province of Mekran; Mr. Elphinston says, it is found in clay in Calabaugh in Cabul, but that which is commonly used in India, is brought from China, and reckoned preferable to the alum of Jeypour. (See Elmore's Directory to the Indian Trade, p. 134.)

The greater part of the alum employed in commerce, is prepared by a peculiar management of schistose pyritic clays, usually called alum ores; at La Tolfà, where the best Roman alum is made, the alum-stone ore is used; at Hurlet near Glasgow, it is from the alum slate that a large quantity of alum is now prepared.

The ingenious Captain Arthur, late of the Madras Engineer Corps, told me that he discovered alum in Travancore, in a soft, dark coloured, laminated, earthy matter, which contained sulphur in the state of sulphuret of iron. Alum is well known in Europe to be often found in connexion with coal, as in Bohemia, which, however, as far as Captain Arthur observed, it does not appear to be in the present instance. Dr. Davy found alum in the interior of Ceylon. (See his Account of that Island, p. 30.)

The native practitioners prescribe alum occasionally as we do, as an astringent in cases of obstinate

* There is every reason to believe that the alumen of the Romans was not our alum, but rather a vitriolic earth; in Pliny's time the best was the Egyptian; it was also a produce of the island of Milo.

† Captain Arthur further said, that at certain depths in the soil, under the laminated matter, he observed a regular stratum of charcoal, a circumstance which led him to conjecture that the bed in which the mineral is found, is of a vegetable origin; and we know that it has been ascertained by Vauquelin and others, that in what is termed the alum ore of La Tolfà, potass is met with in considerable quantity.
diarrhoea, diabetes, and flour albus, and externally in ophthalmia. European practitioners use it externally and internally for restraining haemorrhages, as a gargle for the mouth and throat in cases of aphthae and cynanche, and in collyria for chronic ophthalmia. In haemorrhages the dose is from grs. iii. to ʒi every hour, till the bleeding abates. Alum whey is made by boiling ʒi of alum in a pint of milk and straining; the dose is ʒij or ʒiij: but alum is much more commonly used in the arts and manufactures.

The constituent parts of it according to the experiments of Mr. Phillips, are

<table>
<thead>
<tr>
<th>Material</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulphate of alumina</td>
<td>123.00</td>
</tr>
<tr>
<td>Bi-sulphate of potassa</td>
<td>119.32</td>
</tr>
<tr>
<td>Water</td>
<td>187.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>429.32</strong></td>
</tr>
</tbody>
</table>

The Arabians place alum amongst their Yabisatkerouh (Epulotica.)

Professor Beckman, as appears by his History of Inventions, seems to think it probable that the first alum works in Europe were established in 1459 in the island of Ischia, but that the most ancient in existence are those still carried on in the neighbourhood of Civita Vecchia in the Ecclesiastical States. In England, the first alum works were established in the sixteenth century by Sir Thomas Chaloner, near Gisborough in Yorkshire. Dr. Paris, in his Pharmacologia, informs us, that alum has the effect of retarding the acetous fermentation in vegetables. Its property of clearing muddy water is well known, as are the virtues of the alum curd in ophthalmia, this is made by agitating alum with the white of an egg.
AMBER. Umbir (Tam. and Tel.) Kārooba (Duk. and Pers.) Kepoor (Hind.) Ambar (Malay.) Kernulbeh (Arab.) Ambra (Cyng.) Ambar (Port.) Barnsteen (Dut.) Hambar (Bali.) Succin (Fr.) Bernstein (Ger.)

Succinum.

Amber has been found in the earth in the Deccan of a fine quality, but it is very scarce; I have also been informed that it is occasionally met with in the alluvial soil in Travancore. The greater part of what we have in India, however, is brought from Japan, where it is called nambu; and also occasionally from the Philippine Islands, where, De Comyn* informs us in his State of those Countries, that it is gathered in large lumps in the vicinity of the island of Samar and others named Bissayas.

Blumenbach, in his “Histoire Naturelle” (tome ii. p. 312.), mentions, that this substance in Europe is chiefly found at Palmnicken in East Prussia.

It is not rarely procured at Madagascar, either fished on the sea coast, or dug out of the earth. It is also frequently found on the shores of the Baltic, and may be met with in Poland, Sweden, Italy, and Sicily; in the last named country, chiefly on the shore of the river Giaretta.

Copal is occasionally sold in the Indian bazaars under the name of amber, and is deceitfully made into necklaces by the jewellers: a similar imposition we learn from Mr. Brydon, is practised in Sicily. (See article Copal in Part iii. of this work.)

* See his work, p. 39.
Various conjectures have been proposed respecting the origin of amber, which when rubbed is well known to have a strong negative electric virtue. Some suppose it to be a vegetable resin or gum; others a mineral oil thickened by absorption of oxygen. Parkinson thinks that it is inspissated mineral oil; Patrin, that it is honey modified by time, and mineral acids, which have converted it into bitumen. Distilled amber yields the succinic acid, and with it comes over the oil of amber, a valuable stimulant and antispasmodic. Of all the varieties of this substance, what is called the wax and honey yellow, are the most highly valued, equally because they are the most beautiful and more solid than the yellowish white-coloured kinds.

I cannot find that amber is used by the Indians as a medicine. The Arabians place it amongst their Mokéwyátdil (Cardiaca.)* In Europe, the officinal preparations of it are, the acid and oil; the latter is frequently given with good effect in cases of epilepsy and hysteria, in doses of from ten to fifteen drops combined with water by means of mucilage. The acid is produced, as above stated, by distillation; when purified and crystalized, it is fusible; and volatile, when heated; along with the succinic acid, there distils over a quantity of volatile oil of a light brown colour, and called the oil of amber.

IX.

AMBERGRIS. Min umbir (Tam.) Amber انبر (Duk. and Hind.) Shāhbooi

* For the notions of the Persians respecting amber, the reader is referred to a celebrated Persian work by Mohammed Mebdiy, written in 1756, entitled معدن تجربیات or Mine of Experience.
This is a solid opaque, generally ash-coloured and brittle, fatty, inflammable substance, variegated like marble, very light, and has when heated, a fragrant and singular odour; its specific gravity ranges from 780 to 926, and it consists, according to Bouillon la Grange, of adipocere, a resinous substance, benzoic acid, and charcoal. Ambergris is sometimes found floating in the Indian seas, or adhering to rocks in the Eastern Islands, and is an article of commerce from New Guinea, and is also to be met with on the shores of Arabia Felix, the Maldives, and the Philippine Islands, from which last place, Mr. Crawford tells us, in his History of the Eastern Archipelago (vol. iii. p. 446), it constitutes an article in the commercial returns to China. M. Turpin in his "Histoire de Siam," informs us, that he found it in that country; but it would appear that it can be no where procured of so fine a quality as on the coast of Madagascar.*

In Hindoostan, ambergris is chiefly used as a perfume, a drop or two of the essence mixed with a large quantity of lavender water, adding much to its fragrance. Dr. Fleming, in his Catalogue of the Indian Plants, however, tells us, that the native physicians in Bengal, consider the substance itself as aphrodisiac. The name min 'umbir has been given to ambergris by the Tamuls; and we know that

* See Objects interesting to the English Nation, by Elias Ha-beschii, Count Gika (p. 177), also Tavernier's Indian Travels.
Dr. Schwediur and others assure us, that it has been frequently found in the intestines of that species of whale called *physeter macrocephalus*; nay, it seems a fact now pretty generally understood, that all ambergris is generated in the bowels of the whale above mentioned, which is the species termed spermaceti whale.

For further particulars on this subject, the reader is referred to Thunberg's Travels (vol. iv. p. 98), Pennant's View of Hindoostan (vol. i. p. 149), and especially to the 33d and 38th volumes of the Philosophical Transactions.

Mr. Magellan, on the authority of M. Aublet, author of the "*Histoire de la Guyane,"* published in 1774, mentions an undoubtedly vegetable ambergris, gathered from a tree which grows in Guyana*, and there called *cuma*; it is of a whitish brown colour, with a yellowish tinge, melts and burns like wax in the fire, but is rather of a more powdery consistence than common ambergris.

The Arabians place ambergris as they do the last mentioned article; for their notions as well as those of the Persians respecting it, the reader may consult the Arabic work *Tusvim al Aladviah va Mokhteser Jalinus* نقويم الأدبيه و مختصر جالينوس it treats of the different disorders of the human frame, and is composed by *Abul Fazil Ben Ibrahim of Tabriz.*

**X.**

**ANISE SEED.** *Somboo* சொம்பு (Tam.) *Sompoon* (Tel.) *Jera manis* جرا مانيس (Malay.) *Anisu* أنيس

* See Nicholson's Dictionary of Chemistry applied to the Arts. (Article Ambergris.)
(Guz.) Sataphuspha (Sans.) Sonf (Duk.) Anison (Arab.) Rūzyaneh roomie (Pers.) Anys (Dut.) Anis (Port.) Mungfī (Jav.) also adis manis (Jav.) Kadis Manis (Bali.) Graines d’anis (Fr.) Anis (Ger.)

**Pimpinella Anisum** (Lin.)


Dr. Fleming gives this article a place in his "**Catalogue of Indian Medicinal Plants and Drugs,**" but I am inclined to think, that the greater part of what is found in India is brought from Persia. The plant is properly a native of Egypt, but is much cultivated in Spain and Malta. It is delicate, and rises about a foot only in height, the leaves roundish, lobed, and toothed, the flowers small and white.

The aromatic, sweetish, warm tasted seeds, are often confounded by the natives with *sweet fennel seeds,* and the Tamools then give them the name of *perinsiragum.* Anise seeds grow in Java, and are there called *adas manis*; the plant is in the botanical garden of Calcutta, and is there termed *mahoooree* (Beng.)

The native practitioners prescribe anise seeds as we do, in cases of flatulency and dyspepsia; commonly made into pills, the dose from eight grains to a drachm and a half.

The Arabians place this article amongst their **Mojeshyāt** (Carminativa.) See notions respecting it in a medical work, entitled شرح اسباب و عرامات by Nafis Ben Aviz. Celsus notices anise amongst his diuretics, "Urinam autem movent ocimum, mentha, hyssopum, anisum, &c. &c." (lib. ii. p. 92.)
ANTELOPE.  See article Deer.

XI.

ARROW ROOT, EAST INDIAN.  Koodmāo குவட்டமை (Tam.) Kooaka neshāsteh كواكنا شاشته (Duk.) Tikhar تك (Hind.) Kūoa (Māleālie.) also Kooghei.

CURCUMA ANGUSTIFOLIA (Roxb.)

Cl. and Ord. Monandria Monogynia.  Nat. Ord. Scitamineae (Lin.)

An excellent kind of arrow root, if it may be so called, is now prepared in Travancore from the root of the curcuma angustifolia of Roxburgh, no way inferior to that obtained from the maranta arundinacea (Lin.), in the West Indies.  So much of it has been made of late years on the Malabar coast, where the plant grows in abundance, that it has become a considerable object in trade, and is much prized in England.

This plant was found by H. T. Colebrooke, Esq., in the forests extending from the banks of the Sona to Nagpore, and was by him brought into the botanical garden of Calcutta.  Its bulb is oblong, with pale oblong pendulous tubers only; leaves petiolar, narrow lanceolar flowers, longer than the bractes.  (See Flora Indica, edited by Dr. Carey, p. 31.)

The name kūoa is given to most of the curcumas, amomums, and kæmpherias on the Malabar coast.  The root of the curcuma angustifolia had long been an article of food amongst the natives before it was particularly noticed by Europeans.  The finely
powdered flour boiled a little in milk, is an excellent diet for sick or infants.

The arrow root of the West Indies is there considered as alexipharmic, and powerful to resist poisons; the plant is a native of South America, and was first discovered by Plumier. The maranta arundinacea has lately been brought to Ceylon from the West Indies, and thrives well at the Three Korles, where arrow root is now prepared from it, reckoned of the finest quality. On that island a new species of maranta has lately been discovered and called maranta paniculata: the root is a medicine of the natives, and termed by the Cyngalese gét-olua.

For an account of the comparative quantities of amylaceous matter yielded by different West Indian vegetables, the reader is referred to vol. vii. of Dr. Simmon’s Medical Facts and Observations.

XII.

ASSAFÆTIDA. Pérun̩γum ஒருந்துக் (Tam.) Ingoova (Tel.) Hingga also hingoo (Sans.) Hing also Hînte (Duk. and Hind.) Angoo (Malay.) Hîlteit (Arab.) Ungoozeh (Pers.) Hîngóo (Cyg.) Duivelsdreck (Dut.) Assafetida (Port.) Ingu (Jav.) Hîngu (Bali.) Assafetida (Fr.) Stinkender asand (Ger.)

Ferula Assafetida (Lin.)


I am inclined to think, however I may differ from D’Herbelot, that the Hindoostanee and Malay names
of this article are Persian, as it is in Persia only that asafetida is produced, in the provinces of Korassan and Laar, from a plant there, called dirukht ungoo-
seh the Arabic name of which is kāshem
Another Arabic name for the plant is anjedān, that of the root māhroot. (See
Avicen. 130, p. 211.) For an excellent account of the appearance of the plant, the reader is referred to
Mr. Thomson’s London Dispensatory. It would
appear to rise to the height of nine feet, with a round
smooth stem surrounded with six or seven radical
leaves, nearly two feet long.

Captain Macdonald Kinneir, in his Geographical
Memoir of Persia*, informs us, that asafetida is
a staple export from Herat in Korassan; he also
mentions, that the leaves of the plant are eaten like
common greens, as is the root when roasted. The
plant, it would appear, grows also in India. (See Re-
marks on the Husbandry and Internal Commerce of
Bengal, p. 205.) This gum resin is obtained from
the roots of the plants when four years old; the stalks
having been previously twisted off; the tops of the
roots are wounded, and from the orifices thus made,
a juice exudes, which being exposed to the sun
hardens into asafetida.

Moomina, in his Mookurdāt†, tells us, that he con-
ceives this medicine to be of so heating a nature,
that if administered to a pregnant woman, it will
kill the child in the womb.

Asafetida is much used by the Brahmins against
flatulence, and to correct their cold vegetable food.

* See pages 182, 183 of the Memoir. See also Pottinger’s
Travels in Beloochistan.
† See list of Persian books at the end of Part ii. of this work.
(See Aromat. Hist. Garcia ab Horto, p. 18.) The Tamool practitioners hold it in high estimation, and prescribe it as we do in cases of weak digestion*, and as an antispasmodic and emmenagogue, in doses of from six grains to half a drachm.

The Arabians place assaefetida amongst their Mo-béyât (Aphrodisiaca), and Mósébétat (Hyp-notica.) See notions respecting it in a celebrated medical work, entitled زخیره خوازرم شاهی by Ismael Ben Hussen, written in Arabic.

The seed of the unjedan انجدار ان جد دار they place amongst their stimulants.†

XIII.

ARTICHOKE. Hirshuf حرشف (Arab.) Kunghir كنكر (Pers.) Artichaut (Fr.) Alcachofa (Port.) CYNARA SCOLYMYUS (Lin.)


The artichoke does not thrive in the Carnatic, but in the Mysore country, and in the northern provinces of India it succeeds tolerably well, and may certainly be considered as one of the most nourishing

* Particularly in that dyspeptic affection they term azírna vai-voo, the leading symptom of which is flatulence.
† Dr. Duncan, jun., in his valuable Edinburgh Dispensatory, informs us, that the ferula assaefetida plants which were sent to Dr. Hope by Dr. Guthrie from Petersburgh, produced healthy seed in the botanical garden of Edinburgh. Assaefetida, according to Brugnatelli, consists of gum, 60; resin, 30; and essential oil, 10 parts. Dr. Paris informs us, that in coughs attended with pulmonary weakness it is beneficial, and that in flatulent cholic in the form of enema, it acted like a charm. (Pharmacologia, p. 296.)
and best of all vegetables. The ancients prized artichokes highly, and had a strange idea that the juice of them had the power of restoring the hair of the head when it had fallen off; it was a standing dish at the Roman suppers, and Pliny tells us (book xix. chap 8.), that it was the dearest of all the garden herbs, so much so, that the lower classes of Rome were prohibited from eating it. The modern Arabs cultivate this plant with great care, and consider the root as a medicine of some value as an aperient; they call the gum of it *kunkirzud* and place it amongst their emetics. The receptacle of the flowers of the onopordum acanthium, or cotton thistle, may be eaten like artichokes; the plant itself, according to Withering, the ancients thought was a specific in cancerous cases.

XIV.

**ASARABACCA.** *Mooetricunjayvie* မိုတိုက်ဗျောင်း (Tam.) *Asaroon* اسارور (Arab. and Duk.) *Chéppoo tatakoo* (Tel.) *Oopana* (Sans.) *Tuckir* (Hind.) *Assaret* (Fr.) *Haseltwurtzel* (Ger.)

*Asarum Europæum* (Lin.)


The appellation *asaroon*, which has been given to this article by the Arabs and Mahometan conquerors of India, Moomina informs us, was first bestowed on it by the Syrians, in whose country the plant at one time plentifully grew, and whence the dried root and leaves 4
are now in all probability brought in small quantities to India.

Asarabacca is but little used in medicine by the native practitioners of Lower Hindoostan, though I find that the Tamool *vytians* occasionally prescribe the root as a powerful evacuant; they also employ the bruised and moistened leaves as an external application round the eyes, in certain cases of opthalmia; but I cannot learn that they ever use them as an emetic or as an errhine, for which they are so much celebrated in Europe, where they are also administered as a stimulant in chronic opthalmia and lethargic affections, in doses of from three grains to five, repeated every night till the full effect is produced.

The plant grows in many parts of Europe, and of a good quality in several of the northern counties of England. It is perennial, flowering in May; root creeping, fleshy and fibrous; leaves entire, opposite, of a kidney shape, and on foot stalks three inches long, they are somewhat hairy, and of a deep shining green colour.

The Arabians place asarabacca amongst their *Muffuttetat* (Lithontriptica), and *Mohelilat* (Discutientia.) For their notions respecting it, the reader may consult an Arabic medical work, entitled تَقْبَمُ إِذَا دُوَاعُ مُهَّتَسَم by Abul Fazil Ben Ibrahim of Tabriz.

XV.

**ASPARAGUS.** *Nakdown* (Hind.) *Yerámyá* (Arab.) *Margeeah* (Pers.)

*Asparagus Officinalis* (Lin.)
Asparagus is cultivated by the English inhabitants in most parts of India, but does not thrive in the Carnatic so well as in higher and more northern provinces; its name is from the Greek word ασπάραγος: it is supposed by some to promote appetite. Suetonius informs us, that the Emperor Augustus was very fond of it. The modern Arabs prize it highly, and place it amongst their aphrodisiacs. The use of it gives a peculiar strong smell to the urine.

XVI.

Balm, Arabian. Parsee cunjamkoray (Tam.) Mékka subza (Duk.) Bucklitzulfaristum (Arab.) Badrunj Büyeh (Pers.) Mélisse (Fr.) Mélisse (Ger.)

Melissa Officinalis (Var.)


This plant was originally brought to India from Arabia, and is therefore called Arabian Balm: it seems to differ a little in appearance from the garden balm, as we see it in Europe, resembling more what Mr. Millar has called Melissa Romana, which is common about Rome and other parts of Italy; the stalks are very slender, leaves rather short, the whole plant hairy, and not of so pleasant a smell as the officinal sort. It is not by any means common in India, but is occasionally met with in the gardens of rich Mahometans, who do not appear, how-
ever, to use it as a medicine. This plant is now seldom employed except as a tea and diluent in fevers.

The *melissa officinalis* was growing in the botanical garden of Calcutta in 1814, introduced from Europe in 1799.

**XVII.**

**BALSAM OF GILEAD.** *Akooyeeleśtemoonroo-mie* (Arab.) *Roghén bulsän* پلسان (Pers.) *Balsamier de la mecqye* (Fr.)

**AMYRIS GILIADENSIS** (Lin.)


This liquid gum resin and odoriferous cosmetic, I have never seen in India, but I understand that it is sometimes to be met with, and I see it has a place in the *Ulfuz Udwiyehek.* We are told by Alpinus, that the tree grows wild in Arabia, and there only; on the other hand, we learn from Mr. Bruce* that it is a native of Upper Ethiopia, and was thence at an early period, transplanted into the southern provinces of Arabia. “It appears to have been cultivated in Judea 1730 years before Christ; and it was from Gilead in Judea, that the merchants brought its resinous product in early times to Egypt;” it is to this day, there called *balessan* according to Bruce; though I perceive by the *Hortus Bengalensis,* that the Amyris Giliadensis is growing in the botanical garden at Calcutta, introduced by Dr. Berry in 1798.

* See Bruce’s Travels, vol. v. Appendix, p. 17.
I think there can be little doubt but that the name balsam is taken from balessan or bulsan (Pers.), which are appellations given, not to the produce but to the tree itself, the gum resin being in Persian, roghen bulsan. The fruit of the tree is called by the Arabsians hubul bulsan حبوب عسل والن and by the Persians tākem bulsān تکم بلسان by both of whom it is considered as attenuant, cardiac, and detergent. From it the carpopbalsamum was supposed to have been prepared, though Virey is of opinion that this is the fruit of the plant. The ancients, we are told, held the balsam of Gilead in great esteem; in Egypt it is now considered almost as a panacea, and prescribed for bad wounds, ulcers, poisonous bites, in nervous and pulmonic affections, and also against sterility in women. (See Virey’s Histoire des Medicaments, p. 290.) The Arabians of these days reckon it a valuable stomachic, and place it accordingly amongst their Addiyaheezeh ادويهيفض In Turkey it is chiefly used as a cosmetic by the ladies.

Niebhr, in his Travels (vol. ii. p. 356), informs us, that the tree which produces this article in Arabia, grows in abundance betwixt Mecca and Medina; that in most parts of Arabia they only burn the wood as a perfume, but that in the province of Hedjas they collect the balsam and export it from Mocha. For a very distinct account of the Amyris Giliadensis, the reader is referred to Mr. Thomson’s London Dispensatory. I shall only here observe, that it rises about fourteen feet in height, that the wood is light and open, that the leaves are thinly scattered, small, composed of one or two pair of opposite leaflets, with an odd one; these are obovate, entire, veined, and of a bright green colour; and lastly, that the flowers
are white, three on one stalk, but two generally drop off; one only produces fruit.

Our article with eight other species of amyris, grow in the botanical garden of Calcutta, all oriental plants. (See Hortus Bengalensis, p. 28.)

BARK, PERUVIAN. See article Febribuge Suietienian.

XVIII.

BEAN. *Faba* (Latin.) *Κύμος* (Greek.)
The Windsor bean, *vicia faba* (Lin.), does not thrive in any part of India, but it is not missed, as there is one of a superior quality which succeeds admirably, the vellore or duffin bean as it is called in the southern provinces; it is about the size of the Windsor bean, but flatter, and of a more delicate taste, and highly nutritious; it was brought to India from the Mauritius, and is the *phaseolus lunatus* (Lin.), or more properly speaking a variety of it, not known for culinary purposes in Europe. The common country bean, as it is termed by the English, is very inferior to that just mentioned, though also a *phaseolus lunatus*. There is a great variety of the pulse kind in India, many of them excellent, and to be noticed in another part of this work. The kidney or French bean, *phaseolus vulgaris*, grows well in India, where it is of course an exotic; Mr. Phillips, in his very curious and interesting work on Cultivated Vegetables, tells us, that the old French name of this bean was *fève de Rome*, and that it had the same name in England in the time of Queen Elizabeth; and we know that Pliny speaks of it in his history (chap. xii.),
under the appellation of phaseolus. The Arapians hold several kinds of beans in high estimation; the бáкéla they suppose to be in its nature, hot, dry and astringent; the лóo̱ba they reckon diaphoretic; the yámhotel which the Persians call خرخوتهبتي is most eaten. The great or huzar bean, dolichos cultratus (Thun.), is a native of India, and common on the Coromandel coast, called in Tamool тambatangái, in Dukhanie کهربسنیل کی یہل in Tellingoo, тъnmаkáia, in the Hort. Mal. baramareca, kosapulla (Sans.); when young it is eaten whole, when full grown the seeds only are used. For some truly classical information regarding the bean, фába, the reader is referred to Mr. Phillips’s work above mentioned. The inhabitants of Affganistan live chiefly on different kinds of pulse, which, perhaps, contributes to make them the strongest, and handsomest race in the world.*

XIX.

BDELLIUM. Kookool ကျားဗျား (Tam.) Goo-
gooloo (Tel.) Googula (Cyang.) Aflatoon افراطورن (Arab.) Mukul مکول (Pers.) Googul کوکل (Hind.) Bdellium (Fr.)

BDELLIUM.

This gum resin is semipellucid and of a yellowish brown or dark brown colour according to its age, unctuous to the touch, but brittle; soon, however, softening betwixt the fingers; in appearance it is not unlike myrrh, of a bitterish taste and moderately

* The ancients preferred much beans to pesse. “ex leguminibus valentior faba quam pisum.” (Cels. lib. ii.)
strong smell; in burning it sputters a little, but cannot be said to explode, as Herman Valentine reports. Two kinds have been distinguished, the _opocalpasum_ of the ancients, which is thick like wax, and the common dark sort. Dr. Alston in his _Materia Medica_, says, some make the word _bdellium_ to be originally Hebrew, others Greek; it appears, however, by the _Ulfaz Udwiğer_ that it is taken from the Syrian word _budleeyoon_. Dioscorides has sufficiently well described the article, and has moreover told us, that it has got the names of _madelcon_ and _bolchon_. All of this gum resin found in India, is brought from Arabia, where the tree is called _down_. It would appear that it also grows in Persia, where it is called _dérukt mukul_. (See a work entitled _Ikhtiarati Bedia va Agrhaz al Tibb_, in 2 vols, by the authors Aby Ben Hussein, and Ismael Ben Hussein al Jorany.) Under the name _dérukt mukul_ it is mentioned by Avicenna, and we have the authority of Kampher for saying, that the bdellium is got from that tree. (Vide Amoenit: 668.) The Tamool practitioners occasionally prescribe _bdellium_ as a purifier of the blood in depraved habits: they also use it externally for cleansing the foul ulcer they call _alie poonnoo_, and for discussing tumors in the joints. In Europe it has been considered as diaphoretic, diuretic, cathartic, and also pectoral, and administered in doses of from a scruple to a drachm: it is now however but little used. An ounce of picked _bdellium_, afforded Newman when triturated with water, six dramchs two scruples of gummy extract, and afterwards when triturated with

---

* Vide Historia Rei Herbariae Sprengelei, tom. i. p. 272.
alcohol, two scruples of resin; two scruples remaining undissolved.

It is a lamentable fact, that the actual tree from which bdellium is procured has not hitherto been clearly ascertained by botanists; Woodville, in his Medical Botany, takes no notice at all of the article; *Sonini*, in his Travels in Egypt, informs us, that it is nothing more than common myrrh in an imperfect state, (see work, p. 558); Sprengel, in his "Historia Rei Herbariae," tells us, that *down* مورم is the Arabic name, according to Forskahl, of the *borassus flabelliformis*, and it is from that tree, according to the testimony of both Kämpfer (Amoen: 688), and *Rumphius* (Amb. i. 50), that bdellium is procured. As the reader may naturally wish to satisfy himself respecting so singular an assertion, he may find it in the work above mentioned ("Historia Rei Herbariae, vol. i. p. 272"); on the other hand, it has been said that the tree which yields the *bdellium* is no other than the *chamerops humilis* or dwarf *fan-palm* of Linnaeus; and Mathiolus (p. 92), assures us, that he himself saw at Naples this bdellium-bearing *dwarf palm* of Linnaeus. (See Historia Rei Herbariae, same page and vol. as those just quoted.) Virey, in his Histoire Naturelle des Medicaments, (p. 291), informs us, that it is got from a species of amyris, the niouttouf of Adanson, which according to Forskahl, resembles myrrh. (Mat. Med. Arab. p. 49.)

The modern Arabs believe *aflatoon* to be attenuant and pectoral, but seem chiefly to employ it as an external application, and place it amongst their *Mohelilat* مخللات (Discutientia.) I perceive that googal is one of the substances thrown into the fire by the Hindoos at their trial by ordeal. (See Asiatic Researches, vol. i. p. 400. Calcutta edition.)
XX.

BEEF. *Caro bubula.*

*Bos Taurus.*

This, though generally speaking it is inferior to the beef of England, yet when the ox has been properly fed, which is now almost always the case at the chief stations in India, it is excellent, and is certainly, with the exception of mutton, the most nourishing and easily digested of all kinds of butcher meat. The oxen of India may be distinguished from those of Europe by the hump on the shoulder (which when dressed is extremely delicate and tender), and the singular declivity of the os sacrum, peculiarities which have obtained for the variety in natural history, the appellation of *zebu*; they are in other respects not quite so large as the domestic cattle of Europe. The oxen of Guzerat are considered as the most valuable; and much has been said of *Malwah, Hansi,* and *Harrianah* oxen. Cattle are exported from India to countries lying farther north, such as Nepaul, where those called the rajepoot are much prized. The bullock being a sacred animal in India, there is not seldom a difficulty in procuring beef at out stations. The Mahometans are fond of beef, and know well how to make its various preparations, beef tea (*infusum carnis bubulæ*), &c. &c. The beef of the bull and cow they rarely eat; veal they consider as the lightest and safest food for sick, and frequently prescribe the broth (*jus vitulinum*). The flesh of the *gyal* is said to be very agreeable to the taste; it is an animal betwixt a buffalo and domestic bull, commonly found betwixt the Bram-
puter and Megna rivers; it is the bos frontalis of natural history, is of a brownish colour, and has singularly thick, short, and remote horns. The ox in Hindostanie is byin and gow, the Arabians call it buckir the Persians كار in Sanscrit a cow is ma-heyi. While on this subject, I may mention that what is termed the yak (bos gruniens), or as the Hindoos name it soora goy سوري is common in Nepaul and Thibet, the beautiful bushy tail of which, called chow-rie, is an export. Colonel Kirkpatrick, in his account of the first mentioned country, says, that the natives of Thibet eat the flesh of it without reserve, but that those of Nepaul do not consider it as lawful food.

The flesh of the common buffalo (bos bubulus) is tough and not very savory.

XXI.

BENZOIN, 1st Sort. Malacca sambranie لضة رة (Tam.) Loobanie ood عود (Duk.) Looban لوبان (Hind.) Cominjan (Malay.) Sambanie (Tel.) Devad hoopá (Sans.) Liban لباني (Arab.) Câlowlow (Cyg.) Menian (Jav.) Manian (Bali.) Benjoin (Fr.) Kaminian (Palembang.)

STYRAX BENZOIN (Lin.)


BENZOIN, 2d Sort. Sambranie (Tam.) Ood عود (Duk.) Tooaralla (Cyg.)
There are two sorts of benzoin distinguished in India, the finer and dearer of which the Tamools call *malacca sambranie*, and the Mahometans, *loobanie ood*; it is the **head benzoin** of commerce; to the other kind, the Tamools have given simply the name of *sambranie*, and the Mahometans that of *ood*; this is the **foot benzoin** of commerce, and is sometimes called the Caffres head.

The finest kind has a very fragrant odour, but little or no taste; the mass is white or yellowish, somewhat translucent and brittle; this is the sort that is obtained by wounding the bark of the tree near the origin of the lower branches: the inferior kind, and that which I have called above the second sort, is of a brownish colour, is harder, and is mixed with impurities.

This very fragrant, but insipid balsam, is brought to India from *Sumatra,* † exported from *Acheen,* which has occasioned it sometimes to be called by the Tamools *Achte pawl sambranie*; it is also a product of *Siam,* † of Laos, and of Java, and we learn from Baron’s description of Tonquin, that it is to be procured in the country of Laos, where the tree grows.

The less valuable sort is burnt by the Malays and Arabs to perfume their temples and houses; the better kind is used by the Hindoos in medicine, particularly by the Tamools, who prescribe it internally in doses of from four to fifteen grains in *kskyum*, which is consumption, and *svásā cāshum* (asthma.) In Europe it is now seldom ordered in practice. The

*See Marsden’s Sumatra, p. 123.*
† See Turpin’s “Histoire de Siam.” Mr. Crawford, however, in his *Indian Archipelago*, says, Borneo and Sumatra are the only countries that produce it. (See work, vol. i. p. 518.)
products, Brande obtained by distillation from 100 parts of benzoin, were, benzoic acid, 9.0; acidulated water, 5.5; butyraseous and empyreumatic oil, 60.0; charcoal, 22.0; and a mixture of carburetted hydrogen and carbonic acid, 3.5 parts. The tree which yields benzoin is tall, with many round branches, its leaves are alternate and pointed, and the flowers are in compound axillary clusters, and nearly as long as the leaves.

Mr. Thomson, in his London Dispensatory, has given an excellent botanical description of the plant; it is said now to thrive well at Prince of Wales's Island, at Bourbon, and also, by Mr. Colebrooke's* account, in India. It is growing in the botanical garden at Calcutta, introduced by Dr. Lumsdain from Sumatra in 1812; also the species serrulata a native of Chittagon, introduced in 1810.

The ancients employed much the common styrax (styrax officinale), as a resolvent. "Alvum moliri videtur, concoquit et movet pus, purgat, discutit.” (Celsus, lib. iii. cap. 5.)

XXII.

BEZOAR. Vishik kúlloo விஷிக் குல்லூ (Tam.) 
Viságul (Cyn.) Zéhér morah (Duk. and Hind.) 
Fádyúq (Arab.) Padzehr kanie پادرزهر کانی (Pers.) 
Goleha كولها (Malay.) Bezoarsteen (Ger.) Bazar 
(Port.) Gorochañā गोरोचणा (Sans.) Bezoard 
(Fr.) also Koroshanum (Tam.)

BEZOAR ORIENTALE.

* See Remarks on the Husbandry and Internal Commerce of Bengal, p. 205.
This is a concretion found in the stomach of an animal of the goat kind; it has a smooth glossy surface, and is of a dark green or olive colour; the word bezoar, however, has lately been extended to all the concretions found in animals; such as the hog bezoar, found in the stomach of the wild boar in India; the bovine bezoar, found in the gall-bladder of the ox, common in Nepaul; and the camel bezoar, found in the gall-bladder of the camel; this last is much prized as a yellow paint by the Hindoos, and is called by the Tamools wootay körāshanum; nay, Pennant tells us, that a very valuable kind is got in Borneo, from a species of monkey; it is of a bright green colour, and has a finer lustre than the goat bezoar. (See Lockyer’s Account of the Trade of India, p. 56.) It is a fact, that from Borneo* and the sea-ports of the Persian Gulph, the finest bezoar is brought to India; the Persian article is particularly sought after, and is said to be procured in the neighbourhood of Mount Bārsi, from animals of the goat kind, capra gazella (Lin.) Christophorus a Costa† observes, that a factitious sort is made at Ormus; the same author mentions, that a bezoar is sometimes obtained from pigs.

This substance appears to have been first used as a medicine by the Arabians; Avenzoar gives us a wonderful account of it; and Razias, in his Continens, describes it fully, and extols its good qualities as a sudorific and alexipharmic. It was formerly given in doses of a scruple; Schroder, however, did not administer more than from three to twelve grains.

* See Dr. Leyden’s Sketches of the Island of Borneo, vol. vii. Transactions of the Batavian Society.
† See Fasciculi Amoenitatem Exoticorum, ab Auctore Engleberto Kömpfeeroott, M.D. pp. 398. 410.
It is no longer ordered in practice in Europe. The Hindoos suppose it to possess sovereign virtues, as an external application in cases of snake bites or stings of scorpions; and its various oriental names imply that it destroys poisons.

The Persians are well acquainted with its absorbent nature, and prescribe it in conjunction with a little black pepper in the cholera morbus, which they call هژت hayzet, very wisely conceiving that that disease is occasioned by an acid in the first passages, which requires but to be neutralized to be removed; and I perceive by a Tamool sastrum of Tunmundrie Vaghadum, that he recommends for the same disease کروشانه koroshanum, or cow’s bezoar. Dr. Davy, on examining what are called the snakes stones of India, which are supposed to have great virtue in curing snake bites, found them to be simply bezoar, and as such, could have no real virtue in such cases. I shall conclude this article by observing, that another Arabic name for bezoar is هجزراتس hejer-atis signifying literally goat stone; and that in Arabia Petrea, a kind of bezoar, called in Arabic ترياق الحبة teriac-ul-hyté is said to be found in the corner of the eye of a mountain ox. In the centre of the oriental bezoar, which is composed of smooth concentric laminae of an olive colour, not unusually is found in a nucleus, small pieces of straw, or stones or seeds, but most commonly the pod of a particular kind of fruit. What is called the occidental bezoar is much more rough in its surface than the other, and has sometimes been found in the camel tribe. The specific gravity of the first is 2.283; that of the last is 1.666.
XXIII.

BISHOPSWEED, SEED OF. *Womum* (Tam. and Tel.) *Ajamōdum* also *Brahmadarbhā* (Sans.) *Assamodum* (Cyng.) *Amoos* (Arab.) *Nankhah* (Pers.) *Ajoowan* (Duk. and Hind.) *Amyzaad* (Dut.) *Ameos* also *Saldrié* (Port.) *Aymadavum* (Can.) *Sison* (Fr.) *Sison Ammi* (Lin.)


This is a small, warm, aromatic seed, resembling *anise seed* in its virtues, and much used by the native doctors as a stomachic, cardiac, and stimulant; and given in doses of from ten grains to two scruples. On showing it to Dr. Rottler, he made no hesitation in declaring it to be the seed of the *sison ammi* of Linnaeus. It is, however, the same seed which Dr. Fleeming calls (ajawain) in his “Catalogue of Indian Medicinal Plants,” and which, Dr. Roxborough says, is the produce of a species of *lovage*, named by him, *ligusticum ajawain*, which in Bengalie is called *juvanee*: the plant, he tells us, is “annual, erect, leaves superdecompound, with filiform leaflets, ridges and furrows of the seeds distinct and scabrous.” By Forskahls account, the plant is named in Egypt *chælle*. (See his Flor. Egypt. Arab.) The seeds are much employed by the veterinary practitioners in India, in diseases of horses and cows. The Persians place them amongst their *Muffettehat* (Deobstruentia.)
There is a plant which grows wild in the Coimbatore country, and which I believe is a variety of the sison amni; the natives call the seeds of it coodrie womum (Tam.), which signifies horse womum; and suppose them to be an efficacious remedy for the gripes in horses. The ligusticum ajauain, with another species, the ligusticum diffusum or bun ajouan, (Hind.) grow in the botanical garden of Calcutta. (See Hort. Bengalensis, p. 21.)

XXIV.

BITUMEN PETROLIUM, or ROCK OIL. Muntylum മോട്ടയുൽണം (Tam.) Boomie tylum (Sans. and Tel.) Minnia tanna (Malay.) Ippoo (Sumatran.) Késosonoabra (Japanese.) نفت (Arab.) Muttie ka tail متعی كا تیل (Duk. and Hind.) also Kuffer aliehood قفر البیهود (Arab.) Bitume de Judee (Fr.)

BITUMEN PETROLIUM.

The bitumen family, as Mr. Nicholson justly observes, includes a considerable range of inflammable, mineral substances, of an oily or resinous nature; burning with flame in the open air, without being converted into an acid like sulphur, or into an oxide like the metals: they are of different consistence, from a thin fluid to a solid.

The bitumen naptha is the most fluid when found pure, as it issues out of white, yellow, or black clays in Persia and Media; it is a fine, white, colourless, thin, fragrant oil, inclining occasionally to a pale brown tint. It is also brought to England of a very
superior quality from Monté Ciaro, near Piacenza in Italy. Analyzed, it is ascertained to consist of carbon, hydrogen, and a little oxygen; it is very inflammable, and dissolves resins and the essential oils of thyme and lavender. A much less pure article, and properly speaking the mineral oil, or bitumen petrolatum of the shops, is procured from Monté Festino, not far from Modeno, and is, I presume, nearly the same in its nature and appearance as our Indian article, which is brought to India from Ava,* the Sooloo islands, Japan, Sumatra, and Borneo.† It is of a reddish or somewhat dark brown colour and unctuous feel, with rather an unpleasant odour, and pungent, acrid taste; it is not soluble in alcohol, and looks like that finer sort of petrolatum naptha rendered thicker and browner by exposure to the atmosphere; it burns with a blueish flame, and is composed of carbon, hydrogen, and oxygen. Both species combine with fat, resins, essential oil and camphor; with alkalies they form soapy compounds, and sulphuric and nitric acids change them into solid resins.

The bitumen petrolatum is called earth oil, also rock oil, in India, from the circumstance of its having been found dropping from rocks in wells in the Birman dominions. It is also a product of Armenia, as Capt. Macdonald Kinneir ‡ has stated, and according to Hanway, § is an export from Bussora, procured from Bāku, on the west coast of the Caspian Sea; it may also be obtained from a lake in the Island of Trinidad. Capt. Macdonald Kinneir ‖ speaks par-

* See Symes’s Embassy to Ava, vol. iii. p. 263.
† In Barunyan in Borneo, (see Dr. Leyden’s Sketches of Borneo in the 7th volume of the Transactions of the Batavian Society.
‡ See his Geographical Memoir of Persia, p. 319.
§ See his Travels in Persia, vol. i. p. 263.
‖ See his Memoir, pp. 38, 39, 40.
particularly of this substance, and observes "there are two kinds of naft or naptha found in Persia, the black and white: the first is the bitumen so famous in the Babylonian history, it resembles pitch, and is used for besmearing the bottoms of most of the vessels that navigate the Euphrates and Tigris; and by the Russians, for burning instead of oil." The white kind, which may be the bitumen candidum of Pliny, is of a much thicker consistence, and is somewhat in appearance like tallow; this last has no resemblance to pitch, but emits a better light, and has not so unpleasant a smell. The most productive fountains of the black kind are in the vicinity of Kerkook, Mendali, and Hit on the banks of the Euphrates. The only fountain of the white sort, appears to be at the foot of the mountains of Bucktiari, half way betwixt the city of Shuster and the valley of Ramhormouz.

The Tamool doctors order rock oil as an external application in rheumatic complaints, as also in cases of epilepsy, hysteria, and palsy, in all which affections it is rubbed on the part with the hand in the form of a liniment. Dr. Fleeming has declared, that in chronic rheumatism he can recommend it from his own experience, as a more efficacious remedy than cajeput oil. (See his Catalogue of Indian Plants, p. 56.) Mr. Jameson informs us in his System of Mineralogy, that in Piedmont, Japan, Persia, and other countries, mineral oil is used for burning in lamps in place of oil; it is also, he adds, occasionally employed instead of common tar, and sometimes as a varnish, and in the composition of fire-works. The bitumen naptha of Persia was lately accurately examined and compared with the naptha prepared from coal in Scotland, by the professor of chemistry in Glasgow.
He found it colourless as water, its specific gravity 0.753, with exactly the same taste and smell as the article made at home; the two bitumens in fact, the professor observed, to resemble each other in all their chemical qualities, but he could not get that made from the coal, to be quite so light as the Persian naptha. (See Annals of Philosophy, No. 88.) The ancients, and especially Celsus, would appear to have considered bitumen as possessing medicinal qualities similar, or nearly so, to those of common storax. (See Celsus, lib. iii. cap. 5.) In France, according to Alibert, petrolum has occasionally been administered for the removal of ascarides; in Egypt, the same author says, it is given in cases of tænia. (See Nouveaux Elemens de Therapeutique, vol. i. p. 391.)

It would appear, that in a late improvement made in the steam engine by M. De Montgomery, purified bitumen after having served in the form of vapour, is turned to the double purpose of serving as a combustible substance. In the improvement alluded to, the fire-place, the pipe, and mechanism, are contained inside the boiler, which is itself enclosed in a double case. The vapour may therefore be raised to a very high degree of tension, without danger; and this advantage renders the bulk of this new machine from 40 to 50 times smaller than that of the present steam engines of equal power.

XXV.

BOLE ARMENIC. Simie kävikülloo Սիմի Կեվիկուլո Զարդեհգգարու (Tam.) Ghilărmenie Կիլարմենի
The *bole* that is commonly met with in India, is brought from the Persian Gulph, and is that known in Europe by the name *bole armeniac*, it being a product of Armenia; it is soft, feels greasy to the touch, adheres strongly to the tongue, and is very frangible; it is generally of a yellowish brown colour, though sometimes it is seen of a fine flesh red, and that sort is most prized by the native dyers and painters, who call it *ségápoo kāvikul* (Tam.), or red *bole*; it would appear to be tinged by an oxide of iron.

The Tamool practitioners prescribe *bole armeniac* as an astringent in fluxes of long standing, and suppose it to have considerable efficacy in correcting the state of the humours in cases of malignant fever, and particularly in allaying what they call *vikkil* (hiccup.) Its constituent parts are, silica 47.00, alumina 19.00, magnesia 6.20, lime 5.40, iron 5.40, water 7.50.

Mr. Jameson has made *bole* the fourth species of the soapstone family, and in speaking of its chemical characters, says, "when immersed in water, it breaks in pieces with an audible noise, and evolution of air bubbles; before the blow-pipe it melts into a greenish grey-coloured slag. The French *bole*, which is of a paler red, is still retained in the *Materia Medica* of the London College.

The *red bole* of Constantinople (argile rouge), of which the Turks make their pipes, and also that variety called in Bengal the *patna earth*, with the other ingredients, contain a portion of silex. Some savage
nations, such as the Otamaques of America, are in the habit of eating boles to relieve them from the pains of hunger; and it is remarkable that they do not thereby become lean, at least according to the testimony of Fray Ramon Rueno, a missionary.

Baron Humbolt observes, however, that they do not eat every kind of clay, but select such earths as are unctuous and smooth to the feel. The same distinguished writer assures us (as is quoted by the author of Columbia, vol. i. p. 569), that Labbillardiere saw in the Indian Archipelago, little reddish cakes exposed for sale, called tanaampo; these were of clay slightly baked, and which the natives eat with pleasure. M. Leachenault has published some curious details on the tanaampo of the Javanese, which by his account, these people only take when they wish to become thin, and to have a slender shape. I shall conclude this article by remarking, that the inhabitants of New Caledonia to appease their hunger, eat great pieces of a friable lapis ollaris, which by Baron Humboldt’s account, on being analysed by M. Vauquelin, was found besides magnesia and silex, to contain a small quantity of oxide of copper. In Germany, the workmen employed in the quarries of Kiffhænsen, spread a very fine kind of clay on their bread instead of butter, and which they call stein butter.

XXVI.

BORAX. Velligarum also Vengārum (Tam.) Lansippooscara (Cyang.) Sohaga (Duk. and Hind.) Pattérie (Malay.)
This is a natural salt, found dissolved in many springs in Persia; and Abbé Rochon informs us, in his "Voyage to Madagascar and the East Indies," that it can be procured of a superior quality in China, but it is much more plentiful in Thibet, where previous to its being refined by the Dutch, who keep the process a secret, it is called tinkal, and hence its Persian name tinkar. *Tinkal is got from the bed of a lake in Thibet, about fifteen days journey from Tissoolombooo; it is many miles in circumference, and the water of it, we are told, never freezes. It is dug up in large masses, and sent to Europe in crystals of a greenish white colour, but mixed with sand and other impurities.

Borax is too well known to require being particularly described here. It is without smell, and has a cool, styptic, and somewhat alkalescent taste. The native doctors of India consider it as deobstruent and diuretic; the vyttians especially, seldom fail prescribing it in cases of what they call māghōdrum (ascites), and moothraykritchie (dysuria).† They, like some of the writers of old (Schroder, p. 290), administer it to promote delivery; and also occasionally employ it

* See Turner’s Embassy to the Court of the Tishooohama, p. 406.
† It is not now given internally in Europe; the boric acid was formerly used as a medicine, under the name of Homberg’s sedative salt.
as we do in aphthous affections. Borax is sometimes adulterated with alum and fused muriate of soda.

The Arabians and Persians, as we learn from the Ulfaz Udwiyeh, place borax amongst their Multijfāt (Attenuentia.) This substance consists, according to Bergman, of 34 acid, 17 soda, and 49 water. It will be further noticed in that part of this work which is applicable to the arts.

XXVII.

CABBAGE. Kirnub كرنب (Arab.) Kēlum كلم (Pers.) Garten kohl (Ger.) Chou (Fr.) Kopee (Hind. and Beng.)

Brassica Oleracea (Lin.)


Cabbages grow well in every part of India, and are esteemed as perhaps the best of all the pot herbs in that country, but the seed is brought regularly from the Cape. Various kinds are cultivated, but the small sugar loaf has the preference. Cabbage is considered as of a flatulent nature, and is therefore generally avoided by such as have weak digestions, but I believe in this there is a good deal of fancy. The ancients, Greeks as well as Romans, believed the cabbage to possess peculiar virtues, the first people called it κοραμέλη; the Latin name brassica, Mr. Phillips ingeniously supposes to come from the word præsecō, because it was cut off from the stalk; the qualities above alluded to are, that it prolonged life and cleared the brain when intoxicated with wine! properties very different indeed from those given by Lunan in his Hortus Jamaicensis, vol. i. p. 180.
The Arabians and Persians prize cabbage highly as food, and besides, consider it as powerfully suppurative; the seeds نذرالكرنب they believe to be stomachic. Turnip cabbage grows admirably in India, and is a great delicacy at the tables of Europeans: it is the brassica congyloses (Miller). The red cabbage (brassica rubra), brocoli (b. botrytis cymosa), and cauliflower (b. florida), are also cultivated in India, but the latter only thrives in the more northern provinces or in elevated situations, such as Mysore. Twenty-four species of brassica have been noticed by Wildenow. (Spec. Plant. vol. iii. p. 545.) In the botanic garden of Calcutta, four of these grow. Three kinds appear to have been only mentioned by the most ancient Greek writers, the selinas or crisped, lea, and corambe. (Vide Pliny, book xx. c. 19), also Phillips's Cultivated Vegetables, a work I cannot sufficiently call to the attention of the curious.

XXVIII.

CACAO-NUT. Theobroma Cacao.


This article, properly speaking, should not have had a place here, but that I understand the tree, which is peculiarly handsome, with lanceolate oblong leaves and a brown bark, grows well at Bourbon, whence its produce is an export; and we learn from De Comyn in his "State of the Philippine Islands," (p. 23.), that it is now much cultivated in those countries, and the chocolate made from the nut, particularly in the island of Zebu, is esteemed
even superior to that of Guayaquil, in America. In Java there is simply sufficient grown for the consumption of the European colonists.

The cacao or chocolate tree might in all probability thrive well in sheltered situations in Lower India, and would no doubt be a great acquisition. I perceive, by Dr. W. Wright’s Observations on the Medicinal Plants of Jamaica, that it now grows well in all the French and Spanish islands. There is this peculiar to the theobroma cacao, that it is the only plant of its class and order.

Cacao is of two kinds, that made from the whole nut, and that from the shell; they are both much lighter, though perhaps a little less nutritive than chocolate. The cacao prepared from the shell, I have known to agree with weak stomachs when many other things were rejected; both this and that prepared from the whole nut, should in such cases be made thin and clear. Chocolate, Mr. Tweed in his Observations on Regimen and Diet, informs us, is a safer drink for such as are subject to flatulence than any thing prepared of farinaceous substances. (See his work, p. 189.) It is a kind of paste prepared with the triturated nut, after having been roasted, and several other ingredients, the chief of which are Vanilla sugar and a little cinnamon. Most foreigners prefer the Spanish chocolate; but the English is made with more care and is much less oily.

XXIX.

CAMPHOR. Cárpoorum also Soodun काफूर (Tam.) Cápooroo (Cyling.) Kāfūr کافور (Arab.)
and Pers.) Kaafur (Malay.) Kúpoor (Hind.) Kämper (Dut.) Ałcãmfer (Port.) Kápur (Bali.) कपूर (Sans.) Camphre (Fr.) Kampher (Ger.)

Dyrobalanops Camphoræ (Colebrooke.)


Camphor, which has lately been ascertained by chemists not to be a resin, but a vegetable principle sui generis, is very much in use amongst the native practitioners of India, who prescribe it externally as we do in cases of sprains and rheumatism. The vyrians suppose it, when given internally, to possess the power of shortening the cold stage of an intermittent fever, and to be highly useful as a stimulant in the disease they call kistnah doshum (typhus fever). The modern Arabians place it amongst their Mokewyat-dil (Cardiaca). The ancient Arabians conceived it to be refringent. Orilha places camphor amongst his poisons, and tells us, that three or four drachms of it divided by an oil, and given to a dog, is quickly taken into the circulation, strongly excites the brain, and soon kills. (Traité des Poisons, vol. ii. part ii. p. 19.)

The greater part of the camphor, as well as camphor oil, that is found in the Indian bazars, is not the produce of the laurus camphora which grows in Japan* and in China†, but is brought to India from Sumatra‡ and Borneo.§ The camphor of Baroos on the east coast of Sumatra, (and which the

† See Barrow's Travels, p. 535.
‡ See Mr. Macdonald's Account of the Products of Sumatra, in vol. iv. of the Asiatic Researches.
Malays call kafoor or kapur-baros, is reckoned very good, but that of Borneo, Dr. Leydon says, is the finest in the world; and which is brought, according to Mr. Hunt’s account in his Sketch of Borneo, from the Morut country. The method of obtaining it is well described by Père d’Entrecalles in his Amenit. Exotic. p. 772.

Mr. Macdonald, in his Account of the Products of Sumatra (in vol. iv. of the Asiatic Researches), informs us, that the tree from which camphor is there obtained differs considerably from the laurus camphora. Indeed, Kæmpfer (Amœn. Exotic. p. 773), had long ago suggested the idea, that the article brought to Europe from Sumatra and Borneo, was not procured from the laurus camphoræ; and thanks to the enlightened research of Mr. H. T. Colebrooke, it is now fully ascertained to be from a tree of a different genus, the dryobalanops camphora, which grows to a great height in the forests on the north-eastern coast of Sumatra, and especially in the vicinity of Tapanooly. (See Asiatic Researches, vol. xii. p. 539.) To procure the oil, which is even more esteemed than the camphor itself in eastern countries, it is only necessary to wound and pierce the tree, when it exudes from the orifices so made. To get the concrete camphor, the tree must be cut down, when it will be discovered in small white flakes, situated perpendicularly in irregular veins, in or near the centre of the tree.

Camphor, it is now well known, may be procured from many different plants*, such as thyme, marjoram, ginger, sage, &c. There is a species of the last common in India, Salvia Bengalensis (Rottler), the leaves

* See Sir Humphry Davy’s “Elements of Agricultural Chemistry,” p. 99; also see “Virey’s Histoire Naturelle des Médicaments,” p. 175.
of which smell so powerfully of camphor, that they have got the Dukhanie name of *kafoor ka pawt*, or camphor leaves; there is no doubt but that they contain a great deal of camphor. The Cyngalese sometimes prepare a kind of camphor from the roots of the cinnamon tree. Mr. Thomson, in his new London Dispensatory, has given an excellent botanical account of the *laurus camphora*, as well as the *dryobalanops camphora*, and has described the various qualities of the article itself. *Correa*, in his Account of Borneo, tells us, that the *shorea robusta* of Roxburgh (Cor. Pl. vol. iii. fig. 212.), yields a camphor superior to that of Japan or China; which is noticed also, I see, by Virey, in his "Histoire Naturelle des Médicaments," (p. 168.) The camphor tree is growing in the botanical garden of Calcutta, introduced by M. Cere in 1802; its Sanscrit name is *kurpoora*.

Camphor is prescribed by the native Indian practitioners in doses of from three to fifteen or twenty grains. Amongst European practitioners in that country, it is chiefly valued for its virtues in obviating the irritating effects of mercury, and at the same time, rendering it more certainly efficacious; otherwise it is employed as in Europe with indefinite effects, in typhus fever, gout, rheumatism, and hysteria. I shall conclude this article by observing, that a substance has lately been prepared artificially by M. Kind, a German chemist, which seems to resemble camphor in most of its properties; it is made by passing a current of muriatic gas through the oil of turpentine. (See Dr. Brewster's Edinburgh Encyclopaedia, vol. xiii. part i. p. 344.)
XXX.

CAPILLAIRE, SIRUP OF. Sirop de capillaire (Fr.)

Adiantum Capillus Veneris.


This sirup, which is brought to India from the island of Bourbon, is prepared with the leaves of the ad. cap. ven., but at the same island it is also made with the leaves of another species of maidenhair, the ad. caudatum, which grows on the Courtalum hills in the southern part of India, also on Ceylon; both plants are natives of Cochin China, but do not appear to be there considered as medicinal. The first is also found at Amboina, and is the micca miccan ultan of Rumphius. (Amb. lib. t. 25.) It is also to be met with on Java, as Dr. Horsfield informs us. The adiantum cap. ven. is the περιπλοχάδι χοινον of the modern Greeks, who employ the sirup of it in chest complaints; it is no doubt pectoral and slightly astringent, though its decoction, if strong, is a certain emetic. Sirup of capillaire is much prized amongst the French and Portuguese inhabitants of India, as a medicine in catarrhal complaints, but is little sought after by the English.

XXXI.

CARDAMOM, LESSER SEEDS OF. Yad-dersie தமதரிக்கு ஸ்ரீ (Tam.) Yaylakooloo (Tel.) En-
sal (Cynx.) Ebil (Arab.) Kakéléh séghār صفار ابل (Arab.)
قازاف (Pers.) Capalaga (Malay.) कलिञ्ज (Sans.)
Eéláchie (Duk.) Cardamomos (Port.) Cardamom men (Dut.) Elettari (Rheed.) Kapol (Jav.)
Gujarati elachi (Hind.) also Heelbuna (Arab.)
Petit cardamome (Fr.) Kleine kardamommen (Ger.)

Elettaria Cardamomum.

Scitamineae (Lin.) Maton. Trans. of the Linnaean
Society, vol. x. part ii.

The plant which produces the lesser cardamom seed,
has lately occasioned the establishing of a new genus
(elettaria), and which has been so named from the
Málčálie word, elettari, the appellation given to the
plant on the Malabar coast, where cardamoms are
produced in great abundance, and are in common
use amongst the native practitioners as a warm and
agreeable carminative and stomachic, prescribed in
doses of from eight grains to half a drachm in con-
junction with other medicines.

Cardamoms are also a product of the Wynad moun-
tains, of Cochin China, of Siam, of Camboja, and
Ceylon. Elmore, in his Directory to the Trade of
India, speaks of three sorts of cardamom, the first
(he says, the greater), grows in Africa, and the second
in Java, the pods of which are rather long, and more
triangular than round; his third sort is our present
article; the grains of it are small, hot, spicy, and
pleasant to the taste.

The elettaria cardamomum is described by Rheed
in vol. ix. of his Hortus Malabaricus; and a good
description of it has been given by Mr. Thomson in
his new London Dispensatory. On the Malabar
coast the plant is called aitum cheddy.
The Arabians place cardamoms amongst their Mokawyat-dil (Cardiaca). In Java the plant grows wild in the woods, and is there called kāpālūga; but its produce is much inferior to the cardamoms of Malabar. There is a wild kind of cardamom, the amomum aromaticum (Roxb.), found on the eastern frontiers of Bengal, where it is called morung elachi, the fruit of which is used as a spice and medicine by the natives. (See Flora Indica, p. 44.) For a scientific account of the cardamom of the Malabar coast by Dr. D. White of the Bombay establishment, the reader is referred to the 10th vol. of the Linnean Transactions. There is now growing in the botanical garden at Calcutta another amomum, the amomum maximum (Roxb.), the seeds of which possess a warm, pungent, and aromatic taste, by no means unlike that of the true cardamomum. The amomum cardamomum (Lin.), or what Rumphius distinguished by the name of cardamomum minus (Amb. 5. p. 152. t. 65.), is that species, the seeds of which come the nearest in taste and virtues to the officinal article, and which are used as a substitute for them by the Malays; the plant is a native of Sumatra and other islands to the eastward of the Bay of Bengal, and was sent, as Dr. Roxburgh informs us, from Bencoolen to the botanical garden at Calcutta, where it blossoms in April. (Flora Indica, p. 37.)

XXXII.

CARDAMOM, GREATER SEEDS OF. Kakkūl Kibbār (Arab.) Hil kelan (Pers.) Burrie eelātchá (Hind.) or Desi
elachi (Hind.) Cardamongoo (Port.) Kapulaga (Malay, Jav. and Bali.)

Amomum Granum Paradisi (Lin.)


What has been called the grains of paradise seeds, or greater cardamoms, are much larger than the foregoing, more pungent, and less aromatic; they are rarely exported from India or Ceylon.

In what respects the plant producing the greater cardamoms differs from the *elettaria cardamomum*, I cannot say. Willdenow, in speaking of the *amomum granum paradisi*, says, "Scapo ramoso laxo, foliis ovatis, planta etiamnum obscura*, habitat in Madagascar, Guinea, et Zeylona, in umbrosis uliginosis ad radices montium." (Spec. Plant. vol. i. 4. 11.) Dr. Francis Hamilton, in his Account of Nepal, speaks of a large kind of *cardamom* he found there, as yet not described by botanists. (See his work, p. 74.) The dose of the *tinctura cardamomi* is from one to three drachms, that of the *tinctura cardamomi composita* from one drachm to half an ounce.

The Arabians place cardamoms amongst their cardiaca.

XXXIII.

CARP, COMMON. Sayl kundé సయల్ కండె (Tam.) Sayl జంస్ (Duk.) Tambara (Malay.)

Suhree (Hind.) Ghénday lampa (Tel.) Rahoo.
(Sans.) Kool (Arab.) Carpe (Fr.)
Cyprinus Carpio (Var.)

This species of cyprinus* is to be met with in many of the slow running rivers and ponds of Lower India, and is much prized both by Europeans and natives in spite of its numerous bones. The carp is noticed by Dr. Pearson in his Materia Alimentaria, as being at once sweet and nutritious: it is best stewed. Dr. F. Hamilton, in his Journey through Mysore, Canara, and Malabar, informs us, that he found in a clear stream, called the Vedaivati, near the village of Heriuru, three species of cyprinus (carp), which he scientifically described.† Their names, 1. Karmuka (Tel.), cyprinus carmuka (Buch.); 2. K lynca minu (Tarn.), cyprinus ariza (Buch.); this in Telingoo is arija, and in Bengalese bang un batta; 3. Bendelisi (Tel.), cyprinus bendelisis (Buch.) The first of these is about three feet long, the second a foot long, and the last not longer than the finger.

The cyprinus was well known to the ancients, and is noticed by Pliny. (Nat. Hist. lib. xxxii. cap. 11.) The physicians on the Continent recommend broth made of carp fish in consumptive cases.

XXXIV.

CARROT. Carrot kâlung சார்ரட்டுக்கருள்நுற்று (Tam.) Gazerrágëddá (Tel.) Gajur (Duk.

* Beckman seems to have clearly proved that our carp was the cyprinus of the ancients; he supposes that this fish was first found in the southern parts of Europe, and conveyed thence to other countries. It was by all accounts not known in England in the eleventh century. (History of Inventions, vol. iii. p. 193.)
† See his work, vol. iii. pp. 344, 345.
and Hind.) Jexer جزر (Arab.) Zerdek زرگی (Pers.)
গুৰ্জন (Sans.) Carotte (Fr.) Karotte (Ger.)
Δαυκος (Greek.)
Daucus Carota (Lin.)


Carrots, which in the low provinces of the southern parts of the Peninsula, are only reared in the gardens of Europeans, and in those of a few rich natives, are cultivated in great abundance in the Mahratta and Mysore countries, where they are of a very fine quality, and are much eaten by the inhabitants.

The Arabians place carrots amongst their Mobe-hyāt (Aphrodisiaca), a proof that they never could have supposed them to be indigestible, which they have been by some reckoned; the fact is, when well boiled, they are of peculiarly easy digestion, and very nutritious; they are employed by European practitioners in the form of a poultice to correct the discharge of ill-conditioned sores. In Europe, the seeds which are carminative and diuretic, were believed at one time to be efficacious in gravel, given in doses of half a drachm bruised; and the red flowers in the centre of the umbels were formerly prescribed in epilepsy. Carrots appear to have been first introduced into India from Persia. Pliny tells us (b. xxv. c. 9.), that the finest kinds of carrots were, in his days, supposed to be those of Candia and Achaia. In England they would not seem to have been known previous to the reign of Elizabeth. Celsus mentions that the seeds of the carrot of Crete were an ingredient in the famous mithridate, which secured the body against the effects of poison. (Lib. v. pp. 231, 232.)
XXXV.

CASSIA LIGNEA, or CASSIA BARK. Lawanga puttay (Tam.) Ilavanga (Mâléâlie.) त्वच (Sans.) Mookalla (Cyang.) Seleekh (Arab.) Taj (Hind.) Darchini (Duk.) also Mota darchini (Duk.) Houtkassie (Dut.) Cassia lenhosa (Port.) Kayû-manis (Jav.) Kayû-legi (Malay.) Kayû-mânis (Bali.) Sing rowla (Nepaul.) Casse (Fr.) Casia (Ger.)

Laurus Cassia (Lin.)


This bark, the odour of which is very like that of cinnamon, but fainter, is a favourite medicine of the Mahometan as well as Tamool medical practitioners, who consider it as a grateful and useful stomachic and cordial; and the bark of the root is little inferior in aromatic virtues to cinnamon itself. Great part of the cassia bark that is met with in India, is brought from Borneo *, from Sumatra (chiefly produced in the Batta country, inland from Tappa-nooky), and from Ceylon; it is also a natural product of Lower Hindoostan, as the tree grows in the woods of Canara † and Malabar; in which first-mentioned country it has got the name of ticay; and Dr. Buchanan thinks, that with cultivation it might be rendered equal to the China article.

* See Capt. D. Beckman's Voyage to Borneo.
† See Dr. Buchanan's Journey through Mysore, Canara, and Malabar, vol. iii. pp. 69. 161, &c.
Colonel Kirkpatrick saw the plant thriving in Nepal, where it is called sing rowla; it is common on Ceylon, and was there distinguished by Burman by being termed "Cinnamomum perpetuo florens, folio tenuiorem acuto." It is the carua or carna of Rheede (Mal. i. p. 107.), and grows to the height of fifty or sixty feet, with large spreading horizontal branches almost as low as the earth, and leaves triple-nerved and lanceolate. It would appear that it has lately been found growing on the Himalaya mountains.

Cassia bark may, generally speaking, be known from cinnamon by being thicker in substance, less quilled, it breaks shorter, and is more pungent to the taste. Avicenna tells us, that the best in Arabia is considered to be the red; the worst, the black; the leaves the Arabians call sādudge (See Avicen. 218.), and place them, with the bark, amongst their Mokewyat-dil (Cardiaca.) The narrow-pointed elliptical leaves of the laurus cassia, as well as the oblong, ovate, shining leaves of the cinnamon tree, are sold in the Indian bazars under the names of lawangapatery (Tam.), and tejpat (Hind.), from a notion that they are only the leaves of the laurus cassia. They are, when dried and powdered, prescribed by the native doctors, in cases requiring stimulants and cordials. In commerce these leaves are called Folia Indica or Malabathra, a name, however, which more especially applies to the leaves of the laurus cassia. Dr. F. Hamilton, in his excellent Account of Nepal, informs us, that he found in that country the leaves of the laurus japonica of Rumphius, sold under the name of tej-pāt: they were aromatic in taste and smell, but differed widely from the tej-pāt of Rang-pour. (See his work, p. 84.) The tree is the sinkauri of the Hindoos.
Cassia buds have got the following names in India: *Lawanga thooler* also *Sarrnagapoo* (Tam.) *Naghé-cheraloo* (Tel.) नागकेशर (Sans.) *Tejpat ka konpol* (Hind.) *Kubab-chinie*† कबाब चिनी (Duk.) *Kassielblomen* (Dut.) *Flores de cassia* (Port.)

They are of a dark brown colour, and somewhat resemble a nail in shape, with a round head surrounded with the hexagonal calyx, which gradually terminates in a point. With them the vyttians and hakeems (Mahometan doctors), prepare a stomachic infusion, one of their favourite remedies in many complaints.

This species † of laurus, with seven others, are growing in the botanical garden of Calcutta, all oriental plants, but two of them only natives of India. Of the essential character of the genus, Willdenow says, "Cal. o. calycina, 6 partita. *Nectarium* glandulis tribus, bisetis, germen cingentibus. *Filamenta* interiora glandulifera. *Drupa*, 1. sperma."

XXXVI.

**CASSIA FISTULA.** *Konnekai* also *Saradkonné-kai* (Tam.) *Amultas* املتاس (Duk. and Hind.) *Khyar shémber* خیار شمبیر (Arab.) *Khyar chémbé* خیار چمی (Pers.) *Dranguli* (Jav.) *Khyar chémbé* خیار چمی (Malay.) *Toong-gooli* (Jav.) *Rayla-kāiā* (Tel.) *Mentus* Mentus (Malay.) *Sudārnākā* सुदर्शन (Sans.) *Cakay* (Can.)

* A name probably taken from *Sirinagur*, the capital of Cashmere.
† The same name is given in Hindoostanee to *Cubes*.  
†† Both Pliny and Galen (De Med. Simp.), speak of cassia as distinct from cinnamon; the first especially mentions, that it grows in mountainous situations, and alludes to it "crassiore sarmento." (See lib. xii. cap. 19.)
CHAP. I. MATERIA INDICA. 61

*Ahilla* (Cyg.) *Pykassie* (Dut.) *Cassia purgante* (Port.) *Sonali* (Beng.) *Casse* (Fr.) *Rohnkassie* (Ger.)

**Cassia Fistula** (Lin.)


The *cassia fistula pulp* is considered by the native practitioners of India, as a most valuable laxative, and is prescribed by them in the form of an electuary, (in doses of two or three drachms), in cases of habitual costiveness. The beautiful, long, pendant, yellow, fragrant flowers of the tree, are also given in decoction, in certain affections of the stomach. The *fruit* (which is common in most bazaars), is a brownish-coloured pod, about the thickness of the thumb, and nearly two feet in length; it is divided into numerous cells (upwards of forty), each containing one smooth, oval, shining seed. The pulp of the fruit is somewhat viscid, and of a sweet mucilaginous taste.

The tree is a native of India and also of Ceylon. (Flor. Zeyl. 149.) In Upper Hindoostan it is called *sundaraj* (Hind.) It is the *connas* of *Rheed* (Hort. mal. i. p. 37. t. 22.), and rises frequently to the height of fifty feet, with leaves pointed, and of a singular pale green colour, and flowers of a golden tinge, placed on long pendant, terminal spikes. The reader may find it well described by *Rumphius.* (Amb. 2. p. 88. ta. 21.)

*Cassia fistula* appears to have been long known in eastern countries. *Avicenna* speaks of it under the name of *خيا جنهر* (p. 271.), and we find it mentioned by *Serapio,* under the appellation of *eiarx amber.*
Prosper Alpinus* notices the tree in his work "De Plantis Egypti," and at the same time speaks of its sweet-smelling flowers. The modern Arabs place cassia fistula amongst their Moosilat sufra مسیلات صف (Cholagoga.) Virey, in his "Histoire Naturelle des Médicaments," (p. 276.), observes, that the cassia emarginata of the Antilles, and the cassia marilandica, both purge like senna, and that the root of the cassia occidentalis of America, is aperient and diuretic. No less than thirty-four species of cassia were growing in the botanical garden at Calcutta in the year 1815, all of which (six or seven excepted), are oriental plants.

XXXVII.

CASTOR. Ash-butchegün اش بَتْچَگُن (Arab.) Goondbeyduster کنبدیستُر (Pers.) Beevergeil (Dut.) Castoreo (Port.) Castoreum (Fr.) Kastoreum (Ger.) CASTOR. Fiber. (Jonst. Quadr. p. 147.)

Castor appears to be known only by name to the Mahometan doctors of the lower provinces of India; in the more northern tracts of Hindoostan, it may be presumed, that it is occasionally met with, as I perceive it has a place in the Ulfaz Udwiye. The Arabians consider it as hot, dry, attenuant, and diaphoretic, and sometimes call it جلد منستر jild men- naster.

Castor is procured from the beaver, an amphibious quadruped common in the northern parts of Europe, Asia, and America, and is contained in the two largest of four follicles, situated betwixt the anus and external genitals of the animal: it feels slightly unc-
tuous, and is of a dusky brown colour, having a heavy but somewhat aromatic smell, not unlike musk, and a bitter, nauseous, and sub-acrid taste. It is considered as antispasmodic and emenagogue, and has long been recommended in Europe in low fevers, epilepsy, hooping-cough, hysteria, and nervous affections (in doses of from eight grains to a scruple). Celsus prescribed castor and pepper combined in cases of tetanus. (Vide Cels. lib. iv. cap. 8.)

Pliny informs us, that in his days the best castor was brought to Rome from Galatia and Africa; and that it was considered as a useful medicine in soothing and procuring sleep, and in cases of tetanus. (See his Natural History, lib. xxxii. cap. iii. p. 894. also lib. xxxii. cap. viii. p. 413.) Celsus recommends it as one of the things that might be smelt to rouse from lethargy, and also proposes it as one that may be poured into the ear in cases of deafness. (See Celsus, lib. vi. p. 316.)

XXXVIII.

CATECHU. Cutt (Can. and Hind.) Cachou (Fr.) Katechu (Ger.) Catch (Port.)

ACACIA CATECHU (Willd.)


This extract was formerly known by the name of Terra Japonica, and was supposed to be an earthy substance brought from Japan, a mistake that has been corrected by Mr. Kerr *, who ascertained that

* See Dr. Fothergill’s works (vol. ii. p. 296.), also Dr. Buchanan’s Journey through Canara, &c., vol. iii. p. 177.
it was obtained by boiling and subsequent evaporation, from the brown-coloured and inner part of the wood of the *acacia catechu*, which grows in the forests of Canara and in Behar; in the first mentioned country the tree is called *kheirie*, and in Behar, *kāira*, also *khayer* (Hind.) In Coorg it has got the name of *cagali*; the Sanscrit appellation of it is *khadira*; the Cyngalese, *khēhīre*; and the Tellingoo, *podēlmawn*.

There are two sorts of catechu now exported from India to Europe, a pale kind from Bengal, and another of a yellowish brown colour from Bombay; the first being the produce of Canara, the second of Behar. It would appear from experiments made by Dr. Davy, that there is but little difference betwixt the two varieties; either is almost entirely soluble in the mouth, their solutions in water inodorous, and slightly red in tincture of litmus. From 200 grains of the Bombay catechu, Dr. Davy procured 109 of tannin, 68 of extractive matter, 13 of mucilage, and 10 of earths and other impurities. The same quantity of Bengal catechu afforded 97 of tannin, 73 of extract, 16 mucilage, and 14 impurities. Besides these two sorts of Indian catechu, I must observe that this extract is also, by Colonel Kirkpatrick's account, an export from Nepal.

*Catechu* is well known to be a very valuable medicine: its taste is more or less bitter and astringent, with at the same time a certain mawkish sweetness. It has long been considered in Europe as one of our best and safest astringents, and employed with advantage in cases of *fluor albus*, *gleet*, dysentery, and diarrhoea, in doses of from ten grains to two scruples or more.

Besides the true catechu, there are sold in many of the bazars of Lower India, two other substances which are similar in their properties to it, and are used for the same purposes by European as well as native practitioners. The first is called cuttacamboo in Tamool, kanser in Tellingoo, and crabcutta in Dukhanie, also achacutta; the second is called in Tamool, cashcuttie. These are two different preparations or extracts from the nut of the betel-nut tree (areka catechu.) The cuttacamboo (Tam.) is brought of the first quality from Pegu; it is of a light brown colour, slightly bitter taste, and is powerfully astringent.* The better sort of natives chew it with their betel leaves. The cashcuttie (Tam.) is of an inferior quality, it is almost black in colour, hard, extremely bitter, and is much less astringent than the cuttacamboo; the poorer sort of natives chew it with their betel leaves; a great deal of this last kind comes to India from Acheen, but is also an export from Pegu. Both the cuttacamboo and cashcuttie are now made, but of inferior quality, in Mysore, and are prescribed by the Vytians in bowel complaints, and are also used by them as an external application in cases of the bad ulcer they call pooderie panāshee or sphaecolous ulcer; a common and most destructive affection in India, but which, as the author of this work had some years ago the good fortune to discover, could be instantly arrested in its progress by the external application of the balsam of Peru.†

It may be proper before concluding this article, to say something respecting the tree which yields

---

* It is this substance which has long been confounded with the real catechu of the acacia catechu.

† See an account of the use of the external application of the balsam of Peru in sphaecolous and phagedenic affections, in Nos. I. and II. of the Asiatic Journal for January, 1816.
the catechu. It grows in great abundance in the 
woods of Kanhana, and seldom exceeds twelve or 
fourteen feet in height, covered with a rough, thick 
bark, and towards the top dividing into numerous 
branches, on the younger of which the leaves are 
placed alternately, and are composed of fifteen or 
 thirty pairs of pinnae, about two inches long, each 
having nearly forty pairs of leaflets beset with small 
hairs: the flowers are hermaphrodite and male, and 
the fruit a lanceolate, compressed, smooth pod.

XXXIX.

CHALK. Simie chunamboo (Tam.) Veluitie chunna (Duk.) Sima soonum (Tel.) Tyn abyax (Arab.) Gil sifid (Pers.) Khurrie muttie (Hind.) Ratta hoonoo (Cynx.) Capoor engrees (Malay.) Craie (Fr.) Kreide (Ger.)

Carbonas Calcis. Creta Alba (Edin.)

The chalk that is met with in India is brought from 
England, or perhaps from some of the islands of the 
Mediterranean Sea, where it is found. * Dr. Heyne† tells us, that he observed a chalk of a yellow colour 
in his tour from Samulkotah to Hydrabad, which 
effervesced strongly with acids but did not stick to the 
tongue, and was too hard to mark with, having there-
fore, it would seem, little affinity with the red chalk 
got in Hessia and Upper Lusatia, so valuable for 
making crayons, and which we know, is reckoned 
 amongst the iron ores; it is the redde of Jameson 
and the roethel of Werner. I have been informed

* It is found in Crete (Candia), and hence some suppose its 
name is derived. (See Jameson’s Mineralogy, vol. ii. p. 128.)
† See Heyne’s Tracts on India, p. 272.
that a sort of red chalk is occasionally picked up in the upper provinces of India, and that the Sanscrit name of it is geireya. Chalk will be farther noticed in another part of this work.

In speaking of creta, Celsus says, "Simul reprimit et refrigerat, sanguinem supprimit." (See Cels. lib. ii. p. 93, also lib. v. p. 206.)

XL.

CHAMOMILE FLOWERS. Chāmaindoo poo (Tam.) Baboonē ka phool (Duk.) Ehdakhmirzie (Arab.) Baboonēh gaw (Pers.) Camomille Romaine (Fr.) Camomilla Romana (Ital.) Roemische hâmiller (Ger.) Aνθεμίς (Greek.)

ANTHEMIS NOBILIS (Lin.)


Chamomile flowers are occasionally brought to India from Persia, where they get the name of babuneh* from growing near the village of Babuniah in Irac Arabi; they are also occasionally cultivated in Hindoostan in the gardens of wealthy Mahometans; but they do not appear to be used medicinally by the native practitioners. The Arabians and Persians give them a place amongst their Muluttifat (Attenuentia), Mudorrat (Stimulantia), and Mohelitat (Discutientia). The herb is the ανθέμις of Dioscorides, and the ανθεμίων of Theophrastus.

* See Bibliothèque Orientale par D'Herbelot, p. 147.
The pleasant smelling, bitter, aromatic, and slightly warm flowers of the anthemis nobilis, which is too well known to require a description here, have long been considered as a valuable medicine by the medical men of Europe. They are supposed to be tonic, carminative, and to a certain degree anodyne, though a strong infusion of them operates as an emetic; the ancients considered them to be diuretic and useful in nephritic complaints. They have been chiefly employed in intermittent fever, dyspepsia, chlorosis, and flatulent cholic, and also in preparing antiseptic fomentations and anodyne injections. The infusion and extract are supposed efficacious in cases of obstructed menses; the dose of the latter is from ten grains to a scruple; the powdered flowers have been given in doses of from half a drachm to a drachm and a half.

There was but one species of anthemis growing in the botanical garden of Calcutta in 1814, the anthemis cota, a native of Southern Italy. Dr. R. James has written quite an eulogium on the virtues of chamomile. Boerhaave considered it is as highly efficacious in worm cases; and Mr. Phillips seems to be of opinion, that no simple of the Materia Medica, is possessed of a quality more friendly to the intestines. (See his work on Cultivated Vegetables, vol. i. p. 189.)

XLI.

CHARCOAL. Adápoo currie (Tam.) Lippe anghooroo (Cyg.) Poi-bogooloo (Tel.) Khoyla كورا (Duk. and Hind.) Arang ارانتگ (Malay.) Fuhm chobie (Arab.) Ze-
I cannot find that charcoal is used as a medicine by the native Indians; like other nations they employ it in the preparation of gunpowder, and have some singular notions respecting it, supposing that obtained from particular trees, to be best suited for particular purposes; for instance, the goldsmiths in Lower India prefer the charcoal got from the ossilin márám and avary márám (cassia auriculata); the blacksmiths in the northern circars, say, that the best for their work, is that prepared from the sanra chetttoo (Tel.), a species of mimosa, and which in all probability, differs little from that made from the paramba of the Canarese, mimosa tuggula (Roxb.), which the blacksmiths of Mysore commonly use. In the Carnatic, the charcoal in the greatest request amongst the blacksmiths, is that of the karoovelum márám (acacia Arabica), poollium márám (tamarindus Indica), and vum-márav márám, swietenia chloroxylon (Roxb.).

Charcoal has been found to correct the foetid odour of putrifying animal and vegetable substances, and destroy the odour, taste, and colour of others. It is no doubt an antiseptic, and is sometimes prescribed internally to correct the putrid eructations of some kinds of dyspepsia; it has also been advantageously employed, when mixed up in powder, with boiled bread, or linseed meal and water, in preparing a poultice for foul ulcers and gangrenous sores. Charcoal will be found further noticed in another part of this work.
XLII.

CHINA ROOT. Pāringay pūttay (Tam.) Chob chinie (Duk. and Hind.) China alla (Cyang.) Chob chiny (Pers.) Esquina (Port.) China wortel (Dut.) Khusb sinie (Arab.) Squine (Fr.)

SMILAX CHINA (Lin.)


This is a large, tuberous, knotty root, of a dark reddish, brown colour on the outside, and reddish white within. The native Indians, like the Japanese, suppose it to have considerable efficacy given in decoction in old venereal cases; the first especially, believe it to be of great use in what they call maygum vāivoo, a complaint in which the limbs are stiff and contracted. What is found in the bazars of the Peninsula is brought from China, where it grows in great abundance in the province of Onansi. The plant, however, I believe, is now cultivated in Upper India. The Abbe Rochon, in his "Voyage to Madagascar and the East Indies," informs us, that the Chinese often eat this substance instead of rice, and that it contributes to make them lusty.

The China root has of late years been much neglected by European practitioners, though Woodville † seems to think favourably of it, from its containing

* See Remarks on the Husbandry and Internal Commerce of Bengal, p. 205.
† Medical Botany, vol. iv. p. 67.
a considerable share of bland nutritive matter; by Aikin's* account, a proportion amounting to half the weight of the root. Dr. Fleming, from his own experience in Bengal, says, that either as an auxiliary to mercury, or for improving the general health after the use of that remedy, he believes it at least equal to its congener sarsaparilla.

Two drachms of the root have been given twice daily in a decoction of the same root, in cases requiring antiscorbutics and diaphoretics.

The smilax pseudo-china, muheisa (Hind.), is growing in the botanical garden of Calcutta, introduced from Silhet, by Mr. M. R. Smith, in 1810. It is the cum-kong-cunn of the Chinese who frequently use its roots in place of the true China root.

Ten other species are growing in the same garden.

Before concluding, it may be proper to add, that according to Willdenow, the generic character of smilax is,

Masculi, Cal. 6 partitus. Cor. 0
Feminei, Cal. 6 partitus. Cor. 0 Stylus
3 fidus. Bacca. 3 locularis infra. Sem. 2.

Browne, in his History of Jamaica, informs us, that the plant is common in the more cool, inland parts of that island; rising from a thick porous root, and climbing by a rather slender rigid stem to the top of the tallest trees; the root, which is often as thick as the arm, is crooked and jointed, with knots at each joint; and is held in great repute in Jamaica, where it is observed to be not inferior in quality to that of the East Indies; it is considered as of a very sheathing nature; sometimes it is found to yield a gum, which the natives call tzitili, and which they chew to fasten the teeth. The reader is referred to

the work above mentioned, and to Barham's Hortus Americanus, (pp. 40. 198.)

CINCHONA, or PERUVIAN BARK, substitutes for,

Cinchona Lancifolia (Mutis.)
See article Febrifuge Swietenian in this chapter.

XLIII.

CINNAMON. Kāṟṟūvā pūṭay கார்ருவா புடை (Tam.) Kulmie darchinie قلمي دارچینی (Duk.)
Darchinie دارچینی (Pers. and Hind.) Kūṟūndū كورندو (Cyg.) Sāndīlinga putta (Tel.) Kāmanis (Malay.)
Darasīta (Sans.) Caneel (Dut.) Canella (Port.)
Darsini دارسینی (Arab.) Canelle (Fr.) Kanoohl (Ger.)
Knappov (Greek.)

Laurus Cinnamomum (Lin.)


This fragrant, pleasant tasted, and pungent aromatic bark, is a favourite medicine of the native practitioners of India, who consider it as tonic, cordial, and stimulant, and give it in doses of from eight grains to a scruple.

From the bark there is prepared by maceration in sea-water and then distilling with a slow fire, an essential oil, which on Ceylon is considered as of great efficacy as a rubefacient in cases of sprains.

The greater part of this aromatic bark which is brought to India, is the produce of Ceylon, where it grows in great abundance in many parts of the island; it is also now an article of trade from several
of the eastern islands, especially Borneo.* It is cultivated at Quang-sy in China, and of a very fine quality in the central mountains of Cochín China. (See Voyage a Pekin par M. de Guignes.) It has lately been found to arrive at tolerable perfection in sheltered situations in Lower India; and De Comyn says, in his "State of the Philippine Islands," that the cinnamon plant is found in its native state in the interior of Peru, and when carefully cultivated not inferior to that of Ceylon (see work, p. 25.); and it is well known that the plant in the same dominions is quite common in the woods of Mindano. Nievooff found it in China in the Province of Quangsi, in the year 1655.

There are ten varieties of cinnamon known on Ceylon, but of these the Scholias only bark four, viz. the rasse kurundu, nai kurundu, kapuru kurundu, and cabette kurundu, the first is reckoned the finest, and the cabette the worst.

The tree seldom rises above the height of fifteen feet; the leaves stand in opposite pairs on short petioles, and are from four to seven inches long, oblong, pointed, and tri-nerved; the flowers which are in axillary and terminal panicles, are white, but without odour.

The laurus cinnamomum with six other species are growing in the botanical garden of Calcutta; it is the katu karua of Rheed (Hort. Mal. 5. p. 105, t. 58), and is described in the Flor. Zeyl. 145, and Burm. Zeyl. (62, t. 27.)

Sintok, Dr. Horsfield tells us, in his "Account of Java Medicinal Plants," is the Java name of a spe-

† At Courtalum in the Tinnivelly district.
cies of *laurus*, which in taste is an agreeable aromatic mixture of the clove and cinnamon; the best comes to Java from the Moluccas.

It would appear that cinnamon was in former times not confined* to Asia, much less to the island of Ceylon. Pliny informs us (lib. xii. cap. 19), that it grew in Ethiopia, and we know "that Vespasian on his return from Palestine, dedicated to the Goddess of Peace in one of the temples of the capitol, garlands of cinnamon inclosed in polished gold; and that in the temple built on Mount Palatine by the Empress Augusta in honour of Augustus Cæsar her husband, was placed a root of the cinnamon tree set in a golden cup." (See Phillip's History of Cultivated Vegetables, vol. i. p. 152.) Celsus recommends that it should be given "per potionem." (lib. v. p. 261.) In the Philippine Island there is a tree called *calingad*, the bark of which tastes exactly like cinnamon. (See De Comyn's State of those Islands, p. 27.)

**XLIV.**

**CLAY, POTTER’S.** Kāli munnu கலிமுன்னு (Tam.) Chicknie muttie چکنی مٹئی (Duk.) Banka munnoo (Tel.) Krishnamirtika कृष्णमृतिका (Sans.)

ARGILLA FIGULI (Var.)

This is found in several parts of Lower India, but is more common in the higher tracts of Hindoostan; and is used for nearly the same purposes by the na-

tives that it is in Europe. It varies in colour, being greyish, greenish, and sometimes of a blue cast, resembling in a great measure what has been called the earthy potter’s clay, which is the erdiger topferthen of Werner. It feels a little greasy to the touch, and adheres strongly to the tongue: a finer kind of it, a sort of pipe clay, is also to be met with, and is what the different casts of Hindoos employ for making the distinguishing marks on their foreheads; and moistened with water, they often too apply it round the eye in cases of opthalmia, as well as round broken limbs, to keep them in their proper forms till the bones are knit. The Indian names of pipe-clay are the following: namum (Tam.), khurrie کھری (Duk.), swētā mritika स्वेत मृतिका (Sans.), mukkool matie (Cyng.) The slaty variety I have not seen in India. The English potter’s earth analysed by Kirwan, consists of silica 68.00, alumina 37.00; and that of the best quality is found in Dorsetshire.

XLV.

CLOVE. Crāumboo க்ராம்பூ (Tam.) Lāong லஊங் (Duk. and Hind.) Warrala (Cyng.) Lāvangā (Sans.) Chankée (Malay.) also Buah lawang (Malay.) Lawangum (Tel.) Kerenful ترنف (Arab.) Mykhék ميخر (Pers.) Cravos da India (Port.) Kruid nagelon (Dut.) Thenghio (Chinese.) Wohkayu lawang (Jav.) Bu-wah-lawang (Bali.) Cloux de girolfe (Fr.)

Eugenia Caryophyllata (Lin.)

Clove, which are the unexpanded flowers of the tree quickly dried, are brought to India chiefly from Amboyna, Honimoa, and Moussalaut; they are also a produce of the island of Celebes*, but those of Amboyna are reckoned the best; though small and black, they have a strong fragrant, aromatic odour, and a warm acrid and aromatic taste. The cultivation of the clove was introduced into Sumatra, by Mr. I. Lumsdain's Account, in 1778; but it would not appear to be well adapted to that island. (See Asiatic Journal for November, 1823.)

The native doctors of India employ cloves in such cases as require stimulating aromatics, in doses of from three to twelve grains. The clove tree, which was originally confined to the Molucca Islands, is now cultivated in many of the western parts of the Archipelago of India, where, according to Mr. Crawford, five varieties are distinguished. Rumphius, in speaking of the clove tree†, says, "it appears to me to be the most beautiful and precious of all known trees;" in form it resembles somewhat the laurel, with a smooth bark like the beech, and straight trunk; he adds, that it is not partial to large islands, and does not answer well at Gelolo, Ceram, and Celebes. Cloves, within the last fifty years have grown at the Mauritius, but of an inferior quality. The Eugenia caryophyllata is now thriving in the botanical garden of Calcutta; its Bengali name is chota.

* See Beckman's Voyage to Borneo.
† Herbarium Amboi. tam. ii. p. 1.
chap. i. materia indica.

jamb. twenty-seven other species of Eugenia are in the same garden.

the Arabians place قرنفل (cloves) amongst their مكوايات معدة or tonics.

European practitioners occasionally order cloves in dyspeptic complaints, particularly in habits requiring a more than ordinary degree of stimulus. The clove is an article of the famous electuarium gingival of the French Pharmacopeia for preserving the gums and teeth.

xlvi.

cocoa nut, milk of. cocoa nut, kernel of. cocoa nut, oil of.

Cocos Nucifera (Lin.)


The first is a liquor contained within the kernel of the cocoa nut while it is yet growing, and is refreshing and extremely pleasant to the taste, particularly in hot weather. It may be drank to almost any quantity without injury, and is considered by the native doctors as a purifier of the blood. As the kernel approaches to maturity the liquor is diminished in quantity, becoming somewhat more sharp and a little aperient, in its best state it has the appearance of water with a small admixture of milk in it.

The kernel, which has much the taste of the filbert, is a common ingredient both in the curries of Europeans and natives; the latter considering it to be peculiarly nutritious, and to have the power of
rendering the body corpulent. By scraping down the ripe kernel of the *cocoa nut* and adding a little water to it, a white fluid is obtained by pressure, which very much resembles milk in taste, and may be used as a substitute for it. The cocoa nut tree is common almost everywhere within the tropics, and is certainly one of the most valuable in the world. It grows to a great height, the stems being composed of strong fibres like net-work, which lie in several laminas over each other, out of which come the branches or rather leaves, which grow twelve or fourteen feet long; but we will not enter into a minute description of the *cocos nucifera* here, but refer our readers to Roxb. Corom. I. p. 52. t. lxxxiii. Of the genus, Willdenow says, "Masculi, Cal. triphyllus. Cor. tripetala. Feminei, Cal. 2 phyllus. Cor. 6 petala. Styl. 0. stigma fovea. *Drupa* fibrosa." Our species is distinguished by "inermis frondibus pin-natis, foliolis replicatis ensiformibus."

Its names in eastern countries are, नारिकेल *nārikēla* (Sans.), *taynga* ೒య్ణ (Tam.), *naril* नारिल (Duk.), *tenkāia* (Tel.), *tāngā* (Malēālie), *calappa* (Rumph. Amb. I. p. 1), *tenga* (Rheed, Mal. I. p. 1), *kalapa* also *nyor* (Malay), *nājible* نارجبل (Pers.)

According to Sprengel, in his Hist. Rei Herbariae, the first particular notice taken of this tree is in "Itinerario Abuzeid" (Avicen. Relat. p. 2. iii.), wherein is especially observed the great variety of uses to which the different parts of this palm are applied. (See Hist. Rei, &c., pp. 268, 269.)

With regard to the oil of the cocoa nut (which in Tamul is *taynga unnay*, in Dukhanie *naril ka tayl*, in Tel. *tenkai monay*, and in Sanscrit नारिकेल *nāri-
kaila). I have to observe that the vytians employ it in preparing certain plasters, and for softening the hair. In some parts of the Indian Peninsula it is used for culinary purposes. In the more northern and eastern districts, it is chiefly employed for burning in lamps. In the Indian islands it would appear from Mr. Crawford’s account, that it is for the pulp of the nut this palm is particularly grown, the oil made from it being there too expensive for burning, is almost entirely used for eating. The dried kernel of the cocoa nut (copra), is a great article of export trade from Canara. For cocoa nut toddy, see article toddy in this chapter. For some account of the nar, or fibrous husk of the cocoa nut, the reader is referred to Part ii. of this work.

XLVII.

COCHINEAL. Cochineel poochie കൊച്ചിനീൽ (Tam.) Kermizī fāringhiye ꞌىرَمْز فَرِنَگی (Duk.) Conchenilje (Dut.) Cochenilha (Port.) Cochenille (Fr.)

Coccus Cacti.

The inferior sort of cochineal now prepared in India, was introduced by Capt. Neilson in 1795, who brought the insect from Rio de Janeiro; it was not at first known which insect it was, whether that producing the grana fina cochineal, or that which produces the grana silvestra. On discovering, however, that the little animal would neither eat the cactus coccinellifer nor cactus tuna, but voraciously devoured

* It is then prepared with great care by boiling the bruised kernels in water: for other purposes the oil is simply expressed.
the cactus ficus Indica (Lin.), nágátállé-kulli (Tam.), it was ascertained to be that from which the inferior or grana silvestra is prepared. The grana fina insect is known (or rather supposed) to feed only on the cactus coccinellifer. This, however, is much doubted by Baron Humboldt, at least he thinks the grana fina made by the Indians of Oaxaca* may not be from that plant. The grana fina insect is nearly double the size of the grana silvestra†, and contains almost twice the quantity of colouring matter.

Cochineal has a heavy faint odour, and bitter austere taste; it has lately been recommended in Europe as an antispasmodic and anodyne in hooping cough, but I fear its virtues in that respect are not great. Scarlet was till of late years, produced exclusively with the colouring matter of cochineal, the nature of which, Mr. Brande informs us, has been investigated by M. Pelletier, who found it united in the insect with a peculiar animal matter, fat, and some saline substances, from which, by a chemical process, they succeeded in separating it, thereby procuring the pure colouring matter, which Dr. John has proposed to call coccinellin. The silvestra cochineal of Bengal when compared with the grana fina sort of South America, as to the relative quantity of colouring matter, was from 9 or 11 to 16. (See Tenant's Indian Recreations, vol. ii. p. 227.)

I mentioned above, that till of late years scarlet could only be produced by means of the cochineal insect; but it would appear that a more beautiful and


† Of late years, I understand, but little cochineal has been prepared in India, and no carmine has ever been yet made from it, the plants having been nearly all devoured by the insects.
lasting colour can be obtained by using the lac insect. (See another part of this work.)

XLVIII.

COFFEE. Cāpie cōttay (Tam.) Boond (Duk.) Bun (Arab.) Copī cōttā (Cyg.) Kāwa (Malay.) Tochēm kēwēh (Pers.) Koffy (Dut.) Caffē (Port.) Chaube (Turk.) Eleave (Egypt.) Caffē (Fr.) Kaffē (Dan.) Coffea Arabica (Linn.)


This valuable berry was first used in the way it now is, in Arabia, in the ninth year of the hegira * (fifteenth century). The tree is properly a native of Yemen, where it is called bun, and where the fresh seeds are considered as diuretic and tonic; in other and more eastern provinces it has got the name of kahīvet, and in some parts kischer. It is now cultivated, however, with great success in the southern extremity of the Indian peninsula, in the Mysore country, in Java †, and of a very superior quality in Bourbon and Luconia. (See De Comyn’s State of the Philippine Islands, p. 22.) The coffee tree in India seldom rises higher than twelve or fourteen feet, and

* See Fothergill’s works, vol. ii. p. 286.
† See Niebhr’s Travels in Arabia, vol. ii. pp. 228, 229.
‡ Particularly in the territories of Cheribon and Jaccatra. (See Sketches, Civil and Military of the Island of Java.) Mr. Crawford, in his Indian Archipelago (vol. i. p. 486.), tells us, that coffee was first introduced into Java in 1723, by the Dutch governor Zwardekroon.
is extremely beautiful; the leaves are from three to five inches long and about two broad, opposite, ovatelanciolate, with waved borders, and of a singular glossy appearance; the flowers which are white, are produced in clusters at the base of the leaves, and have a pleasant odour. Our article, with two other species are growing in the botanical garden of Calcutta.

The Mahometans of India use a great deal of coffee in the same way that we do, with this exception, that they take no milk with it; they believe it to have the effect of soothing and allaying nervous irritability, and prescribe it to stop vomiting in danklugna (cholera morbus); for a similar purpose it is often employed by the Spaniards at Manilla, and with the greatest success. There are various accounts of the first discovery of the virtues of coffee, and its introduction into use in eastern countries. Niebhor says it is a native of Yemen; Abbe Raynal, in his History of the East and West Indies, (vol. i. p. 336), informs us, that it was first noticed in Upper Ethiopia, and that a Mollach named Chadly, was the fortunate man, who found out its virtues in raising the spirits, tranquillizing the mind, yet keeping off sleep, and dissolving crudities in the stomach.

Coffee, by some medical men, is supposed to be more especially suited for those who are advanced in years. The abuse of it impairs digestion, and when too strong, it stimulates, heats, and produces watchfulness. As a medicine, it has been found useful in asthmatic affections, diarrhoea, and intermittent fever (see Dr. Pearson's Materia Alimentaria, p. 110); and some imagine it to possess the power of counteracting the narcotic effects of opium. (See Fischer de Potus Coffee Usu et Abusu.) My own opinion
is, that taken in moderation, not too strong, and without milk, it aids digestion, comforts the stomach, and calms the spirits. *Bun-kawa* is the Bengalie name of a wild kind of coffee, *coffea Bengalensis*, (Roxb.): it is an erect shrub, flowering in the hot season, and yielding its fruit in the cold season. Various substitutes are used for coffee in India, perhaps the best is toasted rice. In Europe, Mr. *Gray* informs us, that the seeds of the yellow water flag (iris *pseudacorus*), come nearer the real article than anything else that has yet been tried. (See his Supplement to the Pharmacopoeias, p. 237.) Murray, in his Apparatus Medicaminum, notices as substitutes for coffee, common barley, the root of the cichori, or scorzonera, &c. (vol. i. p. 564, Latin edition.)

Within the last few years a great many people in England have had recourse to parched wheat and rye as substitutes for coffee: these were first, I believe, particularly recommended by Mr. Hunt; they are in their nature and qualities very similar to the article prepared with rice. As a beverage for the dyspeptic, those kinds of coffee, if they can be so called, are altogether safe, and I have met with several delicate women, who assured me that they found them agree with them better than the Turkey coffee.*

XLIX.

**COLOQUINTIDA.** *Peyčomutikā* also *Varrie-
comutie kā*  قولقات نتامي

* It appears from the *Archives de Descouverts*, that a method has lately been discovered at Venice, of composing a fine unchangeable emerald green colour; a precipitation by means of pure soda from a decoction of decayed coffee in river water; the green thus obtained resists the action of acids, light, and moisture.

The plant which produces the coloquintida may be found in many parts of Lower India, particularly in sandy situations in the neighbourhood of the sea; the fruit is a greenish striped gourd or pepo, which, however, on ripening becomes of a pale yellow colour, and is about the size of an orange.

It would appear from what is said of this article in the "Moofurdatee Secunder," that coloquintida is a Syrian word; the author speaks highly of the virtues of the medicine in cases of sukkata (catalepsy.) The vyttians prescribe the bitter pulp of the fruit, dried, in cases requiring brisk and powerful cathartics. The Arabians and Persians place it amongst their Mooselat belghem مسهرات بلغم (Phlegmagoga.) To the pulp of the fruit, the Arabians have given the name of shehemhunzel شحم حنظل the Persians that of mughz hunzel مغر حنظل. The simple dried fruit the Arabians call hudij حديج the Persians hunzel khoosk حنظل خشک. Dr. R. Pearson thinks colocynth is of so drastic and irritating a nature, that it is scarcely applicable in any other cases besides melancholy, lethargy, certain dropsical affections,
and worms. The dose of the dried pulp may be from four grains to eight or ten; that of the extract: colocynthia. composit. is from five to fifteen grains. It is a powerful cathartic.

Many attempts have been made in Europe to correct the virulence of this medicine by acids and astringents, it may not therefore be superfluous to add here, that by Thunberg’s account (Travels, vol. ii. p. 171), the gourd is rendered so perfectly mild at the Cape of Good Hope, by being properly pickled, that it is eaten both by the natives and colonists.

The coloquintida of the shops in Europe, though inodorous, has an extremely bitter and nauseous taste. It is brought from Turkey where the plant grows, but it is also, Willdenow says, a native of the Cape; and Gerarde tells us, that it is common on the shores of the Mediterranean Sea. Orfila places coloquintida amongst his poisons, and supposes its bad quality is equally in that part which is soluble in water, and not soluble. (See Traité des Poisons, vol. ii. part i. p. 18.) For the opinions of the Persians respecting coloquintida, the reader may consult a celebrated Persian work on the Materia Medica, by Secunder, entitled مفردات سکندیزی originally written in Syrian by Yahia Koort.

Our article, with nine other species of cucumis, grow in the botanical garden of Calcutta, all Indian plants, except the melo, which is a native of Persia. (See Hortus Bengalensis, p. 70.)

Burchell, in his Travels in Southern Africa (p. 126), informs us, that he saw a great many of the colocynt melons scattered on the ground near the Breed river, in the district of Roodezand; and we know that Burckhardt saw them lying in profusion on the ground in the desert of Nubia, called Wadyom-gat. (See his work, 4to. p. 184.)
Murray, in his Apparatus Medicaminum, (vol. i. pp. 587, 588), recommends colocynth in the form of tincture in cases of gout, rheumatism, violent headaches, and palsy, in doses of fifteen drops morning and evening.*

L.

COLUMBA ROOT. Columbo vayr (Tam.) Kalamoo khoo (Cyng.) Colum-bakejur (Duk.) Kalumb (Mosambiquée.) Colombo wortel (Dut.) Raiz de columba (Port.) Colomba (Fr.)

CALUMBÆ RADIUS (Lond.) MENISPERMUM COLUMBA (Roxb.)†

The plant of which this is the root, was long supposed to be a native of Ceylon, and it was Thunberg † who first declared that it was not so, but was brought to the town of Colombo from the coast of Malabar: there is no doubt but that its proper Mosambique name Kalumb, having been mistaken for Colombo on Ceylon, has led to this mistake.

It has been ascertained that the plant grows naturally, and in abundance, in the thick forests that are said to prevail about Obio and Mosambique, on the Zanguebar coast of Africa; a discovery we owe to a Mr. J. F. Fortin, a French gentleman settled at Madras, who brought to that place with him from Mo-

* We are told by Vauquelin in the Journal of Science, Literature, and the Arts (No. xxxvi. p. 400.), that colocynth treated with alcohol yields the bitter substance he has called the colocytine which is slightly soluble in water.
‡ See his Travels, vol. iv. p. 185.
sambique, in September, 1805, an entire offset from the main root of a larger size than usual, from which a plant was raised in Dr. Anderson’s garden at Madras; but the genus could not be determined from a want of female flowers. From a drawing in the possession of the Linnean Society, it has been conjectured to be of the natural order of menospermae, but I understand that Willdenow, from accounts he had received, supposed it to be a bryonia, and it is a certain fact that the root of the Bryonia epigaea (Rottler), resembles it much in its natural qualities. (See article kolung kovay kahung (Tam.), in Part ii. of this work.)

A plant discovered some years ago in America by Mr. Wm. Bartram, and termed Fraseri walteri has been found to possess similar virtues with the Madagascar plant; the root being a pure and powerful bitter, without aroma; it is of the class tetrandria, and ord. monogynia, and nat. ord. gentianae; he has named it American Columba. (See Barton’s Vegetable Mat. Med. of the United States, vol. ii. p. 109.)

Columba root is very subject to decay and become perforated by small worms; when good, it breaks with a starchy fracture, looks bright and solid, and has a slight aromatic odour and bitter taste. It is considered as a powerful antiseptic and tonic, and to possess astringent qualities, which have occasioned it to be often recommended in diarrhoea, general debility, cholera morbus, and in certain stages of phthisis; it has also been supposed to be efficacious in allaying nervous irritability, and strengthening the digestive organs. It is no doubt an excellent medicine, and may be given in powder, in doses of from fifteen grains to half a drachm, though we think the infusion is the best preparation; this is very mucilaginous, a
quality to which, perhaps, the root owes much of its virtue. For further particulars see Dr. A. Berry’s account of the male plant, which furnishes the medicine called columba root in England, as it appears in the tenth volume of the Asiatic Researches.

I perceive by the Hort. Bengal. (p. 72.), that the plant whose root is the officinal columba root, was growing in the botanical garden of Calcutta in 1814, under the scientific name of *menispermum columba* (Roxb.), cl. and ord. dioecia, pentandria. Columba root is not unfrequently employed by the French and Portuguese in preparing the famous *droga amara* when the créyat plant cannot be procured. (See article Creyat in this chapter.)

LI.

**CONESSI, or OVAL-LEAVED ROSEBAY.**

*Véppäléi கொண்டில்* (Tam.) *Cbáágá pāla* (Mal.) *Pala codiyä also Manoopālä* (Tel.) *Curayja also Curaija कृयाजी (Hind.) Cheere also Kutāja* (Sans.) *Conessie* (Fr.)

**NERIUM ANTIDYSENTERICUM** (Lin.)


The bark of the oval-leaved rosebay having lately been admitted into the British Materia Medica, under the name of *conessi bark*, I have been induced to give the conessi a place here. The bark is called *palapatta* on the Malabar coast by the Hindoos, and *corte-de-pala* by the Portuguese; both of whom have long considered it as a valuable tonic and febrifuge.
On the Coromandel side of India it seems chiefly to be given in dysenteric affections, prescribed in decoction, to the extent of 2oz. twice or thrice daily. The milky juice of the tree is used as a vulnerary.

The seeds* which in Tamool are called \textit{Véppuléi arisse}, in Persian \textit{Ahir}, in Arabic \textit{Lissanul asafeer} in Dukhanie and Hindoostanie, \textit{Inderjow} and in Sans. \textit{इंद्रयव} \textit{Indrâyava}, have a pleasant taste not unlike that of oats, which they also resemble somewhat in appearance; but are longer and more slender; an infusion of them, they being previously toasted, is prescribed as a safe and gentle restrainer in bowel complaints; the decoction, Rheed tells us, in his \textit{Hortus Malabaricus}, is employed in ardent fever, as also in \textit{gout} and worm cases.

The tree grows to a considerable height, with leaves about three or four inches long, and one broad, ovate, opposite, and pointed: it is the \textit{codaga pala} of Rheede (Hort. Mal. 1. p. 85, 86. t. 47); it also grows in \textit{Cochin China}, and in some parts of the Russian empire. It is the \textit{echites antidysenterica} (Roxb.) who has given it the English name of Tellicherry bark.

LII.

\textbf{CORAL.} \textit{Pává}lam (Tam.) \textit{Pághádum} (Tel.) \textit{Poá}lam (Malay.) \textit{Bübålō} (Cyang.)

* They are contained in round, slender, pendulous follicles, each about 9 inches long; two of which are often joined together at both ends. The seeds are covered with a kind of \textit{coma} or downy tuft, somewhat resembling the down of the thistle.
Goollie (Duk.) Moonga (Hind.) Béséd (Arab.) Merjān (Pers.) Vidrūmā, चित्रम also Prūbālī प्रबाल (Sans.) Koralen (Dut.) Coral (Port.) Corail (Fr.)

Corallium.

It has been said that red coral, the only kind employed in medicine in Europe, was no where to be found, but in the Mediterranean sea: it would appear, however, by Thunberg's account, that it is common in Japan, and there called sangadin, and I believe it is also found on the west coast of Sumatra; where corals of many different colours grow with great rapidity; the yellowish white*, however, is met with in the greatest plenty. As an ornament the black is most esteemed. De Comyn says, in his "State of the Philippine Islands," (p. 39.), that both the red and black coral are found near the islands Samar and Bissayas (see Travels, vol. ii. p. 240.) The red sort is the gorgonia nobilis, which according to Brande, is composed of a cartilaginous matter with carbonate and phosphate of lime, (see his Manual of Chemistry, vol. iii. p. 215.)

We learn from Niebthur (see Travels, vol. ii. p. 240.) that the Arabian Gulf is almost filled up with coral; in Europe the most profitable fisheries are those of Majorca and Minorca; on the coast of Sicily; and on the shores of Provence, from Cape de la Couronne, to that of St. Tropez. Coral has sometimes been employed as an absorbent. The Tamool practitioners prescribe it when calcined, in cases of Neer.

* This, according to Brande, consists entirely of carbonate of lime, with a minute quantity of gelatinous matter. See his Manual of Chemistry, vol. iii. p. 214.
Alivoo (Diabetes), and moola cranie (bleeding piles). The Arabians place it amongst their Kabizat (Astringentia,) and Mokéwyát-dil مقوبات لل (Cardiaca.)

Tavernier, in his Indian Voyages (book ii. chap. xx.) tells us that there are three places where coral is fished on the coast of Sardinia; viz. at Arguerre, at Boza, and at St. Peter: there are also fisheries on the coast of France, Sicily, Catalonia, and Majorca. Celsus notices corallium amongst those substances which harden the body, "Veratrum, album et nigrum, corallium, cantharides, pyrethrum, adurunt." (Cels. Lib. v. p. 208.) The corallium album, a hard, white, brittle, calcareous substance, is the nidus of the madrepora oculata, class vermes, order lithophyta; it is sometimes exhibited as an absorbent earth. The corallium rubrum, already mentioned, is a hard, brittle, calcareous substance, resembling the stalk of a plant, and is the habitation of the isis nobilis, class Vermes, order Zoophyta: it is given as an absorbent in powder, to children. What is called the corallina Corsicana, or Corsican worm seed, is the fucus helm-minthocorton of de la Tourette. This plant has got a great name for its power in destroying intestinal worms, and, according to Mr. Ure, the pharmacopæia of Geneva directs a syrup to be made of it.

LIII.

CORIANDER SEED. Cottamillie Cottamellio (Tam. and Tel.) Mety (Malay.) Cotumbaroo (Cyng.) Dunya (Hind. and Beng.) Dhunnian دهنا (Duk.) धन्याक Dhānyākā (Sans.)
Kezereh (Arab.) Kishnēez (Pers.)
Dhāna (Guz.) Coriander (Dut.) Coentro (Port.)
Cottimbiry (Can.) Coriandre (Fr.) Koriander
Saamen (Ger.)

Coriandrum Sativum (Lin.)


This is an annual, with an erect stem about two or three feet in height, having compound leaves, and white or reddish flowers. The fruit is too well known to require a description here.

The plant grows in abundance in many parts of India, where the seed is used by the natives as a carminative, grateful stomachic, and gentle stimulant; the dose from a scruple to a drachm. In Nepal the plant is common, and is called danga. In Egypt, to which country it is carried from India, it is termed kurbarā shāmī, Celsus, speaking of coriandrum, says, "coriandrum refrigerat, urinam movet. (See Cels. lib. ii. p. 90, 91.) Murray in his Apparatus Medicaminum, vol. i. p. 406., recommends an infusion of the seed, in cases of quartan ague; he further adds, "non spernendum ad flatus discutiendos, stomachum roborandum et diaphoresin movendam."

LIV.

COWHAGE. Poonaykālie (Tam.) Peeliadugookāila (Tel.) Kīwāch (Hind.)
Kaunchkoorikēbinge (Duk.) Ānmaṇgaṇa (Kāppikāchthub) Atmagūptā also Kāppikāchliū (Sans.)
Raxé (Jav.) Kosambiliwail (Cyg.) also Dewipag-hura (Cyg.) Cowage (Fr.) Kuhkratze (Ger.)

Dolichos Pruriens (Lin.)


The dolichos pruriens, which is a perennial, climbing plant, is a native of India as well as several other eastern countries, also of America; it is the cacara pruritus of Rumphius (amb. vi. p. 393. t. 142.), and the nāi corana of the Hort. Mal. (ix. p. 61. t. 85.)

A strong infusion of the root, sweetened with honey, is given by the Tamool doctors in cases of cholera morbus; but I do not find that the spiculae of the pods are used by them as an anthelmintic; the pod, which is eaten by the natives like any other bean, is about four inches long, a little curved, and contains from 3 to 5 oval and flattish seeds; the outside of it is thickly covered with short, bristly, brown hairs, which, if incautiously touched, stick to the skin, and occasion intolerable itching. Syrup thickened with the hairs till it is of the consistence of honey, is prescribed by European practitioners as an efficacious remedy in most worm cases; particularly for expelling the round worm, lumbricus teres. The dose from one tea-spoonful (to a child) to 8 (for an adult) given on an empty stomach, to be continued for three days, and followed by a brisk purge. For further particulars respecting poonaykalie (Tam.) the reader is referred to the third part of this work: 20 species of dolichos were growing in the botanical garden of Calcutta in 1814. (See Hort. Beng. p. 35.) There is no doubt but that it is simply by their mechanical
effect that the hairs above mentioned act in worm cases; for as Mr. Murray has justly observed, "neque tinctura, neque decoctum inde paratum, eundem effectum praestat. (Appar. Medicam. vol. i. p. 441.)

LV.

CRAB, SEA. Káddil Núndoo காட்டில் நுந்தூ (Tam.) Dewipāghuroo (Cyg.) Cátán (Malay.) Gnándā (Mal.) Samudrapoo Nandrakāia (Tel.) Sindhū Kārkutākā सिन्धुकरकट (Sans.) Dīryaka-keynkra دریکاکوپنگ (Duk.) Keynkrā (Hind.) Sīrtan سرتان (Arab.) Khérchéng خرچنگ (Pers.) Bras de crevisse (Fr.) Klaua an Krabbe (Ger.) Māundoo (Maléalie.) Cancer Pagurus (Var.)

The crab that is commonly met with in India differs considerably from what is called the black-clawed crab in England; it is smaller and the claws are not so dark-coloured; yet at the proper season the crabs on the Coromandel coast, are excellent and much sought after by Europeans; no part of the crab is used by the natives in medicine. The Persians, it would appear, occasionally employ "crab's eyes," but more properly called crab's stones, as an absorbent, and give them the name of cheshm sīrtan; but whether they are exactly the same with those of the shops in England, which are concretions found in the stomach of the crawfish, (cancer astacus) I

* This is more properly speaking the Arabic name for the crawfish. To the sea crab the Persians not unfrequently give the appellation of پنچ پایه, punj-pāiyeh.
cannot say. The crab's stones are said to be procured in the greatest abundance at Astrakan.

LVI.

CRESSES, GARDEN. *Halim* (Duk.) Réshād (Arab.) Chūnser (Hind.) Tūreh-tezuk (Persian.) *Halim* (Beng.) Cresson (Fr.)

*LEPIDIUM SATIVUM* (Lin.)


Garden cresses are rarely cultivated by Europeans in India; the common water-cresses, *sisymbrium nasturtium* (Lin.), are much prized and sought after by the Mahometans, who call them in Dukhanie *loot putiah*. Three species of lepidium grow in the botanical garden of Calcutta, our article and the *thlaspi* and *bonariense*. The thlaspi is, I believe, the *lep. perfoliatum* (Willd.) Spec. Plant. vol. iii. p. 431. Water-cresses, we are told by Mr. Crawford, were some years ago introduced into the eastern islands by the English, where they thrive in a most extraordinary manner, not only in the hills, but in the hottest plains. The European vegetables, he adds, which succeed best in that Archipelago, are peas, artichokes, and cabbages; carrots which grow so well in India, there do not thrive.

The Arabians place the seed of the garden cresses, which they call *hurrif* (حرق) amongst their *Mokerchat* (Vesicatoria.)
CREYAT. Kiriät (Tam. and Can.) Crēat (Duk.) Kairātā (Sans.) Calapnath (Hind.) Kala-megh (Ben.) Nella-vemoo (Tel.) Attadie (Cyng.) Crèate (Fr.)

JUSTICIA PANICULATA (Vahl.)


This plant was first brought to the southern parts of the Indian peninsula, from the Isle of France, where it is highly prized as a stomachic and tonic, and forms the basis of the famous French bitter tincture, called drogue amere. Dr. Fleeming, however, in his Catalogue of Indian Plants, informs us, that it is also a native of Bengal. The whole of the plant is used in medicine, and is intensely bitter, a quality which it yields equally to aqueous, vinous, and spirituous menstrua; it is the cara caniram of Rheed. (See Hort. Mal. ix. p. 109. tab. 56.), and is now cultivated with success in Tinnevelly, as well as in some more northern districts, where it occasionally gets the name of nella-vaymboo. It seldom rises higher than a foot and a half, and is stiff and four-cornered; Vahl tells us that it may be distinguished from all

* This is much esteemed by the Portuguese inhabitants of India as a stomachic and tonic, a particular account of it may be found in an old work on the Diseases of Southern India, by a Portuguese writer Fra Paolino da san Bartolamee, it is there particularly recommended in the disease called, he tells us, shani, or mordexin, also nicomber, and which would appear by its symptoms to correspond with the spasmodic cholera of this day. The droga-amara is composed of mastic, thus, common resin, myrrh, aloes and creyat-root, for which last sometimes columba-root is substituted. Proper proportions of these being taken, the whole is steeped in a due quantity of brandy for a month together in the sun in dry weather, and then carefully strained and drawn off.
others of its genus, by having capsules, compressed, flat, and of the same breadth from end to end. For a description of the plant, see Flora Indica, p. 119. It is growing in the botanical garden of Calcutta, and would appear by Forskahl’s account to be common in Arabia, and there called زر، Usār. (See his “Descriptiones Plant. Florae Ægyptiaco-Arabicae,” p. 4.)

LVIII.

CUBEBS. Väl mellághoo (Tam.) Cubāb chine (Hind.) Dīmké mirchie (Duk.) Komoonkoos (Malay.) Salava-mirriâloô (Tel.) Kebābeh (Arab.) Wal-gum-meris (Cyg.) Sugandhā marichā (Sans.) Koebeben (Dut.) Cobebas (Port.) Kumukus (Jav.) Lada barekor (Malay.) Cubebes (Fr.) Piper Cubeba (Lin.)


The piper cubeba is a native of Java*, where it is called cumac, and grows in great luxuriance in the woods near tuntang, and its produce thence sent all over Europe. It also grows in Nepal†, and is there called timme and taizbul. It is a very smooth shrub, with a jointed flexuous stem, and leaves mostly oblong, entire, and petaled. The cubeb of the shops

* See Sketches Civil and Military of the Island of Java.
† See Col. Kirkpatrick’s Account of Nepal, p. 79.
are the dried pedicelled berries, which grow in clusters on short, peduncled, solitary spikes, they are called dumkē merchie in Dukhanie, from the spiky tail that is at the end of each grain. This pepper resembles the black pepper in size, but is somewhat wrinkled; in colour it is not quite so dark, and has less pungency, but not less of an aromatic odour.

Cubebs are used by the Indian practitioners as a grateful stomachic, carminitive, and seasoner: the Arabians place them amongst their مدورات Mudorrat (Stimulantia.) The Mahometans not unfrequently employ them in cases of gleet, and it would appear that of late years in Europe, this medicine has been considered as powerfully efficacious in gonorrhēa*. Mr. Henry Jeffreys has written on the subject; his work is entitled, Practical Observations on the Use of Cubebs in the Cure of Gonorrhēa. He speaks highly of the virtues of cubebs, though they would appear in some habits to occasion headache and nausea; they are given, he thinks, with the greatest success in the more inflammatory forms of the disease, nor is their use followed by any of those bad symptoms which occasionally succeed to other modes of treatment. He conceives the agency of cubebs to resemble in a great measure that of the balsam of Copaiva; they moderate, he adds, inflammation, and suppress the quantity of the discharge in a shorter time than any other remedy he is acquainted with. The common dose about half a drachm, or even a drachm or more, three times in the day, in the form of

* See Edin. Medical and Surgical Journals, for January, 1818, and January 1819, by Messrs. Crawford and Adams.
powder. Mr. Crawford * in his History of the Indian Archipelago, says, that they are given in Malay countries with success in much larger doses, three drachms, and repeated during the day, for six or eight times. Ten species of *piper* grow in the botanical garden of Calcutta, all oriental plants.

Besides the virtues of cubebs in gonorrhæa, it would appear to have been lately discovered to be a most useful medicine, administered in cases of inflammation of the *mucus membrane* of the intestinal canal, given in conjunction with oxyde of bismuth; also in cases of chronic inflammation of the *Æosophagus* in union with carbonate of soda. See Communications by Dr. J. Fosbrooke, in Number 102 of the Medical Repository, and in that for December, 1822. In Number 100 of the same useful publication, p. 347, the reader will find an account of the analysis of cubebs, by *M. Vauquelin*, by which they appear to contain, 1. a volatile oil, which is nearly solid; 2. resin, resembling balsam copaiba; 3. a quantity of another coloured resin; 4. a coloured gummy matter.

The German and other physicians on the continent, at the time that Murray wrote, (at Gottingen in 1790,) do not appear to have been at all aware of those virtues which cubebs have since been found to possess. The distinguished writer just mentioned, thinks they may prove serviceable in certain dyspeptic affections, and the vertigo consequent on such complaints. (See Appar. Medicam. vol. v. p. 98.)

* See his work, vol. i. p. 465.
LIX.

CUMIN SEED. 

Śīrāgum (Tam.)
Dooroo (Cynh.) Jeera (Beng.) Zira (Duk.)
Zira (Hind.) Kemun (Arab.) Zēreh
(Pers.) Jīntan (Malay.) Gilakara (Tel.)
Jīrākā (Sansk.) or ḍījī ṣaṣāji (Can.) Jeerágā
(Can.) Kōmyn (Dut.) Cuminhio (Port.) Cumin
(Fr.) Ramischer Kumul (Ger.) Kummen (Dan.)
Cuminum Cuminum (Lin.)

p. 1440.

Cumin seeds are in very general use amongst
the native Indians, equally as a grateful stomatic
in cases of dyspepsia, and as a seasoner for their
curries: they have a peculiar heavy, strong odour,
and a warm bitterish taste. The plant is an annual
which seldom rises above eight or ten inches high;
is, properly speaking, a native of Egypt, but is cul-
tivated now in India, though I am inclined to think
that the greater part of the seed found in the bazars,
is brought from the sea ports of the Red Sea. The
plant, however, is growing in the botanical garden
of Calcutta, introduced from Persia.

In Malta, where cumin seed is very common, it
is called cuminum aigro, to distinguish it from anise-
seed, which they term cuminum dolce. Celsus tells us,
that it is given with advantage in cases in which the
spleen is affected, "præcipue ad id valet vel trifolii
semen, vel cuminum, vel portulaca." &c. (See Celsus,
The French medical practitioners esteem these seeds as "excitantes, carminatives et apéritives," and formerly considered them as diuretic and emmenagogue. See Deslongchamp’s "Manuel des Plantes," vol. i. pp. 255, 256.

**LX.**

**CROTON, PURGING SEED OF.** *Néralium cottay* (Tam.) *Iu-
mal gota* (Hind. and Duk.) *Dund.* (Pers.) *Bato* (Arab.) *Naypalum vitiloo* (Tel.) *Iayapala* (Can.) *Nepala नेपाल (Sans.) Bori (Malay.) *Népālam* (Cyang.), also *Dunti beeja* (Sans.) *Cheraken* (Jav.) *Croton* (Fr.)

*Croton Tiglium* (Lin.)


These seeds, which were formerly known in Europe, under the name of *grana molucca*, are about the size of a small marble; and of a convex shape on one side, and bluntly angular on the other, enveloped in a thin shell; and are reckoned by the vyttians amongst their most drastic purges; as such, they are frequently prescribed by them in maniacal cases, and on other occasions, when powerful cathartics are required. Their operation is rendered much less violent, when cleared of the thin filament in which each seed is closely enveloped; then, the vyttians say,

* I have known the seed produce the happiest effects, when employed as an external application, in discussing indolent tumors in the form of a cataplasm.
as much as one seed may be administered as a dose; though it may be safer to begin with a much smaller quantity, given intimately, blended with a little honey. My friend, Dr. Ingleedew, informs me, that he gave this medicine in upwards of five hundred cases in the Mysore country, and found it a valuable and safe purgative; his dose was seldom more than one grain, combined with two of camphor. He would not recommend it as a safe purge for children under seven years old, nor for very old people, or delicate women. In the first edition of this work*, published at Madras, in 1813, I gave the sentiments of Dr. White, and Mr. Marshall, of the Bombay establishment, regarding the purging croton; and, perhaps, I cannot do better than repeat them now.

Doctor White observes:—

"Take the seed of the croton tigillum, after having been each enveloped in a small ball of fresh cow-dung, about the size of a sparrow's egg, put them on some burning charcoal, and allow them to remain till the cow-dung is burnt or toasted dry, then remove them, and taking off carefully the shells from the seeds, pound the nuclei, and divide into pills, making two out of each grain; two, or at most three of which are a sufficient dose for an adult; half a drachm of honey, to two drachms of the mass proves a convenient medium for uniting it. The advantages derived from the above mentioned process, are, in the first place, it facilitates the removal of the shell; secondly, it renders the nucleus more fit for pounding; and lastly, the gentle torrefaction it undergoes, corrects in a great degree the natural acrimony of

* In that first edition I was at particular pains to call the attention of the medical men of the East to this medicine, from finding that it was highly prized by the Hindoo doctors, and extolled in various sastrums. See Work, pages 95, 292, 293, 294.
"The nut. The Tamool, Canarese, and Sanscrit names of this nut, express its quality of liquefying the contents of the intestines. An intelligent Joqui from Benares, tells me, that in his country, they boil the seeds soft in milk, stripping them first of their shells; after which they pound them, forming the mass by means of lime juice, at the rate of one pill from each seed; two of these making an ordinary dose. A mode in Guzerate is still more simple, consisting merely in pounding the kernels, without any previous operation, and forming, by means of honey, two pills from each nucleus, one of which generally suffices for a strong purge; at the same time directing a gill of warm water to be taken immediately after swallowing the pill: in this preparation the inherent acrimony of the kernel, makes up for the smallness of the dose, and the water drank above it ensures its speedy operation.

"The following directions are from a learned Persee vydia, of Surat.

"After having removed the shells from the seeds, tie the kernels in a small piece of cloth, like a bag; then put this into as much cow-dung-water as will cover the bag, and let it boil; secondly, when boiled, split the kernels in two, and take a small leaf (filiment) from them, which is said to be poisonous; and thirdly, pound the whole into a mass, to which add two parts of katha (catechú), that is, to one drachm of croton, add tw of katha, and divide into pills of two grains each; two of which are sufficient for one dose. The addition of the katha is said to correct its acrimony altogether, and to prevent any griping from ensuing."

(Signed) D. White, M.D.
Mr. Marshall’s sentiments on this subject, are the following:—

"As far as the employment of the croton nut, in about two hundred instances, authorises me to speak of its powers, I offer the following remarks as the result of my observation; the cases were all those of European soldiers.

"Two pills, in each half a grain of the mass, given to a man of ordinary habit, produce a full purgation, such as is necessary in usual practice, in the beginning of fever; I esteem this dose as equal in power, to half a drachm of jalap, or to six grains of calomel. The operation is attended with much rumbling of the bowels; the stools are invariably watry, and copious. In about one case in ten, the medicine caused griping, and in about one in thirty, nausea; but it is very probable that similar effects would have arisen in these cases from the operation of any other purgative of equal power. If the patient be weakly, one pill often produces the effects above mentioned; but in a healthy subject, the operation of one pill seldom affords a motion in less time than six, eight, or more hours. In a case of general torpor and coma, I produced numerous stools (and not very watry) with three pills. The chief advantage of this purge is, the smallness of the bulk necessary to obtain the desired effect. In the case of coma, just noticed, it would have been next to impossible to get the patient to swallow a sufficient quantity of almost any other purgative. None of the drastic purges are more certain, none so rapid in their action, nor, I think, so little distressing by griping or nausea. I found the dose of one grain very useful in diseased spleen, where the patients
"were obliged to have their bowels daily emptied; "an omission of this precaution being almost inevit- 
ably followed by a paroxysm of fever; by manag-
-ing the exhibition of the medicine, so as to ensure 
its operation an hour or two before the time of 
the expected attack, it is almost certainly obviated.
"To the field surgeon, it is no unimportant re-
"commendation of this medicine; that five hundred 
"doses may be contained in a small wafer-box, 
"and purchased for half a rupee."

(Signed) THOMAS MARSHALL, Assistant Surgeon.
Barrachie, near Surat, Oct. 28. 1812.

The expressed oil of the seed called in Tamool nérvalum únnay, is considered as a valuable external application in rheumatic affections; as a purge it has been of late years often resorted to in England, and is thought to have still more powerful effects as a hydragogue, than the torrefied seeds. Mr. Thompson tells us, that in some cases merely touching the tongue with a drop, has produced many loose stools; and in others, doses of one or two minims have excited the most frightful hypercatharsis; although some individuals have taken it to the extent of even ten minims without any very sensible effect; he adds, from his own experience, that he would be very cautious in exhibiting the oil at first in larger doses than one or two minims, to adults: in apoplexy, convulsions, and mania, the croton oil is likely to prove a medicine of great value; a very good mode of giving it, is, rubbed up with the mucilage of acacia, gum, sugar, and almond emulsion, by which means its acrimony is blunted.

The croton nuts were known to the Arabian physi-
cians, by the name of fill j; (Serap. c. 261.), and were formerly brought to England under the name
of molucca grains. Rumphiuss informs us, that the root of the plant is supposed, by the inhabitants of Amboyna, to be a useful drastic purge, in cases of dropsy, given rasped in doses of a few grains, or as much as can be held betwixt the thumb and finger*, and the same writer quotes a letter from Artus Gey-sels, one of the Governors of Amboyna, expressive of similar virtues in the root, in such affections. The last mentioned gentleman thinks, the best way of giving the dose above mentioned, is the following: "Radix autem hæc radenda est, quo subtilius eo "melius ac mane cum vino vel potu arack adsumenda "est." On Java, the croton nut is well known, highly valued, and called by the Javanese cheraken. Rheede, who speaks of the plant under the name cädêl avánăcú, says, that the leaves rubbed and soaked in water also are purgative; and when dried and powdered are a good external application in cases of bites of serpents.† Virey in his "Histoire "Naturelle des Medicamens," tells us, that the French call these grains, graines de tilly, and that the light wood of the small tree, which they term pavane, is of a bitter quality, gently emetic, and very powerfully sudorific.‡


Our article is a small tree, with a few spreading branches, Willdenow observes of it, "Foliis ovatis "acuminatis serratis glabris basi biglandulosis, pe-

* Or it may be given in infusion in arrack.
† Rheede, Hort. Mal. ii. p. 61. t. 33.
‡ See his work, p. 301.
"tiolis folio brevioribus, racemis terminalibus." The *Flora Zeylanica*, informs us that it has "leaves ovate, smooth, acuminate, serrate, with an arboreous stem." The flowers are in erect, simple, terminating racemes, scarcely the length of the leaf; the lower ones female, the upper male, and pale coloured. The croton tiglium is a native of China, Cochín China, and India, and has been noticed by Laureiro and Gærtner, as well as those writers already mentioned.

No less than fourteen species of croton have been discovered in Jamaica, three of which, according to Lunan*, appear to be there considered as medicinal, viz. the *crot. liniare* (the powder of the dry leaves of which, Barham says, is a specific in colic and cold watry indigested humours); *croton humile* (which Browne says, in his History of Jamaica, page 347. c. 2. is of a very hot and pungent nature, and is frequently used in baths, and fomentations for nervous weakness); and lastly, the *croton eluteria* (the bark of which is well known to be the *cascarilla bark* of the shops; one of the most valuable, if not the most valuable, of all our light aromatics and tonics, for delicate people, with weak digestions).

The croton seeds and oil, have of late years attracted much attention amongst the practitioners of Europe. The following notices are amongst the best. By Dr. John Gordon in the London Medical Repository, for January, 1822. By W. T. Iliff, in the same work and Number, page 16. By the same in the Number for December, 1822. This last mentioned gentleman, has analysed the kernels and oil, and found that one hundred parts of the first con-

tained twenty-seven of acrid principle, thirty-three of fixed oil, and forty of farinaceous matter. The oil itself is composed of forty-five of acrid principle, and forty-five of fixed oil. Dr. Nimmo ascertained that the alcohol solution was the best vehicle for administering the active principle of the croton oil, and gives the following formula.

alcohol. croton. 3 ss.
syrupi simpl.
mucil. gum. arab. aa 3 j.
aquæ distillat. 3 ss. miscel.

Dr. Carter has given us some excellent chemical experiments, on the effects of the croton oil, which may be found in number 98 of the Medical Repository, page 1.; and in the Number 102, for June 1822, there is a paper I am sure the reader will be much pleased with, entitled, "A Sketch of the Botanical Literature of the Croton Tiglum," by John Frost, Esq.; by which it appears that the first correct account of this plant, is given in Jacob Robart's work called, "Plantarum Historia Oxoniensis Universalis," published in 1649.

By an interesting communication which I have lately received from India, from Mr. Robert Daly of the medical store department of Madras, I learn that the croton seed had there proved to be in a singular manner emmenagogue: when prescribed by Mr. Underwood, in upwards of fifteen cases of obstructed menses, in the female asylum, it in all of them had the desired effect, of bringing on the catamenia.
LXI.

DILL SEED. Saddacooppi (Tam.) Sattacooppa (Cyn..) Soie (Duk.) Sowa (Hind.) Misreyā (Sans.) Suddapa (Tel.) Sova (Guz.) Moongsi (Jav.) Buzralshibbet* (Arab.)

Anethum Graveolens (Lin.)

Cl. and Ord. Pentandria, Digynia. Nat. Ord. Umbellate. (Lin.)

This seed, which is sometimes sold in India under the name of caraway; and which Dr. Pearson considers as a superfluous addition to the materia medica list; is reckoned a very valuable medicine by the Tamool practitioners. It is given in infusion, as a stomachic, and also as a grateful cordial drink to women immediately after lying in. The leaves applied warm, and moistened with a little oil, hasten suppuration; the seeds have an aromatic, sweetish odour, by no means unpleasant, with a moderately warm and pungent taste; and have been employed with success by European practitioners, in the flatulent colic of infants, in doses of fifteen or twenty grains of the powder, also to stop hickup or vomiting.

To this plant, as it appears in India, Dr. Roxburgh has given the name of anethum sowa, considering it as a new species. Dr. Rottler, however, has seen no necessity for changing the name, and I have gone by his decision. Anethum graveolens, is a native of Spain and Portugal, but is now cultivated in Hin-

* This is more properly speaking the Arabic name for fennel-seed — anethum fasiculum.
doostan; where the seeds, called sometimes by the Brahmins of Lower India, *Mishi* (Sans.), are frequently sold in the bazars for *caraway-seeds*, but they are considerably broader and flatter, and not quite so long. The *anethum panmorium* (Rox.), has a strong resemblance to the *an. fæniculum*, and is common in Bengal; it is a warm aromatic, and is called in Hindoostanie *mayuri*, and in Sanscrit *madhurica*.

LXII.

**DEER, SPOTTED.** *Pollee maun* «४»

*Sárága* (Can.) *Cheetul* (Duk.)

*Doopie* (Tel.) *Zubbee* (Arab.) *Gouzun* (Pers.)

*Cervus Axis* (Var.)

This beautiful species of *cervus*, is very common in many parts of India, and is sometimes called by writers on mazology, the gangetic stag; it is commonly about three feet and a half high, of a pale, rufous brown colour, spotted with white; the horns are round, slender, erect, with bifid or trifid summits; as venison, it is not worth much, unless when caught young and fed properly, then the flesh is delicious. The other species of the genus, to be met with in Lower India; are, 1. the *cervus muntjac* (Lin.) or rib-faced deer, this has horns rising from a cylindrical hairy base, three-forked, and the upper fork hooked; 2. the *cerf des sardennes* of Buffon; and 3. the *cervus cædaba* (Buch. MSS.) which the Canarese call *condagūrāvi* from its being usually found in mountainous situations.
Of the antelope species. One, *anteleope orientalis* (Var.), is very common in many parts of the lower provinces of India, and is, I believe, not rare in Upper Hindoostan; it is when full grown, a noble and beautiful animal, with spiral or lyre-shaped horns, body rufous above, and white beneath, with longish ears, and tail terminating in a tuft of hair; in its form otherwise, it approaches to the *a. scripta* of Pallas; Turton has called it *a. coromandaeliensis*. As venison, it is tough and insipid; in Sanscrit it is म्रिग म्रिग. *Maun* (Tam.) *Ginka* (Tel.) *Ahoo* اه (Pers.) *Hurn* (Hind.), also *tartiya*. Another species often seen in the Mysore country, is, the *a. gazella*, distinguished by its straight horns, which are tapering and wrinkled. A third species is the *nylghau* or white-footed antelope, it is the *a. picta* (Lin.), commonly about four feet in height or more; and partaking in its appearance, of a mixture of the ox and deer tribe; it is found in the interior tracts of Hindoostan; in Tamool it is *kadumbeí, Neelghau* نیرگاوا (Duk.) A fourth species to be met with, is the *a. oreas* (Lin.), or elk antelope, of a grey colour, with tapering horns, spirally carinated. A fifth species is the *a. tragocamelus* (Lin.) or Indostan antelope, also grey, with a long flocky tail. and dorsal protuberance, it is very rare.

The musk deer, moschus moschiferus, is to be found in the *Sirmoor* or *Nahan* country, in Upper India. The beautiful small species *m. pygmaeus* is common in Lower India.

* It is not larger than a domestic cat; of a bay colour with slender legs, and has a head large for the rest of the body; its aspect is mild, and habits gentle; the English in India sometimes call it improperly hog deer: it has rarely been known to survive a voyage to England. Mr. Elphinston, in his excellent Account of
LXIII.

DITTANY OF CRETE. Bucklulglesal بلغامة الفراش (Arab.) Dictame de Crete (Fr.) Origanum Dictamnus (Lin.)


The dittany of Crete, I have never seen in India; and have merely given it a place here, from finding that though now in a great measure exploded from our Mat. Med. it is still esteemed by the Arabians, and Persians, who class it amongst their Mokewyat-moeadeh متغويات معدة (Tonica.), and Mudorrat (Stimulantia.) It is a perennial plant, with a hairy stalk, of a purple colour, seldom more than nine inches high, and having thick, round, white, woolly leaves. The ancients prized it highly, and amongst others, Virgil sang its praises, and Cicero notices it in his work, "De Natura Deorum." Celsus reckoned it emmenagogue, and alexipharmic; the leaves have been given in substance from half a drachm to a drachm; and in infusion, to the quantity of half an ounce for a dose. Dr. Thornton seems to think that the real

Cabul, says, that the most remarkable animal of the deer kind he saw in that country, was there called pawsun بارزن distinguished by the great size of its horns, and the strong, but not unpleasant smell of its body. See his work, page 142.; and Dr. T. Hamilton, in his Account of the District of Puraniya, says, that he there met with the cerfe des sardennes of Buffon, MSS.

* For the opinion of the Arabians on this subject, the reader is referred to an Arabic medical work, entitled شرح تفسير
virtues of this plant are hitherto but little understood; it is a native of Crete, and has a piercing, aromatic odour, and pungent taste. The bastard dittany, as it has been called by Gerarde, and which is the fraxinelle of the French, and the white dittany of Parkinson, has been sometimes confounded with our article, but is altogether different; it is the dictamnus albus (Lin.), Cl. and Ord. Decandria Monogynia. Nat. Ord. Multisiliquæ. The whole plant when gently rubbed emits an odour not unlike lemon-peel; but when bruised has something of a balsamic scent. It is a native of Spain, and has been called by the Arabians مشجرة مشبع being considered antiepileptic and vermifuge, in doses of one scruple, twice daily. The common marjoram does not grow in India, but the species majorana or sweet marjoram is growing in the botanical garden of Calcutta; the leaves and tops of it have a moderately warm bitter taste; the plant itself is supposed to possess virtues in nervous affections. Mr. Phillips says, that Hartman declares, that it restores the sense of smelling when lost; and cites Woodville for its successful application in cases of schirrous tumour. On the subject of the dittany of Crete, Celsus gives this singular opinion: "Infantum vero mortuum, aut secundas expellit aquæ potio, cui salis ammoniaci, p. xi. aut cui "dictamni cretici adjectum est." Cels. lib. v. cap. xxv.

LXIV.

DRAGON'S BLOOD. Kändámoorgarittum कंदमृगरित्तम् (Tam.) Catgamoorgum VOL. I. I
nitobroo (Tel.) Cātkamrigarakta यात्रकस्मगर्त्र (Sans.) Damulākhwain (Arab. and Duk.) also idarūmī (Arab.) Khiūnisyāwāshān (Pers.) Heraduky (Hind.) Sang-dragon (Fr.) Jaranang (Palembang.)

Calamus Draco (Willd.)


This dark-red coloured, inodorous, and insipid resin, would appear to be often confounded with kino by the native doctors of Lower India; as both, on being presented to a hakeem, get the name of dumulackwayn, and both, on being shewn to a vyitian, are called kandamoorganittum; they mutually consider it as astringent, which, however, Dr. Duncan, junior, tells us, the true dragon’s blood is not. I am inclined to think, however, that genuine kino is but partially known in the peninsula of India.

It would appear that different trees yield dragon’s blood. Mr. Thomson, in his London dispensatory, informs us, that it is got from the pterocarpus draco (Lin.), which is a native of South America*, it also exudes from the lingoa (Rumph.), which is the pterocarpus indicus (Willd.), and there is no doubt but that it is obtained from the calamus draco† of the eastern islands, by wounding the bark of the tree. The dragon’s blood which is met with in Indian bazars is brought from Kang Kow, and also from

* It appears by Dr. Horsfield’s account of Java medicinal plants, that the pterocarpus draco also grows in Java, and is there called kayu-sonno or qisan; the bark is an astringent.
† It is the palmijuncus draco (Rumph.) amb. 5. p. 114. t. 58.
Passier, on the coast of Borneo, where Mr. Elmore\(^*\) says it is procured of a finer quality than in any other part of the world; also from Macassar\(^†\) on Celebes; but chiefly manufactured, Mr. Crawford tells us, at Jambi, Palembang, and Banjarmassin; at the second mentioned of these places it is called Iaranang.

Langsdorff, in his Voyages and Travels, p. 16., observes, that the tree which produces the dragon’s blood is a native of the Canary Islands; and Niebhur mentions it as growing in Hydramaut, a province of Arabia Felix. (Travels, vol. ii. p. 107.)

Dragon’s blood having been ascertained not to be astringent, has been discarded as a medicine by European practitioners. Alibert in his “Nouveaux Eléments de Therapeutique,” (vol. i. p. 173.) says, “Toutefois il faut l’avouer sa réputation est un peu d’échue.” The Tamool doctors recommend a solution of it in arrack as an external application to the head and temples in cases of syncope. It is occasionally used in the arts in Europe for staining marble red, and may be distinguished from kino by being inflammable and fusible, and emitting an acid vapour like that of benzoin.

The dalbergia monetaria (Lin.), a shrub and native of Surinam, yields a resin very similar to dragon’s blood.

The Arabian’s give dragon’s blood a place amongst their Kabizat (Astringentia), and Avicenna, (p. 160.), tells us that its Arabic name signifies the blood of two brothers.

\(^*\) See his Directory and Guide to the Indian Trade, p. 29.
\(^†\) See Beckman’s Voyage to Borneo.
LXV.

**DUCK.** Waat கைலா வான் (Tam.) Batoo (Tel.) Badak بادک (Duk.) Murgāb مرجاب (Pers.) Awaz اوز (Arab.) Vārātā वारट (Sans.) Canard (Fr.)

**ANAS DOMESTICA.**

The tame duck in India differs in nothing from the same animal in Europe; as food, it is considered as nourishing and stimulating, too much so, perhaps, for such as are in delicate health. Of the wild duck there are many species* in eastern countries, several of which, I am inclined to think, nay know, have not hitherto been scientifically described; the most prized in the Carnatic for the table, is a small variety of the *anas boschas*, distinguished by much blue in the wings, and by being rarely in the slightest degree fishy to the taste; its names are the following: — Neerwaat (Tam.) Neela bātoo (Tel.) Jangalibadak جنگلی بدک (Duk.), and Surkhāb سورخاب (Pers.) What is called the *brahminy duck* by the English on the Coromandel coast, is nearly as large as the Muscovy duck (*anas moschata*), but is a much more beautiful bird, being in colour a brownish yellow, spotted with black, though this I have found to vary; it is seldom brought to table, being somewhat strong in flavour. The Mahometans term it جوقى it is in Tamool, pāpārātārā vāt, and in Tellingoo bāpānā-bātoo. The vytnians suppose that the flesh of ducks

---

* Dr. F. Hamilton found in the Pyraniya district, the following species: *songhas* (*anas clypeatus*), *dighongs* (*anas acuta*), and *salmuriya* (*anas ferina.* M&S.
has a tendency to produce flatulence and indigestion. I perceive that Aghastier in his Medical Sastrum, Aghastier Vytia Anyouroo, cautions the delicate against the use of it.

LXVI.

EGG, FOWL’S. Koray mootay (Tam.) Gooddo (Tel.) Beejoo (Cyng.) Andă (Nep.)
(Duk.) Baysah (Arab.) Tbkim (Pers.) Andă (Sansk.) Euf (Fr.)

Ovum.

The eggs of the common fowl, are, perhaps, a little smaller in India than they are in Europe, but excellent. There is, however, a large variety of the Gallus domesticus, reared chiefly by the Moormen, which lays eggs as big as those of northern countries. The vytians consider fowls’ eggs as aphrodisiac, and powerfully tonic. See Aghastier Vytia Anyouroo.

The Brahmins do not eat eggs, as they contain the germ of life; but many of the inferior casts of Hindoos do. Besides those of the common fowl, the eggs of the jungle fowl are much prized (Gallus indicus)*; as are also those of the pea-hen (Pavo cristatus), which are frequently brought from the woods in the northern circars. (See article, Fowl, Common, in this chapter.) An egg consists of the shell, which is composed of carbonate of lime 72, phosphate of lime 2, gelatine 3, water 23; a thin, white, strong, membranous animal substance; the albumen, which, from its coagulability, is used for

* Gallus sonneratii, (Tem.)
clarifying liquids, and when beaten with alum, forms the alum used for inflamed eyes; and lastly the yolk, which consists of an oil of the nature of fat oil, and which is used for rendering resins and oils diffusible in water.

LXVII.

ELDER, COMMON. *Uktee* ᵖاقتي (Arab.), also *Khamān* خمارة (Arab.) *Sureau ordinaire* (Fr.) *Flüederblumen* (Ger.) *Sambuco* (It.) *Sabuco* (Sp.) *Sambucus nigra* (Lin.)


The elder tree is little known in India, though I perceive that it was growing in the botanical garden of Calcutta in 1815. The Arabians and Syrians appear to be well acquainted with it, and consider the inner green bark of its trunk as aperient and deobstruent; the same part of the tree in the days of Sydenham, was given by the practitioners of Europe, in wine, in doses of from ten grains to half a drachm, in cases requiring hydragogue purges.* The *sambucus nigra* is a native of many parts of Europe and also of Japan. Dr. Horsfield, in his account of Java Medicinal Plants, informs us, that a species of sam-

* The berries were in former times given in fevers, also in gout and rheumatism. The flowers, which have a peculiarly faint and sickly odour, are chiefly used in fomentations and cooling ointments. Alibert recommends them in infusion at the commencement of inflammation of the throat. *Elemens de Therapeutie*, vol. ii. p. 215.
CHAP. I. MATERIA INDICA.

bucus grows in that island, and is there called patri-
wulān; the natives use it as a diuretic. I perceive
by Michele's Della Corcirese Flora, p. 39, that another
species of sambucus, (s. ebulus,) common at Corfu, is
supposed to possess virtues similar to those of the
s. nigra, and to be more especially indicated in drop-
sical cases.

The elder tree is very bushy, with numerous
branches, seldom rising higher than sixteen feet,
with opposite leaves, unequally pinnate, and cream-
 coloured, sweet scented flowers.

LXVIII.

ELECAMPANE. Ussulukrasun اصل الراس (Arab.)
Bekhizanjabilishāmi بِهْژِنْجَبِیلشامی (Pers.) Inule
aulné (Fr.) Alantwurzel (Ger.)

INULA HELENIUM (Lin.)

vol. ii. p. 2089.

The Arabic and Persian names here given, are
those of the root, the only part of the plant that is
used in medicine; it does not appear, however, to
be at all known to the Hindoo doctors. The Ara-
bians place it amongst their Adviyheezezh اد۵ندب١یه١زه (Stomachica.) It also seems by Thunberg's account
(Travels, vol. iii. p. 202.), to be considered as sto-
machic by the Japanese.

Elecampane root has an aromatic and slightly
fetid odour; when chewed, the taste is at first dis-
agreeable, glutinous, and somewhat resembling rancid
soap, and then aromatic, bitter, and hot. Formerly it used to be prescribed in dyspepsia, pulmonary complaints, and palsy, in doses of from a scruple to a drachm; of late years it is nearly discarded from the British works on the materia medica. The ancients considered it as alexipharmic, and ordered it in putrid fevers. Dr. Pearson is of opinion, that it is the least efficacious of all the bitters. The French of these days, prepare with it a wine† (vin d’aulnée), which they occasionally give as a stomachic.

The inula helenium, is a perennial plant, with a leafy, round stem, and seldom rises higher than three feet, having large, ovate, serrated leaves, solitary, golden coloured flowers, and a thick branched root of a greyish colour.

LXIX.

**EUPHORBIUM.** Shadraykullie paal சாத்ரைகுழி பால் (Tam.) Bontajemmodoopaloo (Tel.) Saynd ka dood سنند كا دود (Duk.) Akal nafṣah اكل نفسه (Arab.), also Ṣarṣiyun سرسيون (Arab.) Da-
lookgahekerry (Cynq.), also according to Forskhal, gholak and kala قلا (Arab.) Nara-shij (Hind. and Beng.) Euphorbe (Fr.) Euphorbium (Ger.) Vājṛaṅkṣīra वज्रशीर वज्झकृंतक (Sans.)

**EUPHORBIA ANTIQUORUM (Lin.)**

* This plant, according to Pliny (Nat. Hist. lib. xxi. cap. xxii.), first sprang from the tears of Helena. It is supposed, by his account, to preserve beauty and make the skin fair, and also to procure mirth and make the heart merry!!

† See “Manuel des Plantes Usuelles,” vol. i. p. 294.

The milky juice got by wounding the branches of the shadraykullie (Tam.) is extremely corrosive, but when boiled with a small quantity of gingilie oil*, the native practitioners use it as an external application in rheumatic affections: they also employ it to deaden the pain of the tooth-ache: internally, a little diluted, it is administered by them as a purge in those cases of obstinate constipation, which are often troublesome when there is an enlargement and induration of the spleen or liver.

It would appear that the milky juice of several species of euphorbia, when hardened, becomes the euphorbium of our shops. Miller seems to think that it is from the euphorbia canariensis (Lin.) that the drug now imported into England is chiefly taken. Linnaeus thought that the dried juice of the euphorbia officinarum should alone be used; and this it would appear is the plant described by Mr. Jackson as producing the euphorbium in Morocco; and which Bruce in his travels mentions under the name of Koll-Quall. Mr. Jackson† says that the Arabs and Shellas call the plant dergmuse, and that in the lower regions of mount Atlas, the inhabitants collect the concreted gum-resin, which they call führbuine, in September.

The euphorbia antiquorum ‡ or triangular spurge, grows in many parts of India, rising sometimes to

* Prepared from the seeds of the sesamum orientale.
† See his account of the empire of Morocco, p. 81.
‡ Pliny tells us that this plant was first discovered by Juba, king of Mauritania, who gave it the name of his own physician, Euphorbus, brother to the learned Musa, physician to Augustus
the height of twelve feet, and sending out numerous irregular, spreading, twisting branches, in general three-cornered, but having some two, and others four angles; at their extremities are several very minute roundish leaves, or rather tubercles, which soon fall off, and near these, come out now and then, a few crimson-coloured flowers, which have five gibbous, thick, truncated, whitish petals. The plant is the Schadidacalli of Rheede (Hort. Mal. ii. p. 81.), and the Suiduisidu of the Malays: one Sanscrit name of it in Lower India is Tidhāra, and the Arabic one Zékoom زكوم it is common on Ceylon (Flor. Zeyl. 199.); in Bengalie and Hindoostanie it is called Narashij.

Euphorbium used formerly to be administered by European practitioners in dropsical cases, and Shroder informs us (p. 780.), that he gave it in doses of from 5 to 10 grains; but owing to its violent effects, it is now exploded or nearly so: diluted with any inert powder, it is supposed to be an excellent errhine in lethargy, amaurosis, palsy, &c. Orfila places euphorbium amongst his poisons.* The Arabians rank this substance amongst their Moosilat balgham مسكرات بلغم (Phlegmagoga) and Mokerehat (Vesicatoria). See a Persian medical work intitled تجر جاماسب حکم Tejur Jamasp Hawkim. The French writer Loiseleur Des Lonchamps † gives no less than six species of euphorbia which might be used as substitutes for ipecacuanha; the best would appear

Caesar; the juice of the plant in those days was considered as a valuable external application to the crown of the head in cases of bites of serpents. Nat. Hist. lib. xxv. cap. vii.

* See "Traite des Poisons" (vol. ii. part. i. p. 95.)
to be the euph. gerardiana, the powdered root of which vomits easily in doses of eighteen or twenty grains. Virey*, in his "Histoire Naturelle des Medicamens," says that the euphorbia heptagona of Ethiopia is a mortal poison, and that the natives of that country poison their arrows with the juice of it. For an account of the chemical analysis of the famous American emetic euph. ipecacuanha, the reader is referred to Barton's "Vegetable Mat. Med. of the United States," vol. i. p. 263. appendix.

Orfila supposes the poison of euphorbium to have a local action, capable of exciting inflammation, and equally operating on dogs and men. See his work vol. ii. p. 35.

LXX.

FEBRIFUGE, SWIETENIAN, or BARK OF THE RED WOOD TREE. *Shemmárum शेम्मारुम (Tam.) also Woomä márum (Tam.) Soimido (Tel.) रूमीना (Hind. Swamy (Can.) Pä- trāṅgā पत्रांग (Sans.) Rohun (Beng.)

SWIETENIA FEBRIFUGA (Roxb.)


The swietenia febrifuga, like all the other species of its genus, is a lofty tree, common in the Raja-mundry circars; in the Cuddapa district, particularly near Chittwail; and in Chunar; it is also a native of

* See his work, p. 299.
Siam. The tree was first brought to the notice of European professional men by Dr. Roxburgh, who discovered that its bark was a good tonic in intermittent fever: given to the extent of four or five drachms in the twenty-four hours I have found it to be a useful medicine, but beyond that quantity, it, in every instance in which I tried it, appeared to me to derange the nervous system, occasioning vertigo and subsequent stupor.

The bark is of a dingy red colour, and has a rather pleasant, bitter taste, with a slight degree of austerity; it breaks easily, and is covered externally with a roughish, grey, inert epidermis; its virtues are extracted by water, both in infusion and decoction; but its tincture is, perhaps, the most valuable of all its preparations, when the bark is good as a stomachic.

Our article with three other species are growing in the botanical garden of Calcutta; the tree is commonly known on the Coromandel coast under the name of red wood tree, which its Tamool name implies; it is, as already observed, large, with a straight trunk and numerous branches, leaves alternate and abruptly pinnated, leaflets opposite, very short and petiolated, with a panicle very large, terminating, diffuse; it bears a great number of white, inodorous flowers: of the genus, Willdenow says, "Cal. 5. fidus. Petala 5. Nectar. cylindricum ore antheras gerens. Caps. 5. locularis, lignosa, basi dehis- cens. Sem. imbricata, alata." For further particulars regarding this new medicine, the reader is referred to Dr. Duncan's admirable inaugural dissertation, published in Edinburgh in 1794, and also to an Essay on it by Mr. Breton in the Medico-Chirurg. Trans. vol. xi. p. 324.
CHAP. 1. MATERIA INDICA. 125

Various barks have at different times been recommended as substitutes for the cinchona of the shops; in India the bark of the melia azadirachta has been ascertained to possess powerful tonic and antifebrile virtues (see article Vaypum puttay in Part II. of this work), as has also that of the cinchona excelsa (Roxb.) see article Pundharoo (Tel.) in the same part. The bark of the tuna tree (Cedrela Tuna*, Roxb.) is well known to have similar qualities, and is in great repute amongst the Hindoo doctors of the circars: it is extremely astringent, but not particularly bitter; for the use of the flowers, and the wood of this tree in the arts, the reader is referred to another part (iii.) of this work. Mr. Gray in his supplement to the Pharmacopoeias (p. 69) informs us that the bark of the acharas sapota is very astringent, and we know that it was at one time supposed to be the Jesuits Bark itself, though Mr. Miller says, its effects when given to the negroes were not such as to encourage repetition. The bark of the magnolia glauca, has sometimes been had recourse to for a similar purpose. Humboldt, in his political Essays on the Kingdom of New Spain (vol. ii. p. 402), tells us that "at Mexico, it is believed that the Portlandia Mexicana, which was discovered by M. Sesse, might "serve as a substitute for the quinquina of Loxa; "as is done in a certain degree by the Port. hexandra, at Cayenne, by the bonplandia trifoliata

* This a very large tree with an erect stem, which is smooth and grey, the leaves are alternate, abruptly pinnate, drooping and about twelve or thirteen inches long; leaflets from six to twelve pair, opposite or nearly so; short, petaled; flowers numerous, small, white, and smell like fresh honey. (See Roxburgh's Cor. Pl. vol. iii. p. 83.) The tree is Toonmarum (Tam.) Toon طور (Hind.) Suren (Malay) Tuna, Tuni (Sans.). It is common in the Islands of the Indian Archipelago.
"(Willd.) on the banks of the Oronoko, and the "Swietenia febrifuga of Roxburgh in India."

The genus cinchona, of which twenty-four species have been described, Mr. Thomson, with much truth, observes is still involved in considerable ambiguity. Alibert, in his "Nouveaux Elemens de Therapeutique," notices no less than twenty-five species, those, however, which have hitherto more especially attracted the notice of medical men, are the three which supply the pale, yellow, and red bark, in other words the cin. lancifolia, cin. cordifolia, and cin. oblongifolia. The component parts of the first, according to Pelletier's account, are I. Cinchonine a salifiable base combined with kinic acid. II. Green fatty matter. III. Red and yellow colouring matter. IV. Tannin. V. Kinate of lime. VI. Gum. VII. Starch, and VIII. Lignin. In the cin. cordifolia or yellow bark, Caventou discovered also a salifiable base, which he termed Quinine. In the red bark (an oblongifolia) the two salifiable bases are found to be united, viz. the cinchonine and quinine. The cin. lancifolia is supposed to be that which affords the real and original cinchona of Peru or pale bark; it is now very rare, but it is powerfully febrifuge. The red bark, although it possesses great astringency and antiseptic qualities, is not supposed to be so directly febrifuge. The yellow bark (cin. cordifolia,) is not so austere as the last mentioned, but is more bitter, and was considered by Mutis and Zea as only indirectly febrifuge; when good, however, all its varieties are excellent remedies.

Before concluding I shall simply mention that for arresting intermittent fever, Dr. Finlayson found the
three following roots in use amongst the Siamese,* but of what plants it is not said, mai-dayng, Si funkho-
thei and Paak-faak, which last is supposed to be the root of the sappan wood. Of late years the rha-
tany root has been much extolled for its virtues in intermittent fever, particularly by Doctors Reece, Marris, Nisbet, &c. some of whom are of opinion that it approaches nearer to the Peruvian bark than any other medicine; of the extract five or ten grains are given twice daily; of the powder the dose is from ten grains to thirty. The Peruvians esteem this root as tonic and stomachic, and call the tree Ratanhia, (See Flora Peruviana, vol. iv. p. 61.) it is the krameria triandra, (Ruiz.). Whatever may be the medicinal properties of the root it would ap-
pear that Mr. Peschier has lately discovered that it contains a distinct substance to which he has given the name of krameric acid. (Journal de Pharmacie, vi.) The Rhataniae radix we learn from that va-
luable journal, the London Medical Repository (No. 120, p. 498.) is not only employed medicinally by the inhabitants of Lima, but the Portuguese there use it for improving the colour, astringency and rich-
ness of their wines. Dr. J. Curry of Guy’s Hos-
pital found the tincture of this root of great efficacy in diarrhoea. According to Vogel, it consists of tannin 40. gum. 1.5. fecula 0.5. ligneous fibre 48. water and loss 10.

* I mention this in the hope, and with a most sincere wish, that interesting and minute research may soon be made respecting the medicinal plants of Siam and the adjacent countries, which hold out a fair and ample field for valuable discoveries.
LXXI.

FENNEL-FLOWER SEED. Carin Sirágum калдулам (Tam.) Nulla gilakära (Tel.) Kaloodooroo (Cyng.) Krishna-jiraka कृष्णजीरक (Sans.) Kolujen (Duk.) Kāla Jīra (Hind.) Shoonez شونيز (Arab.) Seeah-dānah سباه دانه (Pers.) Gemein Nigelle (Ger.)

*Nigella Sativa* (Lin.)


These small, dark-coloured, aromatic, pleasant-tasted seeds, somewhat resemble large grains of gunpowder, and are used by the natives as a carminative in cases of indigestion, and in certain bowel complaints; they are also prescribed as an external application, mixed with gingilie oil, in eruptions of the skin: the natives use much of this seed as a seasoner for their curries, and have a notion that when it is put amongst linen, it keeps away insects: another Hindooie and Sanscrit name for the plant or seed, is *mugrela*. The *nigella sativa* is, by Forskahl's account, a native of Egypt, and is there called حب سوده Hább Saude. There is a species of nigella (N. Indica), a native of Hindoostan, the seeds of which nearly resemble those of the N. sativa in appearance and natural qualities, and the same names are given to both; this with another species are growing in the botanical garden of Calcutta.

* See his Medicina Kahirina.
LXXII.

FENNEL, SWEET, SEED OF. Pĕrun Siragum (Tam.) Dewadooroo (Cyn.) Pedda-gillakāra (Tel.) Mādhūrikā (Sans.) Sonf (Duk.) Mayuri (Hind.) Bādeeyan (Pers.) Rasūcanij (Arab.) Adas (Jav.) Fenouil (Fr.)

Anethum Fœniculum (Lin.)


The fragrant, warm, aromatic seeds of the sweet fennel, the Μαγάθων, of the Greeks, are much used by the native practitioners as a carminative and stomachic; they are, however, very apt to be confounded with the anise seed, (which is not common in the southern parts of India,) and get indiscriminately the same name; in like manner they are often called by the French, Anis douce. The plant is cultivated in Bengal, and has had the scientific name of Anethum Panmorium bestowed upon it, by Dr. Roxburgh, who believed it to be a new species; Dr. Rottler, however, considers it as only a variety of the Anethum Fœn.

Dr. Thornton tells us that these seeds* are supposed to be efficacious in promoting the secretion of milk; a late writer on the mat. med. (Mr. Gray †), informs

* They were in great repute at one time amongst the French physicians, who considered them as aperient, sudorific, and diuretic. See Deslongchamps Manuel des Plantes Usuelles, vol. i. p. 271.

† See his Supplement to the Pharmacopæia, p. 92, 93.
us; that the root is aperient and the leaves diuretic; nay, indeed, we know that the root is one of the five opening roots as they were once called. Mr. Philips, in his work on cultivated vegetables, informs us, that the leaves in decoction have been said to strengthen weak eyes; Boerhaave thought that the virtues of the root corresponded with those of ginseng; the Romans took an infusion of the seed in wine, as a remedy for scorpions' stings. Celsus seems chiefly to dwell on their virtues as a carminative and diuretic. "Feniculum vero, et anethum, inflationes etiam levant: urinam autem movent, apium, ruta, anethum." Vide Cels. lib. ii. cap. xxv. xxxi.

LXXIII.

FENUGREEK. *Vendium* വെൻഡിയം (Tam.) *Mêntûlo* (Tel.) *Oolowa* (Cyg.) *Mêntia* (Can.) *Helbeh* خلب هِ (Arab.) *Shemâlî* شملت (Pers.) *Methé* مثبت also *Moothee* (Duk. Hind. and Sans.) *Alfor-vas* (Port.) *Menta Soppu* (Can.) *Metheeshak* (Beng.) *Fênugrek* (Fr.)

TRIGONELLA FÆNUM GRECUM (Linn.)


The seeds of the fenugreek have rather an unpleasant odour, with an unctuous farinaceous taste, accompanied with a degree of bitterness; they are much used by the native practitioners of India in dysenteric complaints; and are commonly given in infusion, having been previously toasted. The plant
is indigenous in India, and by Forskahl’s account, is much cultivated in the neighbourhood of Cairo. The modern Arabs consider the seeds as suppurative and emollient, preparing with them poultices and fomentations. The Helbeh seeds are frequently brought to the Malabar coast as an article of trade from the sea ports of the Red Sea; and grow abundantly in Barbary, Spain, and France. Of the genus Trigonella, Willdenow says shortly, “vexillum et alae subaequalis, patentes, forma corollae tripetala.” The species in question is an annual, rising with a hollow herbaceous, branching stalk, with oblong, oval indented leaflets, and white flowers, coming out singly at each joint from the axils, it is growing with another species, the Piring (Beng.) trig. corniculata, in the botanical garden of Calcutta. Sonnini, in his Travels in Egypt (chap. iii.), informs us, that the inhabitants of Rosetta prepare a kind of coffee, by toasting the seed of the fenugreek, to which they add a little juice of lemon.

LXXIV.

FIG. Simie attie pullum பருள் (Tam.) Maydipoodoo (Tel.) Unjeer انجیر (Pers. and Duk.) Teen بن (Arab.) Rata Attika (Cynq.) उदामवर्त (Sans.) Vygen (Dut.) Figos (Port.) Figue (Fr.)

Ficus Carica (Lin.)

The figs which grow in India, though they are sufficiently sweet and palatable, are very inferior in richness of flavour to those of Turkey, or the southern parts of Europe; nor are the natives in the habit of drying or preserving them. The vytians prescribe figs in consumptive cases; the Arabians place them amongst their Mobeyyat میبیات (Aphrodisiaca) and Munzijat منصیات (Suppurantia.) The tree is called Doomoor in Bengalie, and is too well known to be botanically described here; it, with thirty-four other species, are growing in the botanical garden of Calcutta.

For the opinions of the Persians regarding this fruit, the reader may consult a medical work, written by Ismael Ben Hussein, Ben Mohamed Jorany, entitled ذکیره خوارزمی شاهی Zekhireh Khwarizm Shahy, the preface gives a description of the kingdom of Khuarizm, its climate, products, water, and soil.

LXXV.

FLORIKEN or FLOYERKEN. Wároogoo khôree swick entropy (Tam.) Chénoookodi (Tel.) Otis Campestris (Leach.)

Floriken is a name commonly given by the English inhabitants of the lower provinces of India, to a small sort of bustard, which, except in being a little less in size, appears to me not materially to differ from the otis tetrax of Linnaeus, or what Leach calls otis campestris; it is a beautiful, speckled, greyish-coloured bird, with a straight, conical, compressed bill, legs with three toes, connected by a membrane at the base, and wings of moderate dimensions,
being commonly about sixteen or eighteen inches in length. It has got its Tamool name from being frequently found in the Warroogoo fields (paspulum frumentaceum), and has obtained a place here from being considered as a great delicacy; when dressed for the table, at certain seasons (September) it is particularly prized by the Mahometans. The common bustard, or rather a variety of it, otis Bengalenisis, is not unfrequently met with in the Mysore provinces, but it is extremely difficult to get near enough to kill it.

LXXVI.

FLOUR OF WHEAT. Godumbay mão (Tam.) Tringoo pittay (Cyn.) Gewunké ata (Duk.) Godoma-pindie (Tel.) Gödhümát-pishtâ गोधुम पिस्त (Sans.)
TRITICI ÆSTIVI FARINA.

Of the various uses of this most valuable substance I need say nothing here.

Several kinds of wheat are now cultivated with great success in many parts of India; two varieties of the triticum aestivum are now commonly reared in the interior and northern provinces of Hindostan, during the cool season: this species is called in Sanscrit गोधुम Godhúma, in Ben. Gom, in Hind. Gíoon, in Pers. Gündum کندم in Arab. Bir ب، Of the trit.

hybnum (Lin.) two varieties, by Dr. Roxburgh's account, are also cultivated: Dr. Buchanan (now Hamilton) informs us, that in some parts of Mysore
he found that the triticum monococcum was common, and there called Jūvīgōdi. The triticum spelta is also to be met with in some of the northern tracts of Hindoostan, and would seem, by Forskahl’s account, to be that species chiefly cultivated in Arabia, and there called also حن. The natives of India eat wheat, but they have many other grains which they like better; in the same way that the natives of Egypt, Mesopotamia, and Assyria, according to Niebhir*, give their Dourra the preference to all other grains, and will even sell their wheat to purchase it; it is the holcus saccharatus (Lin.) to be further noticed in another part of this work. In the Carnatic the climate is too hot to grow wheat with agricultural advantage, neither does it appear that the climate of Mysore is very favourable for its culture; the wheat of Upper India is excellent.†

LXXVII.

FOWL, COMMON. Koli కోడి (Tam.) Kāi (Tel.) Moorghe مورغه (Duk.) Murgh مَرْحِ (Pers.) Kūkkūta कऩकुऩ (Sansk.) Volaille (Fr.)

GALLUS DOMESTICUS (Steph.)

* See Niebhir’s Travels in Arabia, vol. ii, p. 293.
† According to Pliny, the wheat of Italy was in his day the best in the world. (Nat. Hist. book 18. chap. vii.) It appears by the book of Ruth, that wheat was cultivated in Syria 3000 years ago. Sicily is supposed to have been the first country in Europe in which grain was cultivated, if we may judge from the worship of Ceres in that island. Pliny speaks highly of the great fruitfulness of the African wheat. When it was first introduced into England it may be difficult to say, Caesar found corn growing there; it was not cultivated in America, till about the beginning of the seventeenth century.
Fowls, as they are purchased from the natives, are by no means desirable food, being commonly badly fed; but when shut up for some time and properly taken care of, they are excellent; affording a light and nutritive aliment. There are several varieties as already noticed under article egg; some of which are particularly prized by the Moormen for their courage, others for the large size of the eggs the hen lays, &c. The *wild-fowl* or Jungle-fowl is a very delicate bird to eat, when not too old; it differs but little in form from the domestic animal, but is smaller, and is more uniform in its colour, its comb is toothed, mouth wattled beneath, the feathers on the neck are elongated, spotted with white and fulvous, with membranous tips; the throat, breast, and abdomen, and also the back are grey striped with white; the wing-coverts are of a reddish chesnut; the hen is much less than the cock, and has neither comb nor wattles. The Jungle-fowl (*gallus Indicus*) of Leach, is common in most of the Indian woods, it is *Adwayne kodi* (Tel.) *Cät koli* (Tam.) and *Junglie ka moorghie* (Duk.) *Maké beyabanie* (Pers.) and *Caudu-cauli* (Can.) The house, or domestic hen, is *Dujaj* (Arab.) *Huckree* (Hind.) and *Makeyán* (Pers.) The g. giganteus (Tem.) is, I believe, not to be found in India, but is common in the forests of Sumatra, where Mr. Marsden tells us that such is its height; that it can with its bill reach food that is placed on a common dining table; in its domestic state I have seen it at Mantua and Pádua.
LXXVIII.

FRANKINCENSE. Koondricum குண்டிக் (Tam.) Coandoor (Duk.) Coonder (Pers.) Koondooroeskum (Tel.) Bistyj (Arab.) Hoon-da googool (Cyn.) Encens (Fr.) Kündù (Sansk.)

Boswellia Glabra (Roxb.)

Cl. and Ord. Decandria Monogynia. Nat. Ord. Miscellanea (Lin.)

The substance called koondricum by the Tamools, is very common in the Indian bazars, and is used as an incense in religious ceremonies, especially by the Hindoos and Portuguese; being, though not quite of so grateful an odour, much cheaper than benzoin; it is supposed by the Mahometan doctors to be a species of olibanum, and they give nearly the same name to both, but it is very unlike olibanum in its appearance, being always seen in pretty large agglutinated masses, composed of light brown, and yellowish tears; and having a strange stony kind of hardness when pressed between the teeth, whereas olibanum, at least the Arabian, is in separate, small roundish balls, or large grains, which do not give the same sensation on being chewed; on the contrary, they, when warm, are adhesive and stick to the teeth. Koondricum is besides much less pungent and bitter, and is more perfectly soluble in spirit of wine and ether, nor does it burn with the same brilliant light that olibanum does.

Koondricum is brought to India from Madagas-

car, from Borneo, from Socotra, from Arabia*, and also from Pedir on the coast of Sumatra; the tree which yields it, is common in many of the eastern islands, and was there found by Rumphius, who called it *canarium odoriferum* (Amb. ii. t. 50.) ; it is also a native of the Circar mountains, and may be found particularly well described by Dr. Roxburgh in his Coromandel plants (vol. iii. p. 4.) ; it is a very tall erect tree, covered with a greenish ash-coloured bark, and called in Tellingoo *Gugulapoo-tschittao* ; the leaves, about the extremities of the branchlets, are alternate, unequally pinnate, from six to twelve inches long, leaflets sessile from six to ten pair, opposite, broad lanceolate, obtuse and one inch and a half long. Flowers numerous, short pedicelled, small, white, the wood is heavy, hard and durable; from wounds in the bark a large quantity of resin exudes, which soon becomes hard and brittle, and is often used as a substitute for pitch, and named sometimes by the Tellingoos, on the Coromandel coast, Googil. Dr. Roxburgh informs us, that to soften it and render it fit for use, a portion of some low-priced oil is boiled up with it. Besides its two uses already noticed, *viz.* as an incense and pitch, the vytians prescribe it mixed with ghee (clarified butter) in cases of gonorrhoea, they also employ it in what they term *Ritta Kaddapoo*, which signifies flux accompanied with blood. A second species of boswellia grows in the Balla-gaut mountains, which Dr. Roxburgh conceives to be the canarium odoriferum hirsutum of Rumphius. (Amb. ii. t. 51.) I have called this article frankincense, not knowing well by what other name to distinguish it, and considering

* See Tavernier's Travels, part ii. book ii.
the purposes to which it is peculiarly applied; but it differs widely in many respects from the *common frankincense* of the shops, which is well known to be an exudation from the bark of the Norway spruce fir (pinus abies); it is what the ancients called *Thus*: the common turpentine on the other hand is an exudation from the *Scotch fir* (pinus sylvestris), and the Venice turpentine is from the *larch* (pinus larix). From the common turpentine is procured by distillation with water, the *oil of turpentine*, and the common or yellow resin is nothing else than the residue of that distillation; but we shall say more about these under the head of 'Turpentine. See article Olibanum.

LXXIX.

**FUMITORY.** *Shahtra* (Pers. and Duk.) *Pitpapra* (Hind.) *Bucklutulmelic* (Arab.) *Fumeterre* (Fr.)

**Fumaria Officinalis** (Lin.)


The Tamool practitioners do not appear to be acquainted with this medicine, and of course have no name for it. I found, however, the dried plant in a native druggist's shop at Trichonopoly; and on showing it to an intelligent Mahometan doctor, he immediately told me that it was *Shahtra*, which is the Persian name of the plant. The hakeems consider it as diuretic, and as useful in maniacal
cases, and the modern Arabians place it amongst their Mufuttehat مفتتحات (Deobstruentia), and Mooshit-tat sufra مسهلات صفرا (Cholagoga).

Dr. Cullen says, that fumatory is tonic, and Dr. Thornton is of opinion, that it is extremely useful in leprous* affections. The ancients prized it much, particularly Galen, who in speaking of it has these words, "urinam biliosam multam provocat; sanatque jecinoris obstructiones et debilitates." The juice of the green leaves have been given to the quantity of two ounces twice daily, but the virtues also remain in the dried plant, particularly the leaves, which in their succulent state have a saline and bitter taste: with all this, I perceive, that it has no longer a place in the London Dispensatory; Alibert too has neglected it in his "New Elements of Therapeutics"; Deslongchamps, however, still retains it in his "Manuel des Plantes Usuelles," (vol. ii. p. 54,.) and speaks of its virtues in glandular obstructions. Fumitory is too well known to require a botanical description here; it is a common weed in our cornfields; and like many other medicines has had its day of good repute. Hoffman preferred it to many others, as a sweetener of the blood, and Boerhaave had faith in it in obstinate jaundice. What the Arabians thought of it in former times the reader will find, by perusing the "Canons of Avicenna," under its proper Arabic title تاثور في الطب.

Murray in his Appar. Med. speaks fully of the use and virtues of fumatory in scabies, herpes, lepra, &c. See vol. ii. p. 580, 581, see also Leidenfrost's Dissertation "de succis herbarum expressis."

* See Family Herbal, p. 61.
LXXX.

GALANGAL, GREATER. Père ârétéi (Tam.) Doombrâstâcum (Tel.) Makâ kâlooa (Cyg.) Khuisroodâroo (Arab.) Khuolênjâun (Hind. and Duk.) Galanga (Port.) Languas (Mal.) Sâgândhâ Sûgândhâ (Sans.)

Alpinia Galanga (Lin. Spec. Plant. Ed. Willd. i. 12.)


GALANGAL, LESSER. Sittarittie (Tam.) Pânkejûr (Duk.) Koodakalooa (Cyg.) Sanna Doomprastacum (Tel.) Kust tulk (Arab.) Rastma (Sans.) Languas-kitâjil (Mal.)

The plant now fixed on, as the alpinia galanga, by Willdenow, was the maranta galanga of Linnaeus, but removed into the genus amomum from not agreeing in general with maranta as described by Linnaeus. Swartz first suggested that it was properly an alpinia, and Willdenow confirmed the opinion.

After a minute examination of the root called sittarittie by the Tamools, and sanna doomprastacum by the Tellinghoos, I think there is no doubt but that it is what has been called lesser galangal, and which we are told by Geoffroy, differs considerably
from the greater galangal, "MINOR, odore aromatico fragrante; sapore acri aromatico, subamariscante, pungenti et sauces exurente, piperis aut zingeberis modo—MAJOR, est odore et sapore longe debiliore, ut minus grato."

The lesser galangal, which is the *Languas*-*kisgul* of the Malays, besides being more warm and fragrant than the greater, is more highly prized by the Indians, as a stimulant and stomachic, and may moreover be distinguished by its colour, on the outside being browner and in the inside reddish; whilst the greater galangal root is brownish on the outside and of a dirty white within, and is covered with rings about one fourth of an inch distant. The two galangals are natives of China *, where the lesser is called *lumabdon*; and both grow in the province of Xanxy: as medicines they are there held in high estimation, particularly the lesser, which the natives of that country consider as an antidote to poison. They also grow, according to Marsden, in Sumatra †, and they are much prized and cultivated in Java. ‡ They are both common in the Indian bazaars, and are prescribed by the native doctors to warm the habit in cases of dyspepsia; they moreover consider them as useful in coughs, given in infusion.

The alpinia galanga, whose root has now been fully ascertained to be the greater galangal, or the galanga major of Rumph. (Amb. 5. t. 63.) the reader will find very well botanically described by Dr. Roxburgh in his Flora Indica. (p. 5.) It is a perennial plant, with sessile leaves, broad lanocollar, pan-

---

† See Marsden’s Sumatra, p. 75.
‡ See Arom. Hist. Garcia ab Horto, p. 159.
nicle terminal, lip oblong, unguiculate, apex bifid, capsule obovate, smooth, seeds few. The root, the part used in medicine, is tuberous, possessing a faint, aromatic smell, and strong pungent taste, like a mixture of pepper and ginger: so much for the greater galangal root, which by the way appears to have been first sent fresh to India from Bencoolen by Dr. Charles Campbell for the botanical garden of Calcutta; and where the plants now thrive well, and are in blossom during half the hot season. In a note at the end of the article alpinia galangal in the Flora Indica, the enlightened Mr. Colebrooke observes, "that the root of this plant being no doubt the galanga major of the druggists, it is in consequence the culinjan of the Hindoos, or rather, in Hindee." But then the question comes to be, of what plant is the lesser galangal the root? for it is an article of ten times more value than the other, at least in India: is it the root of a costus? an amomum? or what? Forskahl, in his materia medica kahirini, places galangal which he calls عقاريي ختوتچار amongst the aphrodisiacs; as he also does another medicine which he terms لوفاح ابوب نافع Loufa abuna fu. Eight species of alpinia are growing in the botanical garden of Calcutta, where they thrive well.

LXXXI.

GALBANUM. Beerzud ببرزيد (Pers.) Barzud بارزلد (Arab.) Bireeja (Hind.) قتن (Hind.) Galbanum (Fr.) Mutterharz (Ger.)

BUBON GALBANUM (Lin.)

I hesitated some time about giving galbanum a place in this work; on finding that it did not appear to be at all known to any description of native medical men on the coast of Coromandel; I have since learnt, however, that it is brought from the Cape of Good Hope or Syria, to Bombay* as an article of trade, whence it is sent to China; it has besides got a Hindooie name, which proves that it has found its way to the higher provinces of India.

Galbanum is got by wounding the stem of the plant, when the cream-coloured gum resin flows out of it; it has a peculiar strong odour not unlike that of turpentine, and a somewhat nauseous bitter taste. "The plant is perennial, rising to the height of thirteen or fourteen feet, with lower leaves nearly tripinnate on vaginant foot-stalks; the uppermost almost simple, trilobed, thickish, irregularly serrated, and of a greyish colour: the flowers are all fertile; the petals yellow with inflected tips."

Dr. Cullen speaks of galbanum as having been recommended for favouring the suppuration of inflammatory tumours, a virtue also noticed by Celsus†; it is deobstruent, antispasmodic, and expectorant, Mr. Thompson thinks ranking betwixt gum ammoniac and assafoetida, it is no doubt a most valuable stimulant of the intestinal canal and uterus, and is found to allay that nervous irritability which often accompanies hysteria. The dose from ten grains to a drachm, in pills.

* See Elmore's Directory to the Trade of India, p. 223. also Macgill's Travels in Turkey, vol. ii. p. 173
† Vide Cels. lib. v. chap. iii.
The Arabians have placed galbanum amongst their discutientia. D'Herbelot informs us, that the tree which produces galbanum in Persia is there called Ghiarkhus, and also Mendesium from the city of Mendes: it is amusing to remark the different opinions that are given of the same thing in different countries; however highly, and I believe justly, valued galbanum is in England, the learned and much respected Alibert, in speaking of it, says, that he has but little faith in the various opinions given of it by many authors. The ancients considered galbanum, in addition to its other virtues, to possess peculiar qualities, "Nam si cantharidas aliquid ebit, panaces cum lacte contusa, vel galbanum vino adjecto dari, vel lac per se debet." (Vide Cels. lib. v. cap. xxvi.) Pliny tells us that it was useful in painful labours, but that it was pernicious in strangury. (Nat. Hist. lib. xxiv. cap. v.) Murray, in his admirable work on the materia medica, in speaking of galbanum, says, "Viribus proxime ad gummi ammoniacum accedit: sed galbanum calidius est magisque stimulat. (Appar. Med. vol. i. p. 288.)

LXXXII.

GALLS. Māchākāi (Tam.) Mapul (Duk.) Afis (Arab.) Māzu (Pers.) Galhas (Port.) Majouphul (Hind.) Māchikāi (Tel.) Maju-phul (Sans.) Massaka (Cyg.) Noix de Galles (Fr.) Gallapfel (Ger.) Galla (It.) Quercus Infectoria (Oliv.)

* See his Bibliotheque Orientale, p. 175.
† See Diosc. lib. i. c. 71, 72.
‡ See his Elemens de Therapeutique, vol. ii. p. 556.

It would seem to have been that distinguished traveller Olivier, who first distinctly pointed out that it is from the quercus infectoria, that galls are obtained; and are a kind of vegetable wen produced by the morbid excitement, occasioned by the maggot insect (*cynips quercus folii*, Lin.). The quercus infectoria may be found growing throughout all Asia Minor. Captain M. Kinneir *says, that the tree is common in Kurdistan and Armenia; and I see by a valuable little work, entitled Remarks on the Husbandry and Internal Commerce of Bengal, that galls might be furnished, as an article of trade, from India to England. Pennant † speaks of them as a product of Moultan; and we know that Gen. Hardwicke ‡, in the narrative of his journey to Sirinagur, found this quercus growing in the neighbourhood of Adwanie. I am, notwithstanding, much inclined to think that the greater part of the galls found in Indian bazars grow in Persia, and are brought to the Peninsula by Arab merchants; though it would appear, by what Forskahl says, that they are not a product of Arabia: what are called the Aleppo galls are the best. Captain Kirkpatrick, in his account of the kingdom of Nepaul (p. 20.), informs us, that he found at Jurzhoory, in that country, a sort of gall, of very powerful astringency, growing on a tree resembling the ash.

The species infectoria seldom rises higher than six feet, the leaves are smooth, obtusely toothed, and of a bright-green colour on both sides; it has an elon-

---

* See his Geographical Memoir of Persia, p. 258.
† See his View of Hindoostan, vol. i. p. 37.
gated acorn, two or three times longer than the cup which is sessile, downy and scaly; the gall comes out at the shoots of the young boughs, those that come out first, Mr. Virey* tells us, are the best, they are known in trade by the terms, black, blue, or green galls; those afterwards gathered are inferior from being pierced, and are called white galls.

Galls are prescribed by the native practitioners in India, in dysentery and diarrhoea; they are also given as tonics in intermittent fever: the powder moistened with a little water is applied to chopped nipples, and made into a soft ointment: it is a useful application to blind piles. Internally, galls have been given in doses of from gr. viii. to 3i. Eleven species of quercus were growing in the botanical garden of Calcutta, in 1814, all oriental plants except two, the Robur and Phellos. No natural substance, that we are acquainted with, contains so large a proportion of tan as the gall-nut, amounting, according to the experiments of Sir H. Davy, to about three fourths of the soluble parts of the nut. See Philos. Trans. for 1803, p. 233. For further and curious information respecting galls, the reader is referred to Cuvier's celebrated work, "Règne Animal," p. 132.

The ancients believed galls to have the effect of purging or purifying the skin, when given in conjunction with honey. "Cutem purgat mel, sed magis si est cum galla;" in another part Celsus says, "Misy quoque est galla, si paribus portionibus miscantur, corpus consumunt." (Cels. lib. v. cap. xvi. xxii.)

* See Histoire Naturelle des Médicaments, p. 315.
LXXXIII.

GAMBOGE. Mukki முக்கி (Tam.) Ossara rewund (Arab.) Gokkatoo (Cyg.) Passapoovenny (Tel.) Gomme gutte (Fr.) Gomarom (Port.) Gutte gum (Dut.) Gummigutt (Ger.) Gomma gotta (It.)

STALAGMITIS GAMBIOIDES (Koenig.)


The gamboge which is found in the Indian bazaars, but for which I have not been able to get a Sanscrit name, is no doubt an imported drug from Siam, from the kingdom of Macassar (according to Beckman, voyage to Borneo), from the province of Kiangsi* in China, or from Ceylon, where it is got from the gambogia gutta (Blackwal, tab. 393); and it is more than probable, that it was from a description of the tree in the last mentioned country, that Koenig composed his genus stalagmitis. At Siam, we are told, that this gum resin is obtained from the tree which produces it, by breaking the leaves and young shoots; in Ceylon, on the other hand, the bark of the tree is said to be wounded with a sharp stone; it is also an export from Cochin-china.

It is well known that there are several trees which yield yellow gum-resins, resembling much the gamboge of the shops; such as gambogia gutta (Lin.),

* See Abbe Rohan's Voyage to Madagascar, p. 32.
garcinia celebica (Lin.), hypericum pomiferum* (Roxb.)

I have given the stalagmitis gambogioides (Koenig) as the tree from which the gamboge is procured; as it would appear to be that recognised as such by several high authorities; but there seem to be still just doubts on the subject. Dr. S. Dyer, when garrison surgeon of Tellicherry, a gentleman to whom I owe much useful information, regarding the products of Malabar, told me that he some years ago actually obtained the true gamboge from a tree growing on the Cotiady ghaut; and amongst the mountains of Wynade; and that he was the first who transmitted this valuable substance to Dr. Roxburgh.: it has since been ascertained, that gamboge trees are to be met with, not only throughout the whole extent of Malabar, but in the Bulam country, and all along the ghauts which skirt Canara. I do not find that any botanical description of the tree has yet been distinctly given. The much to be lamented Dr. White, of the Bombay establishment, was inclined to bestow on it the scientific appellation of gambogia guttifera. I have never seen it, and have only been informed by Dr. Dyer, that it is nearly two feet in circumference; that the branches grow mostly near the top, in a conical form; that the leaves which are about four or five inches long, oval, and pointed, when cut across, give out the yellow juice, and that the Canarese name of the tree is hunda-poonar, the flower is small and yellow.

It is a curious fact, that the natives, previously to Mr. Dyer's calling their attention to it, had not par-

* See Asiatic Researches, vol. vi.
ticularly noticed this substance; the tree would appear to grow in the thickest jungles, and generally at a great distance from the villages of the inhabitants.

Gamboge, though inodorous and nearly insipid to the taste, is one of the most drastic cathartics we have. It is prescribed, by European practitioners, as a hydragogue in dropsies, and for the expulsion of worms, in doses of from three to fifteen or twenty grains triturated with sugar, or made into pills with soap, calomel, or bitter extracts. Orfila has given gamboge a place amongst his poisons. Before concluding this article, I must observe, that there had long existed a strange mistake that the koorkapoolie of D’Acosta, or the coddam pulli of Rheed (garcinia gambogia, Willd.), was the tree which produces the true gamboge; that this is not the case, however, was clearly proved by Dr. White, whose account of the koorkapoolie was published in the Edinburgh Medical and Surgical Journal.

There is but one species of the genus stalagmites, which is our present article: of the genus, Willdenow says, "hermaph. cal. 4-phyll. cor. 4-petala. stam. 80, receptaculo quadrangulo carnoso inserta, styl. crassus, stigma quadrilobum. bacca. 1 locul. stylo coronata trisperma." "Masculi. cal. cor. et stamina hermaphrod."

The gamboge-tree of Siam, is a middling sized one, with dusky-coloured green leaves, which are ovate, opposite, entire, even, and on short petioles: the male flowers, being either in distinct clusters, or mixed with the hermaphrodite, which are axillary;

* Since writing the above, Colonel Wilks informs me, that this yellow gum resin had been previously noticed by the pioneers of Lord Wellington’s army.
the hermaphrodite, as Mr. Thompson informs us, in his excellent account of the plant, are in axillary whorls, or on the joints of the smaller branches, sometimes mixed with the male flowers, sometimes in opposite gems; the fruit is a smooth, round berry, whitish, or rose-coloured, and containing several long triangular seeds. I perceive in Orfila, this opinion regarding gamboge, that its poisonous quality does not depend on absorption; but upon its "action locale énergique." (See vol. ii. p. 24.)

LXXXIV.

GARLIC. Vallay poondoo (Tam.) Soodooloonoo (Cyling.) Velligudda (Tel.) Bavangpootie (Malay.) Belluly (Can.) Lássun (Duk. and Hind.) Seer (Pers.) Soom (Arab.) Looshun (Beng.) Lāśūnā (Sans.) Ail (Fr.) Knoblauch (Ger.) Ajo Sativo (Span.) Bawang (Jav.) Késun (Bali) Σκαυδόν (Gr.)

Allium Sativum (Lin.)


The strong-smelling, pungent, acrimonious bulbs of the allium sativum, form an almost constant ingredient in the curries and other dishes that are used by the native Indians. As a medicine, the Hindoo doctors prescribe garlic to promote digestion, quicken the circulation, and warm the habit; they also consider it as a useful expectorant, particularly in that kind of asthma which they call mandara cāshum; which signifies the asthma of cloudy weather.
Garlic is sometimes used as a rubefacient by European practitioners; and is no doubt a useful stimulant, expectorant, and diaphoretic, and may also be considered as anthelmintic and diuretic. In the Dublin Pharmacopoeia there is a preparation of it, *syrupus allii*, which given in doses of two drachms is an excellent remedy in pituitous asthma. Dr. Rush supposed garlic had some effect in preventing the yellow fever; the Arabians place it, مَلْطَعَات amongst their ملطفات. Garlic is a native of Sicily, where it grows wild, it is now cultivated in Hindoostan, and thrives admirably in Nepaul*; our article with six other species grow in the botanical garden of Calcutta. For much curious and classical information regarding garlic, the reader may consult Mr. Phillips’s work on Cultivated Vegetables, vol. ii. p. 21. I shall merely here state before concluding, that in a climate like India, where dyspepsia is frequent, and perhaps rendered still more so amongst the natives, by their living so much on a vegetable diet, garlic, by supplying a gentle and grateful stimulus to the stomach, is highly useful: the Romans had an idea, that it in a peculiar manner gave strength to the human frame; and Sir William Temple in his Treatise on Health, observes, that of all plants, garlic affords most nourishment, and supplies spirits the best to those who eat little flesh. Celsus gives garlic a place amongst those things, which warm the habit and open the belly. (Vide Cels. de medicina, lib. ii. cap. xxvii. xxix.) The Hindoos are in the habit of preparing a kind of expressed oil from garlic, called in Tamool *vullay poondo unnay*, it is of a stimulating nature, and ordered internally in agues, and externally in palsy and rheumatism.

* See Captain Kirkpatrick’s Account of Nepaul, p. 129.
LXXXV.

GINGER, DRY. Sookkoo ගුකී (Tam.) Sont سنت (Duk. and Hind.) Inghuroo (Cyg.) Alia (Malay.) Jai-aking (Jav.) Jahetuh (Bali.) Sonti (Tel.) Zungebeel زنجیبیر (Pers.) Sonty (Can.) Gengibre (Span.) Wooraka (Ternat.) Gora (Tidor.) Siwe (Amb.) Sohi (Band.) Sinnhi शुण्टी (Sans.) Zenzero (It.) Gingembre (Fr.)

GINGER, GREEN. Injie අිජෙ (Tam.) Amoo Inghuroo (Cyg.) Udruck ادرک (Duk. and Hind.) Ullum (Tel.) Ardrākā आद्राक (Sans.) Zingebeel ruth زنجیبیر رطع (Arab.) Dschey (Jav.) Zungebeel tur زنجیبیر تر (Pers.) Gingembre (Fr.) Ingwer (Ger.) Zenzero (It.) Ada (Beng.)

AMOMUM ZINGIBER (Linn.)


The ginger plant is a native of many eastern countries, but is no where to be found of a finer quality than on the coast of Malabar, it is the ischi of the Hort. Mal. (11. p. 21. t. 12.) and the zingib. majus, Rumph. (Amb. 5. p. 156. t. 66. f. 1.)

The root is too well known to require particular description here; it has a pleasant aromatic odour, biting taste, and is considered by the native doctors as a valuable carminative and stimulant; they also
recommend it as an external application, mixed with arrack, in paralytic and rheumatic affections; it besides forms an almost constant ingredient in the cushāiums (decoctions), which they prescribe for arresting the progress of intermittent fever: dose from q. x to 3 as. Europeans in India, of delicate nerves, frequently use an infusion of ginger in place of common tea; this is either prepared with dry ginger or the green root, cut into thin slices; our article with many other species are growing in the botanical garden of Calcutta.

The Greek name for ginger Σιγγία was, in all probability, nay certainly, was taken from its Persian appellation زنجبیل. It is indigenous in China, and Mr. Phillips* imagines, as it is common at Gingi in that country, that hence may be its name ginger.

In Sir J. Sinclair's Code of Health, (vol. i. p. 233.), we are informed of the virtues which ginger possesses in keeping off the gout, as instanced in the case of Lord Rivers, who took it in large doses for more than thirty years with the happiest effects. The Arabians set a high value on ginger, as do the Persians, supposing it to have the property of clearing the brain; they consequently, in all their works on the Materia Medica, place it amongst their cephalica مکروب دماغ.

Much dry ginger is sent to the Coromandel coast from Cochin and Bengal; it is also an export from Nepaul. (See Kirkpatrick's account of that country, p. 205.)

LXXXVI.

GINSENG. Yansam (Chin.) Garantogues
(Americ.) Orhota (Tart.) Ginseng (Dut.) Gins
sao. (Port.) Ginseng (Fr.)

PANAX QUINQUEFOLIUM (Lin.)

Hederaceae. Funblattige Kraftwurz (Nom.
p. 1124.

This root, which had formerly a place in the
British materia medica, but which now, perhaps, is
justly discarded, is sometimes, though rarely, brought
to India from China, in pieces about the thickness
of the little finger, and three or four inches long;
which are forked and tranversely wrinkled; it has
little or no smell, but a mucilaginous and sweetish
taste, accompanied with some warmth, and a very
slight degree of bitterness. We are told that the
Chinese physicians, ascribe most extraordinary
virtues to ginseng, and have written volumes on it:
they allege, that it nourishes and strengthens the
body, stops vomitings, clears the judgment, removes
hypochondriasis, and all other nervous affections; in
a word, gives a vigorous tone to the human frame,
even in old age. *

The plant is a native of Chinese Tartary, where it
has been cultivated from time immemorial, and Mr.

* The reader will find a full and curious account of the virtues
of ginseng in a work entitled "Description General de la Chinè." It
is a translation from the Chinese, by Joseph Anne Marie de
Cutler says, that it grows plentifully in New England, and some of the neighbouring states; but Loureiro has expressed a doubt whether the Chinese ginseng, be the same plant with what the American Indians call *garantogin*, and which the French in Canada use for asthmatic complaints, as a stomachic, and to promote fertility in women: notwithstanding, ginseng has no longer a place in our dispensatory, the French writers still retain it, chiefly, perhaps, on the authority of Jesuit missionaries; it would appear, by Thunberg’s account, to hold to this day its high reputation amongst the Japanese. The reader will find the plant well described by Woodville in his medical botany and by Bernard Jussieu; it has an erect smooth stem, with leaves which arise with the flower stem, from a thick joint at the extremity of the stalk, the flowers are of a yellowish-green colour, the berries are at first green but afterwards turn red, inclosing two hard seeds. In such estimation was the ginseng root held in China in the year 1709, that the Emperor sent an army of 10,000 Tartars in search of it, on condition, that each soldier should give him two catties of the best, and sell the rest for its weight in silver, by this means the Emperor gained 20,000 catties in one year. See Brewster’s Edinburgh Encyclopedia; article Ginseng.

* See Alibert’s “Nouveaux Elèmes de Thérapeutique,” vol. i, p. 100.
LXXXVII.

GOAT. Vulūdoo (Tam.) Bukra (Pers.) Chēla (Arab.) Buz (Duk.) Khussee (Tel.) Aada (Mal.) Ājā (Sans.)

CAPRA HIRCUS (Lin.)

Goat’s flesh is tough and tasteless, though much eaten by the native Indians. The kid is, however, excellent. Goats give a great deal of milk of good quality. See article Milk.*

LXXXVIII.

GRAPE. Kodimoondri pulum (Tam.) also Dividatsi-pulun (Tam.) Drchupundoo (Tel.) Booangoor (Mal.) Ungoor

* The vytians have a notion, and it is a strange one, that the flesh of the goat has virtues when eaten in cases of incontinence of urine. What is called the wild or mountain goat, or bouquetin, some have ventured to say was of a different genus from the capra, and a link betwixt the deer and goat; but that this is not the case is maintained by Mr. Kendal, in a communication to be met with in the Asiatic Journal for March 1828. (p. 229.) The animal is common in the Hymalaya mountains, where it is called Phear, and is the capra ibex of Linneus; the Germans term it steinbock, and the Persians Buz-kowhee. In outward form it much resembles the common goat, but is larger, with a smaller head in proportion to its body, and large round fiery eyes; the horns, which are also large, are flattened before, and round behind, and the legs slender; it is peculiarly active, and the flesh of the young is much esteemed as an article of food. A variety of the goat, which is of a red colour, is called menda on the Malabar coast.

Grapes of various kinds grow in abundance in many parts of India; particularly in the higher tracts and upper provinces; and are considered by the native doctors as cooling and aperient. The French at Pondicherry, in spite of the great heat of the Carnatic, are particularly successful in cultivating them; but no wine is made in India, nor is the fruit dried into raisins as in Europe and Persia. The Arabians and Persians, particularly the latter, though they are forbid wine by the Koran, bestow much pains on the cultivation of the grape; and suppose that the different kinds possess distinguishing medicinal qualities. The juice of the grape, before it is made into wine, they call انکور (Arab.) and معلسی (Pers.); the large black grape, which the Arabians term انکور زیتونی, the Persians اصبع العدازی, and which in higher Hindoostan is commonly known by the name of Kalee dakh, the Mahometan practitioners consider as of a hot and drying nature.

Grapes when dried into raisins, are called in Arabic زیبب in Persian موریز and in Hindoostanie Kismishe; which, however, more particularly applies to the raisins of that grape from which the famous Shiraz wine is made; by Noureddin Mohammed Abdullah Shirazy's work on the Materia Medica, it appears that the Persians conceive raisins to be in a high degree emollient and suppurative, and order them to the quantity of ten direms.
Six species of vitis were growing in the botanical garden of Calcutta, in 1814. See more on this subject under article Wine in this Chapter. See also article Raisins.

LXXXIX.

GUM AMMONIAC. Úshék ًشَقُّ (Arab. and Duk.) also Féshook (Duk.) Semugh bilshereen ضمغَ يل شرطَن (Pers.) Gomme ammoniaque (Fr.) Ammoniak (Ger.)

HERACLEUM GUMMIFERUM (Willd.)


This gum resin appears to be little known in the interior parts of the Indian peninsula; and is only occasionally prescribed by the hakeems, who have become acquainted with it, through the medium of Arabic and Persian books. Woodville gives no account of the plant whatever, nor do I believe that it has hitherto been scientifically, or rather very accurately, described. Willdenow, however, had no doubt but that gum ammoniac was obtained from the heracleum.gummiferum*, and the London College; on his authority, admitted it as the ammoniacum plant; notwithstanding all this, it would seem, that this distinguished botanist could not obtain any of the gum resin from a plant, which he reared from the seed found amongst gum ammoniacum of the shops; so that the matter is still involved in doubt. Mr. Jackson† tells us, that the gum ammoniacum plant,

† See his Account of Morocco, p. 83.
called by the Arabs Feshook, grows in Morocco, that it resembles the fennel, but is larger, and we know that Pliny, (I. xxii. c. 23.) mentions ammoniacum as the gum resin of a species of ferrula: Geoffroy has attempted to account for the name that has been given to this article, in the following manner: “Planta vero nascitur in ea Africæ parte, quæ Egypto ad occasum adjacet; quæque hodie dicitur regnum de barca, in quo fuit olim templum celeberrimum Jovi Ammonii dicatum, unde gummi nomen.”

Mr. Jackson, in speaking of the Feshook plant, says, that the gum ammoniac is procured from incisions made in the branches, by which means a lacteous, glutinous juice is obtained, which hardens into gum ammoniac.

Lieutenant Colonel John Johnston, C. B. in his Journey from India to England, through Persia, Georgia, Russia, Poland, &c. in the year 1817, states, that he found the plant which yields the gum ammoniac growing in the stony plains, within half-a-mile of the fortification of Yezdekhhaust in Persia, he adds, that it grows to about six feet in height; some of the stems being of a dark colour, like ripe sugarcane, and others of a light green tinged with lake-colour near the joints. (See his work, pp. 93, 94.) It would appear, that he also saw some of the trees growing near Magen in Persia.

For a botanical account of the plant which was reared from the seed above mentioned, and to which the name of heracleum gummiferum was given, the reader may consult the last edition of the London Dispensatory. The gum resin itself is too well known to require a particular description here; when good it is of a pale yellow colour, having a faint but not unpleasant odour, with a bitter, nauseous, yet
somewhat sweet taste: externally applied, it has been considered a discutient and resolvent; internally, it is one of our most valuable deobstruents and expectorants: the dose of the substance from gr. x. to 3 ss. that of the lac ammon. (Mist. Ammon. Lond.) from 3 ss. to 3 iss. Dr. Paris informs us, that in combination with rhubarb, ammoniacum is a valuable medicine in myserenteric affections, by correcting viscid secretions.

In the southern parts of Arabia, the tree which yields the gum ammoniac is called tursoos طرثوت, the Persians term it derukht ushuk درخت اشف, and the gum resin itself they place amongst their مخللات (discutientia); for their more particular opinions respecting it, the reader may consult a Persian work entitled معدن الشفاء مكندر شاهي, or the Mine of Remedies, by Beva Ben Khuas Khan, A.D. 1512, dedicated to Secunder Shaw II.

Mr. Grey, I perceive, in his Supplement to the Pharmacopoeias (p. 27.), expresses a notion that gum ammoniac may be, or is obtained from, the ferula Persica, the tree which Willdenow supposes to be that which yields the sagapenum. According to Bracconot, this gum resin is a compound of 70·0 resin, 18·4 gum, 4·4 glutinous matter, 6·0 water, 1·2 loss.

XC.

GUM ARABIC, INDIAN. Vullam pisin پسن تام. Vélágábánká تل. Kapitthā سترب. Kavit ka gond کوهیت کا گوند (Duk.) Samagh arebee صم غربی (Arab.) Jewool
CHAP. I. MATERIA INDICA.

*latoo (Cyng.) Gomme arábique (Fr.) Arabischen gumme (Ger.)

FERONIA ELEPHANTUM (Roxb.)


There are several gums which resemble the true gum arabic, or that of the acacia vera, which grows in almost every part of Africa; but perhaps none of them comes nearer to it than the **vullām-pisin** or gum of the feronia elephantum of Roxb. (or what is called the wood-apple tree), and which is commonly used for medicinal purposes by all the practitioners of Lower India. What is termed the *babul* tree in Bengal (Acacia arabica, Willd.), *Pāti* in Sumatra, *Akakia* (Arab.) Karoovēlum (Tam.) *Nūlla tuma* (Tel.) *Mughilān* (Pers.) also furnishes a great deal of gum which is employed in lieu of gum arabic: it is the same tree, as far as I can learn, that Dr. Wittman, in his Travels (p. 231.), mentions as yielding much gum arabic in Turkey. The Egyptians, by Forskahl’s account, call gum arabic from the city of Tor where it is obtained; we learn from Niebhum's Travels (vol. i. p. 99.), that a considerable quantity of gum arabic is produced in the neighbourhood of Mount Sinai, and brought for exportation to Alexandria. In Morocco a great deal of it is procured, especially about Bassel-wed and Bledhammer in the province of Abda, where the tree is called *Attaleh*.

The Tamool practitioners prescribe a solution of gum arabic to relieve tenesmus in bowel affections, and as we do in other cases requiring demulcents.

* See Jackson's Account of Morocco, p. 83.
The feronia elephantum is the _balong_ of the Portuguese, and is called in Hindoostanie and Bengalie _kuth-bel_. The fruit of the feronia elephantum (wood-apple) is eaten by the Indians, the tree is pretty large, erect, branches few and irregular, leaves feathered with an odd one, from three to five inches long. It has male and hermaphrodite flowers. (See note* below, see also Corom, Plants, vol. ii. p. 21.)

XCI.

GUM TRAGACANTH. _Vādomochttay pisin_ कठ्ठ (Tam.) _Kāṭira_ (Duk. and Hind.) _Sāmāghulkātād_ صبغ القدام (Arab.) also _Kaseera_ كثيرة (Arab.) _Gommi astraganti_ (Fr.) _Traganth_ (Ger.)

_Astragalus Verus_ (Olivier.)


The _Vytians_ imagine this gum to have the effect of improving the state of the blood, and prescribe it in mucilage, in doses of twenty or thirty grains. What of it is occasionally found in the Indian bazars.

* The following is a list of trees from which, according to Dr. Francis Hamilton, gum, simply so called, may be procured in Mysore. _Dindiga_ (andersonia panshmoun), _bewa_ (melia azadirachta), _muruclul_ (chirongia glabra), _mavena_ (mangifera Indica), _anaricay_ (cassia auriculata), _baya_ (sagle marmelos), _jala_ (shores robusta), _chadacalu_ (chloroxylon dupada,) _betta tovary_ (bombax gossypium (Lin.). _Amsa_, also _Kumarkuni_, is the Hindoo name of an opaque gum sold in Upper India, and said to be a good medicine in cases of _oxena_ used externally. Hamilton's MSS. on the Puraniya District.
is brought from Alexandria by way of the Red Sea. The shrub which produces it is said to grow in Candia and Socotra; but it would appear to be also a native of Persia, where it is called *kum* كم (see Morier's First Journey through Persia, p. 231.) The Arabians term it مِبَهِيَات, and place the gum itself amongst their Aphrodisiacs مِبَهِيَات (Mobehiät).

Good gum tragacanth is whitish coloured, brittle, inodorous, and has a very slight bitter taste; it is but partially soluble in water, which rather swells than dissolves it; it is considered as an useful demulcent. We are told by Virey, in his "Histoire Naturelle des Medicaments," (p. 282.) on the authority of Labillardiere*, that gum tragacanth is actually got from the astragalus gummifera; it was long supposed to be obtained from the ast. tragacanth, but there is now little doubt, but that it exudes from the ast. verus. Three species only of this most numerous genus grow in the botanical garden of Calcutta; one is a new species, the other two are the *hamosus*, and *carolianus*; the second is a native of Persia. Mr. A.T. Thomson, in the last edition of the London Dispensatory, observes that the *kattira gum* from India has been found not to answer the purposes of the ordinary tragacanth; *kattira*, however, is no doubt the name in Hindoostanie and Dukhanie of the real gum tragacanth. Considering the great number of gums which are to be met with in the Indian bazars, it is not unlikely that what Mr. A. T. Thomson had transmitted to him, was not the genuine article. For that able botanist's description of the ast. verus, I refer the reader to his London Dispensatory. The ancients considered tragacanth as a vulnerary. (Cels. lib. v. cap. 11.)

* See Journal de Phys. for 1790.
XCII.

HARE. Mosél (Tam.) Khurgoosh (Duk.)
Arnumb (Arab.) Sussa (Hind.) Sasa (Sans.)
Koondelo (Tel.) Lièvre (Fr.)
Lepus Timidus (Lin.)

The hare is common in India, and is a much fleeter animal than in Europe; though smaller, it differs but little in appearance from the European hare, but Dr. F. Hamilton is inclined to make it a new species, Lepus Khurgoosh; as food it is often dry; the Vytiens prescribe the flesh for incontinence of urine.

XCIII.

HELLEBORE, BLACK. Kadágárōganie (Tam.) Katookarōganie (Tel.)
Caloorana (Cyg.) Kātūrōhinī (Sans.)
Kalikootkie (Duk.) Kherbek aswed (Arab.) Kherbeck siya (Pers.)
Niestwortel (Dut.) Helleboro (Port.) Hellebore (Fr.) Schwartz Niesswurzel (Ger.)
Helleborus Niger (Lin.)


I have given the names kadágárōganie and kalikootkie as the Tamool and Dukhanie appellations of black hellebore, as the root procured in the Indian bazars, is commonly said to be so; but I have great doubts of it, and here offer a caution respect-
ing it, as it by no means agrees in appearance with
the black hellebore of the European shops, though it
is equally nauseous, bitter and acrid: This root, I
mean our article, may be distinguished from the black
hellebore, commonly so called, by being quite black
inside in place of white or yellowish; it is very
easily broken, and is usually found in pieces six or
seven inches long, with numerous joints, and of a
greyish colour outside. I am inclined to think that
it is the root of some other species of hellebore, per-
haps that very drug, so much celebrated by the
ancients, which Woodville tells us, grew in Antycera,
and which he supposes was the root of the helleborus
orientalis. Virey* seems to be of opinion that the
hellebore of the ancients was the white not the black;
though he ought to know that Pliny and other
writers speak distinctly of both.

The kâdâgârôganie, whatever it may be, grows, by
Kirkpatrick's account, in Nepaul, and is there called
kootka (see his work, p. 182.); it is also brought to
India by way of the Red Sea, from Syria; it is
much used by farriers as a purge for horses, and also
cautiously among the hakeems as a drastic cathartic
in maniacal cases, and may be purchased in every
druggist's shop in Lower India.

Celsus prescribed black hellebore as a purge in
mania, it is now seldom used in substance; the
root has a nauseous, acrid taste (benumbing the
tongue) which is however lessened by keeping. The
decocition, Dr. Pearson† thinks, may be given with ad-
vantage in cases of insanity, and in certain dropsical
affections, in doses of about ½j. that of the extract
is from five to ten grains. White hellebore (vera-

* See his Histoire Naturelle de Medicamens, p. 192.
† See his Practical Synopsis of the Materia Medica.
trum album) I have never seen in India, it has, however, been described to me by a learned Hindoo under the name of *Piddārōganī* (Tam.), but I do not give this with confidence; it is now seldom prescribed owing to the violence of its operation, being at once a most drastic cathartic, emetic and sternutatory, often even in the smallest doses exciting tremors, vertigo, and syncope, and if the dose is large, death. Orfila places both the hellebores amongst his poisons, (vol. ii. part. i. p. 6. 11.) Celsus gave the white in that species of derangementattended with peculiar hilarity of spirits, a practice which has been resorted to with varying advantage in these our days.* The Arabians class black hellebore amongst their cathartics, giving it to the quantity of half a *direm*, and corrected by means of oil of almonds or tragacanth. The white hellebore which they call نَذَرْ بِسُنْبَاد, they place amongst their emetics; dose half a *direm* corrected by mastic; as a succedaneum, they use the *nux vomica*. Alibert † speaks highly of the virtues of black hellebore in dropsical cases, in the form of the *pikules toniques de Backer*. The root of the black hellebore has lately been analysed by MM. Feneulle et Capron; the products, were 1. a volatile oil; 2. a fatty matter; 3. a resinous matter; 4. wax; 5. a volatile acid; 6. a bitter principle; 7. mucus; 8. alumina; 9. gallate of potash, and acidulous gallate of lime; 10. a salt with an ammoniacal base. For the opinion of Pliny, respecting the two hellebores, the reader is referred to his *Nat. Hist.* (tom. iii. cap. v. p. 20.) "*Nigrum alii entomon vocant alii polyrrhizon*, purgat inferna; *candidum"

* See G. Kerr's *Medical Sketches on the Use of Hellebore in Insanity.*
† See his *Elémens de Thérapeutic*, vol. i. p. 290—293.
autem vomionis, causasque morborum extrahit." * The black hellebore plant is described in the London Dispensatory. The white is a native of Greece, and is no doubt the Ελλησιον λέμνος of Dioscorides; of the Cl. and Ord. Polygamia Monœcia, and Nat. Ord. Coronariae (Lin.) I have mentioned above Celsus's opinion regarding the black and white hellebores; I shall here subjoin his words, in speaking of what purges are to be given in particular cases; he says, "Ut cum veratrum nigrum, aut atra bile vexatis, aut cum tristitia insanientibus, aut iis quorum nervi parte aliqua resoluti sunt datur:" again "In tristitia, nigrum veratrum dejectionis causa; in hilaritate album ad vomitum exitandum dari debet." Lib. ii. cap. xii. and lib. iii. cap. xvi.

XCIV.

HENBANE SEED. Körásanie önum (Tam.) Khorassanie-qjoon (Duk. and Hind.) Buxirulbunj (Arab.) Urmanikoon (Arab.) Korassanie (Cyg.) Adas-pedas (Mal.) Adas (Jav.) Jus-
quianne (Fr.) Bilsenkraut (Ger.) also Sikrán (Arab.)

HYOSCYAMUS NIGER (Lin.)


* In the same chapter, Pliny observes, that the black hellebore is serviceable in palsy, lunacy, and dropsy; the white in epilepsy, vertigo, melancholy, elephas, leuce, and the filthy leprosy. By elephas, here, I presume is meant the Cochin or Barbadoes leg, as distinct from elefantiasis.
I have never seen the plant in India; but the small, flat, brown seeds of it, are common in the medicine bazaars, and are prescribed by the Hakeems to soothe the mind, procure sleep, and keep the bowels gently open, in cases of melancholy and mania; what of the article is found in India is brought from Turkey, where the seeds are called benge, and hence, according to D’Herbelot*, the word bang, which the seed is sometimes termed in the upper provinces of India, and which is used by the Mahometans of the lower districts, to express an intoxicating drug; but is generally applied to the bruised and prepared leaves of the Cannabis Indica (Willd.)

Celsius† as well as Stoerck, gave henbane to procure sleep in mania, and Pliny speaks of its virtues in various ways:—“Succus hyoscyami etiam sanguinem excreantibus: nidor quoque accensi tussianibus.” (vol. iii. cap. v. p. 70.) “Succus hyoscyami cum axungia articulis.” (cap. xi. p. 94.) “Hyoscynamum genetalibus medetur.” (cap. viii. p. 87.) He tells us that there are different kinds of henbane, but that the black chiefly grew in Galatia. (cap. iv.) Forskahl, in his Materia Medica Khairina, mentions this medicine as being brought from Greece to Egypt in his day, and administered to procure sleep, adding, that it might with safety be given to children. Modern physicians employ it as an anodyne in cases in which the binding influence of opium might be injurious: the extract made from the fresh leaves, and the tincture made from the dried leaves, are used, the dose of the first is from grs. iss. to as far as grs. xx. that of the tincture from 5 to 25 drops. In

* See D’Herbelot’s Bibliothque Orientale, p. 184.
† Vide Cels. lib. iii. cap. xviii.
large doses henbane is apt to produce many bad symptoms, often ending in delirium, great debility, convulsions and death. Mr. A. T. Thomson tells us, that united with colocynth, he has found henbane particularly useful in colica pictonum: externally it has been applied to allay irritation in over-sensitive parts. The modern Arabs place henbane amongst their Narcotics مخدرات (Mokederrat). The tree, though a native of Europe, would appear to be well known in Arabia, where it is called arista and by the Persians bungh بنك; it is an indigenous annual, with a long tapering, compact root, sessile, alternate leaves, and an embracing stem.

In eastern countries, as far as I can learn, the seeds alone appear to be known medicinally, the leaves when fresh have a strong fetid odour, but that goes off when the plant is dried; henbane yields its virtues completely to diluted alcohol. In the leaves of the plant Brande ascertained the presence of a peculiar and highly poisonous salifiable base, which he calls hyoscyama*; with the acids it forms characteristic salts; and crystallizes in long prisms. Alibert† recommends "des boissons acides," for such as had been poisoned by henbane.

Murray, in his Appar. Medic. vol. i. p. 655, has treated fully of henbane, and its use in convulsions, palpitation, mania and melancholy: with regard to its anodyne powers, he says, "opio ipso, in somno et quiete inducenda, aliquando potentius fuit!!"

† See his Nouveaux Elémens de Thérapeutique, vol. i. p. 425.
XCV.

HOG. Punnie பண்ணியை (Tam.) Pundie (Tel.)
Sooor سوير (Duk. and Hind.) Khinseer خنسر (Arab.)
Khook خوک (Pers.) Vdrâhâ वराह (Sansk.) Babi
(Mal.) Cochon (Fr.) also Sükârâ शूकर (Sansk.)
Sus Scorfà (Jonst.)

The common breed of hogs which is met with in India is not much prized, the animal is long legged, and is not easily fattened; a better kind is often brought from China, with shorter legs; but is still very inferior to the tame hog of Europe. The Indians, like the Chinese, are very careless with regard to the feeding of their pigs, which are generally allowed to run about the streets; and are, I am inclined to think, so neglected, most unwholesome food, perhaps contributing to produce, in conjunction with badly prepared salt-fish, some of the worst kinds of cutaneous diseases. The Mahometans of course eat no pork, nor will admit even the name of it into any of their books. For the delicate, the flesh of the hog in all its forms, is certainly improper, being too rich, and consequently apt to nauseate and cloy the stomach; for the strong or labouring people it is an excellent food. The sus scorfa is a native of all the temperate parts of Europe and Asia, and is also found in the upper regions of Africa. The Chinese, who are fond of pork, usually rear, what they call, the Siamese breed, which is smaller than the European sow, and more resembles that of the South-Sea islands. The Romans
held the hog in singular esteem, and the art of rearing it, was discussed under the title of *porculatio*. What is called the *wild hog* in India, *sus babiroussa* (Lin.), a name taken from the Malay word *babrus*, is common in the woods and jungles, and if killed at certain seasons, when the animal has been feeding on the sugar cane, is certainly of all animal food the most delicate and delicious; it is not fat, rich and heavy like pork, but resembles more venison of the finest quality. It lies light on the most dainty and delicate stomach, and after the fish *whiting* is commonly the first animal food that is allowed to convalescents in India. The species babiroussa, may be distinguished by having the two upper tusks growing from the lower part of the front. The following are some of the names of this animal, given by eastern nations:—Caa-ttoo poonnie (Tam.) Adivi pundie (Tel.) Sársel बबरस (Duk.) Bobbee ootan (Mal.) Bunyla بنيل‌ا (Hind.) Kānānā sūkārā कानान सूकर (Sans.)

Hog's lard (adeps suillus), which is obtained chiefly from the flank of the domestic hog, the *Vytians* not only use as we do, in the preparation of ointments and plasters, but when mixed with the dried and powdered root of the shrub called in Tamool *paloo-pāgulkodi* (momordica dioica) they prescribe it internally in all their three varieties of piles. *Molay moolum* (blind piles), *rutta moolum* (bleeding piles), and *shee-moolum* (piles, attended with a discharge of matter). The Mahometan doctors of course employ nothing that is taken from the hog. Hog’s lard is in Tamool *poonnie cōlūpoo*, سرپ کچالی (Duk.) *pundie kowoo* (Tel.) sūkarvāpā शूकरवप (Sans.) ooromusstoo latal (Cyg.)

I cannot conclude without observing that it has been remarked by Dr. Kinglake, that of all animal
food, mutton and pork are the easiest digested; and we know that Celsus says, that of the tame animals, the flesh of the hog is the lightest for man. Vide Cels. lib. ii. cap. xviii.

XCVI.

HONEY. Tayn தைன் (Tam.) Sháhid (Pers.) Madhu मधु (Sans.) Ayyermáddoo (M) Ussél unnehl عسل النحل (Arab.) Taynie (Tel.) M panney (Cyng.) Miel (Fr.) Gemeiner honig (Ge) Mudhoo (Hind.) also Ṣálib (Arab.) Mei (Port.)

Honey is much used in pharmacy by the native doctors; it is the produce of wild bees, and brought from the woods and jungles. Dr. H. Hamilton observed four varieties of honey, in the Coimbatore country, viz. the Mālen-tēnnee, Tōdu-tēnnee, Cōshu-tēnnee, and Cāmbu-tēnnee. From the nest or nest of the bee which produces the first, inferior the most honey is obtained; but the last mentioned honey, which is also from a large bee, is of the finest quality. The most common bees, honey, are those which produce the tōdu-ggy-tēnnee and cōshu-tēnnee, they are small in size, but collect honey. The same intelligent author, in speaking of the bees of the eastern tracts of the Mysore country, says, here the bees are of four kinds:—1st. nēgu, which yields much wax and honey, it is a bee; 2d. the cādi, a small bee, building a cell, an oblong shape, round the gno, a tree; the honey comes from the wood,
easily procured; and lastly, the togriga, a small bee which seldom stings, and takes possession of ants' nests.

The ancients did not think very highly of honey, as may be seen from various passages of Celsus, "stomacho alienum est mel, &c. &c.;" but when good, we know it to be at once nourishing and laxative; and externally applied, it is supposed to be a useful detergent; in some habits, however, it is found frequently to occasion griping, and when taken in great quantity it has not seldom occasioned violent pains in the abdominal regions, convulsions and even death. The quality of honey, some writers on the subject seem to think, depends on the nature of the plants from which the bees extract it; it certainly differs much in colour in different tracts of country, and also in flavour; there is a darkish green coloured kind in India, which the Vytiens allege cannot be eaten with impunity, and we know that Dioscorides speaks of honey in the east being dangerous in certain years; nay, Xenophon relates, that when the army of ten thousand approached Trebisond, the soldiers, who had partaken freely of honey found in the neighbourhood, were affected like persons insensitively, several becoming furious, and seeming as if in the agonies of death. Pliny* tell us what plants were considered in his days as the best suited for the bees. The heath honey of Scotland is proverbially excellent. The honey bee in Sanscrit is भ्रमर brahmara, and in Malay لب lebah.

The honey of Arabia Felix is said to be of a very superior quality, the doctors of that country place it, medicinally, amongst their ممکنیات اوسطه قرح (Deterr-
gentia). Honey, according to Brande*, is a variety of sugar, containing a crystallizable and an uncrys-
tallizable portion, the predominance of one or other of which gives it its peculiar character; it also contains wax and a little acid matter.

We are informed by the distinguished Baron Humboldt, in his Political Essay on the Kingdom of New Spain (vol. iii. p. 21. Eng. trans.) that a great deal of a kind of thin honey, which is very valuable, is got in Mexico, from the Agave Americana, and which is there called maguey de pulque: it would appear that it is procured by cutting the corazon or bundle of central leaves, from the wounds issues the delicious sweet fluid, and continues to be poured out for three months. From the Hortus Jamaicensis, we are further informed (vol. i. p. 236.), that the mocking birds are extremely fond of this honey which they find at the base of the flower: the plant is fully described by Sloane (vol. i. p. 246.), and Browne (p. 199.).

In the Cuddapa district on the Coromandel coast, there is a very singular kind of honey, brought from the woods; in place of being liquid in the comb, it is quite hard and candied, of the form of the cells, and drops out like sugarplums: the natives say its peculiar character is owing to the bees, which are small, feeding on the flowers and sweetish-bitter fruit of a tree, called in Tellingoo paloo-chitoo. The honey is light coloured, pleasant tasted, and is supposed to be the best for medicinal purposes.

* See his Manual of Chemistry, vol. iii. p. 27.
XCVII.

HORSE RADISH, substitute for, or MOORUNGHY ROOT. Moorunghy vayr மூர்ணால் வாய்க் (Tam.) Moonaga-vayroo (Tel.) Moongay kejhārkējūr (Duk.) Sujna मुर्ना (Hind.) Sigroomūlल सिय्युमुल also Sobhānjānā शोभाजन (Sans.) Merikooloomoolu (Cyg.) Nuggagedda (Can.) Shojena (Beng.)

HYPERANTHERA MORINGHA (Vahl.)


The moorunghy root has obtained the name of horse radish, from the English in India, from its great resemblance to it in appearance, taste, and natural qualities, and from its being used as such; it is the green root of the hyperanthera moringha, the legume of which is an excellent pot vegetable. The native doctors prescribe the green root, which has a pungent odour, with a warm biting, and somewhat aromatic taste, as a stimulant in paralytic affections, and intermittent fever, in doses of about 3; they also employ it in cases of epilepsy and hysteria, and consider it as a valuable rubefacient in palsy and chronic rheumatism. The plant is the दान bān of Avicenna (137): it is growing in the botanical garden of Calcutta, and is common all over India.

Dr. Fleeming informs us, that in Bengal an expressed oil is prepared from the seeds, which resists
rancidity, and which is looked upon as an excellent medicine, employed externally, for easing the pain of the joints, in gout and acute rheumatism; the seeds are the ben nuts, of old writers on the Materia Medica, and the hubulbân حبب اليبار of the Arabians, who place them amongst their مدرات Muderrāt (Stimulantia) the dose 2 direms.

The tree is the morunga of the Hort. Mal, (6. p. 19 t. 11.) and the moringa zeylanica, of Burm. Zeyl. (162. t. 75.) It is the guilandina moringa of Linnaeus, and is a middling-sized tree, with rather erect branches; the leaves are irregularly triplicate, pinnate, with an odd leaf; the leaflets, small and oval, standing on slender purplish pedicels, waving beautifully in the wind; the flowers are small, white, tinged with yellow at the base; and grow on the wings of the stalks. In Jamaica the wood is used for dyeing a blue colour, for which purpose I cannot learn that it is employed in India.

The morungny tree, or as it is sometimes called in English, the smooth bonduc tree, is much prized in many eastern countries, particularly in Java, as well for its excellent edible legume, as its valuable root and seeds. The Malas term the tree kellor, which is also Javanese, in Arabic it is طامن tāmen, in Persian موریباين moriaben; and in Guzarrattie trerida: the fruit or legume, the Canarese call nugay or nuriga. Both the leaves and flowers are also eaten by the natives of India, so that in fact there is no part of this plant that is not turned to some good account. We are told by Virey, that some of the French writers have considered the ben nuts, which they term pois queniques, also chicot, are of use in venereal affections. For an account of the character of the
plant in Java, the reader is referred to Dr. Horsfield’s List of the Medicinal Plants of that country, in which he will observe, that according to the Thesaurus Leytanirus, the moorunghy root (kellor) has been considered as most useful in dropsy; a virtue which was believed by Sydenham to distinguish the horse-radish of Europe (cochlearia armoracia); a syrup made with an infusion of which, Dr. Cullen found efficacious in removing hoarseness arising from relaxation.

XCVIII.

HYSSOP. Zufaiy yeabus زوفاي يابس (Arab.)
Hyssope (Fr.) Isop (Ger.)
HYSSOPUS OFFICINALIS (Linn.)


This article is inserted here merely from my having discovered that it has a place in the Ulfaz Udwiyeh; so is in all probability known in the higher tracts of Hindoostan. It is possible, as the plant is brought to India from Syria, that it may not be the hyssopus officinalis, which Alston seems to have been of opinion was a different plant from the ὑσσός of the Greeks, and was not the Esol of the Hebrews. Whatever the زوفاي يابس is, the Arabians class it amongst their قاطعات ديدارى, Katat didan (Anthelmintica), and مدرات مودريلات (Stimulantia). The officinal hyssop of Europe is well known to be considered as tonic, and stimulant; and was at one time a medicine in repute in what are called nervous cases. Pliny appears to have thought this herb useful in

VOL. I.
affections of the chest: "Hyssopi quoque quinque rami cum duobus rutæ et ficis tribus decocti thoracem purgant," (Lib. xxvi. cap. vii.); again speaking of it, he says, "pellitque ventris animalia." (Lib. xxvi. cap. viii.) For a long list of other virtues which have been ascribed to hyssop, the reader may consult Cullen, and Phillip's Treatise on Cultivated Vegetables. (Vol. i. p. 269.) The hyssopus officinalis, with another species, the nepetoides, were growing in the botanical garden of Calcutta in 1814, introduced, I believe, from North America, by W. Hamilton, Esq.

Celsus considered hyssopus as possessing diuretic qualities, "urinam movet," and also to be useful in coughs, "oportet hyssopum altero quoque die tussis bibere." (Lib. ii. cap. xxxi. & lib. iv. cap. iv.)

XCIX.

INDIGO. Neelum கிளை (Tam.) Nil (Cyng.) Neel نيل (Arab. Pers. and Duk.) Taroom (Mal.) Nili नीली also Nilini नीलिनी (Sans. and Tel.) Indigo (Fr.) Indigo (Ger.) Anil (Port.) Induxo (Dioscor.) Cham-nho-la (Coch. Chin.)

Indigofera Anil (Lin.)


Mr. H. T. Colebrooke, in his valuable Remarks on the Husbandry and Commerce of Bengal, says of indigo: "The manufacture of Indigo appears to have been known and practised in India from the earliest period. From this country (India),
whence the dye obtains its scientific name, Europe was anciently supplied with it, until the produce of America * engrossed the market, especially that of Mexico, Louisiana, and Carolina." But as the plant has been cultivated for ages all over Arabia, and in many parts of Persia, where it is called neel, it may become a question whether the Indians may not have borrowed a name for indigo from the more western countries. The Tamools call the plant averie, in Sanscrit it is vishashodanie; it is the ameri of the Hort. Malab., which, according to Willdenow, is also the Sanscrit name given to the species tinctoria, which, that author says, differs from the other: "foliis obovatis, obtusis, utrinque nudis, leguminibus teretibus, rectis, etiam sutura gibbosiore, subtorulosa: racemis laxis, minutis."

One and twenty species of indigoserae are growing in the botanical garden of Calcutta.

The leaf of the plant (ind. anil), is an article of the Tamool Materia Medica, and is supposed to have virtues in pukka soolay (Tam.), hepatitis, given in the form of powder, mixed with a little honey; and a decoction of the root is reckoned amongst those medicines which have the power of counteracting poisons, given to the quantity of four or five ounces, twice daily.

Further notice shall be taken of indigo in another part of this work.

Pliny, in speaking of indigo † in his time, says,

* The finest indigo in the world was that of Guatimala, a province of Mexico; now the best from Bengal is equal to it.
† Both he and Dioscorides speak distinctly of indigo, and both notice two kinds; Pliny observes, that when pure it gives a beautiful purple colour, and was used for dyeing blue. See Pliny Nat. Hist. lib. xxxv. cap. 6 and 7. p. 688. also Diosc. lib. v. cap. 107. p. 366.
“non pridem apportari et Indicum est cæptum,” and we know that he died about 80 years after the coming of Christ.

Indigo was at one period an article of the British Materia Medica; the Romans ascribed to it extraordinary virtues: "rigores et impetus sedat, et siccat ulceræ," but it is no longer prescribed by regular practitioners; and I have been informed that its internal use is even prohibited by law in in some parts of Germany. On the west coast of the Indian Peninsula the Vytyians supposed it to have good effects when given in decoction in nephritic complaints. We are informed by Mr. Lunan†, that the negroes of the West Indies use a strong infusion of the indigo root in rum for destroying vermin in their heads.

Baron Humboldt tells us that three kinds of indigo are cultivated in the kingdom of New Spain, viz. that from the indigofera anil, ind. tinctoria, and ind. dispersa. See his Political Essay on that Kingdom. vol. iii. p. 21. (Eng. trans.)

The reader will find a good analysis of indigo by Chevreul in the Ann. de Chim. lxvi. 20. ‡

C.

IPECACUANHA, substitutes for. See articles, Euphorbium in this chapter, Corinja (asclepias vomi-

* See Pliny’s Natural History, lib. xxxv. cap. vi.
† See his Hortus Jamaicensis, vol. i. p. 426
‡ By his account 100 parts of indigo (of Guatimala) contain 45 parts of pure indigo, which is two less than Bergman found; the other parts are gum, oxide of iron, resin and earth. For an excellent description of the properties of indigo, see a valuable paper by John Dalton, Esq. in the Memoirs of the Literary Society of Manchester.
toria) in the second part of this work, Marukarungkāi
(gardenia dumetorum) in the same part, and Sirroo
coorinja vayr (periploca sylvestris) in the same part.
Forskahl, in his Materia Medica Kahrina, speaks of
seeds which vomit mildly, called حبَل هندي مطرش, and
which he believes are brought from India; what they
are I know not.

In a very curious and interesting work, by Des-
longchamps, entitled, "Manuel des Plantes Usuelles
Indigenes," into which he introduces an account
of such plants as might be substituted for others
during the times of war and difficulty, I find, in
speaking of those that might be used for Ipeca-
cuanha, he says, "Dans mes expériences, j’ai soumis
à une observation exacte, treize de ces plantes; sa-
voir, les racines de six euphorbes, celles de quatre
narcisses, les feuilles d’asaret, (asarum europæum
Lin.) les racines de la dentelaira (plumbago europæa),
et celles de la bétoine (betonica officinalis);" the
leaves of the asarum europæum appear, by his ac-
count, to be the most decidedly emetic of all those
he mentions. (See vol. 2.)

In addition to what I have already said, it may
be observed, that the roots of various species of
cynanchum have been used as emetics in different
eastern countries: such as the c. vomitorium of
Lamarck; the c. ipecacuanha (Vahl) on the Coro-
mandel coast; the c. mauritianum of Cammerson at
the Isle of France; and the c. tomentosum (Vahl)
on Ceylon. What is called the white ipecacuanha
of Bengal is referred to the c. lævigatum of Vahl.
See Oriental Herald for March, 1824.
Cl. and Ord. Triandria Monogynia. Nat. Ord. Ensatae (Lin.)

This root has merely got a place here from being noticed in the *Ulfaz Udwiyeh*. The plant is a native of Rhodes, Laconia, and other parts of Southern Europe, and is growing with three other species in the botanical garden of Calcutta. European practitioners have recommended the fresh root as a cathartic in dropsies; it has a bitterish nauseous taste, and is peculiarly acrid. French writers on the *Materia Medica* have given a place to no less than four species of iris, viz. the *germanica*, the *florentina*, the *fetidissima*, and *pseudo-acorus*. The two first Deslongchamps* believes to possess nearly similar purgative properties; of the species *pseud. ac.* he says, "son suc, introduit dans la bouche ou dans les narines, même en petite quantité, provoque une abondante salivation." Of the last, *fetid.* he observes, "elles passent pour être utiles dans les scrophules, et dans l'asthma." The Arabian writers consider this root as supplicative, and also rank it amongst their Deobstruents, مفتاحات (*Mufettehat*).

CII.

JALAP, substitute for. See article Shevadie vayr in Part II. of this work. For an interesting and scientific account of no less than eight substitutes for the real jalap, which were examined by Deslongchamps, see his “Manuel des Plantes Usuelles Indigenes.” (Vol. ii. p. 53.) They are: 1. the root of the convolvulus soldanella; 2. the root and leaves of the momordica elaterium; 3. the root of the bryonia dioica; 4. that of the convolvulusalthæoides; 5. those of the thaspia villosa; 6. that of the eupatorium cannabinum; 7. those of the anthericum planifolium; and lastly the petals of the rosa canina. Of all those he says, the best and what comes nearest to the true jalap, is the root of the convolv. soldanella, and which may be rendered a little more powerful by adding about the sixth part of its weight of the euphorbia pithyusa (Lin.). The dose is a little less than that of the root of the convolvulus jalapa.

There are several articles of the Tamool Materia Medica, which might be called substitutes for jalap, but I have especially mentioned the shevadie vayr or root of the convolvulus turpethum, as one of the most efficient.

It would appear that Mr. Hume, jun., has lately discovered a vegeto-alkaline principle in jalap, and has called it jalapine, it is without taste or smell, is heavier than morphia, quinia, or other substances of that nature, and in the process for preparing it, which is a little intricate, is thrown down in white crystals, \( \frac{1}{3} \) of jalap yields about 5 grains of jalapine.
Goat’s flesh is improper for the delicate; the same cannot be said of that of the kid, which is on the contrary one of the lightest and safest of all kinds of animal food for the sick; that of India, generally speaking, is excellent, and often preferred, even by those who are in health, to lamb: both kid and lamb I have observed in India to be less dense and heating than mutton, and therefore better suited to weak stomachs. By a Tamool medical work, entitled Aghastier Vytia Anyouroo, we learn that the flesh of goats (capra hircus) is useful and proper for the consumptive and asthmatic, also for such as suffer from hypochondriasis, and other enervating complaints; that of the wild goat (capra ibex), and which the Tellingoos call adivi vaynta pilla, is considered as peculiarly unwholesome. The kid’s flesh in the same work is spoken of as proper for such as have venereal eruptions, and contractions of the limbs from nervous affections. The common goat in Tamool is aatoo, the wild mountain variety is common in many Eastern countries; the Arabians term it erkub اركوب, and the Persians buzi koo-hee بزکوهی I am led to believe.
that it differs little from the كبيع (kumbah) of the Malays.

CIV.

KINO. *Toomble hōán* तूम्बल हौन (Tam.) *Dūmmulackwayn* دم اللوكوين, also *Kāndāmoorgārttum* (Tam.)

**Eucalyptus Resinifera** (Lin.)

Cl. and Ord. Icosandria Monogynia. *Harzbringende Schönmutze* (Nom. Triv. Willd.)

I have observed under the head of dragon’s blood, that *kino* is but partially known in India, and is generally confounded with the first mentioned article; that kind of it, however, which is obtained from the eucalyptus resinifera, is occasionally to be found in the medicine bazaars, and is brought, I believe, from New Holland, where the tree grows to a prodigious height, and yields the *kino* on incisions being made into the wood of the trunk; it differs very little from that drug which was introduced into practice under the same name by Dr. Fothergill, and which was no doubt obtained from a very lately ascertained tree in Africa, growing near Gambia. Dr. Duncan, junior, in his excellent Edinburgh Dispensatory, mentions a third sort, which is stated to be procured in Jamaica from the cocoloba uvifera or sea-side grape. Mr. A. T. Thomson in his London Dispensatory in speaking of *kino*, says; “although the Edinburgh College has inserted *kino*, as the inspissated juice of the eucalyptus resinifera, and the Dublin College has considered it as the product of the butea frondosa, we believe the best is
got from an African plant, and from the specimen sent home by Mungo Park, that appears to be a pterocarpus, and according to the Encyclopedie Metho-
dique, the species erinacea."

The Botany Bay *kino*, the only kind I have seen in an Indian bazaar*, is without much smell, bitter to the taste, and much more austere than the African drug, resembling rather that obtained from the coccobola uvifera of Jamaica, but without its acidity.† *Kino*, from whatever plant it has hitherto been obtained, seems to differ but little in its natural or chemical qualities. It has been considered by the practitioners of Europe as powerfully astringent, and employed with success in fluor albus, chronic diarrhoea, and uterine and intestinal hæmorrhages; the dose of the substance from grs. x. to 3 ss.; the tincture from 3 ss. to 3 ij. *Kino* is used in the arts: wool or cotton, boiled in a solution of it, and then dipped in a bath of sulphate of iron, assumes a bottle-green colour; but which changes by washing and drying to a very durable blackish brown. By experiments made on *kino* by Dr. Duncan, junior, and also by Vauquelin, it appears to contain a large quantity of tannin, and that this is the ingredient on which its specific properties depend. See Nicholson’s Journal (vii. p. 234.), also Ann. de Chimie (xlvi. p. 221.). It does not appear to contain any gallic acid.

Alibert informs us, that in France, "*kino a reçu de grandes éloges pour le traitement des flux chro-

---

* Without the inspissated juice of the nauclea gambir is to be included amongst the kinos.
† Almost every part of this tree is peculiarly astringent. It is a large, crooked, shady tree, which bears clusters of grapes, which are not unpleasant when ripe; the seeds of them reduced to powder is an useful astringent. See Hortus Jamaicensis, vol. i. p. 77.

CV.

LABDANUM. Ladun لادن (Arab.) Ciste ladenifère (Fr.)

CISTUS CRATICUS (Lin.)


This resinous substance, which was considered by some of our old writers as céphalic, pectoral and nervine, is now only used by us in the preparation of certain plasters, which are applied to the epigastric region in cases of flatulency, and spasms in the stomach: and we know that Celsus* was in the habit of preparing with it a plaster which he considered as serviceable in bad ulcers.

The small balsamic and aromatic shrub, from which this substance is procured, grows in Crete and Syria, where, according to Pocock, it is called ladany; the resin is got by drawing lightly a kind of rake with thongs to it over the shrub, so as to take up the unctuous juice, which is afterwards scraped off with a knife; the best is in dark-coloured masses, of the consistence of soft plaster, becoming still softer on being handled.

The shrub seldom rises higher than two feet, with leaves spatulate-ovate, petioled, nerveless, rugged, calyxes lanceolate, the petals are of a rose purple.

* Vide Celsus, lib. v. cap. xxvi.
colour, without smell, and forming a corolla an inch and a half in diameter.

The Arabians use labdanum as a perfume, and in fumigations, and also class it amongst their منفضنجات (Suppurantia): it has no place in the French Materia Medica of Alibert; Deslongchamps notices it in his "Manuel des Plantes Usuelles Indigines," and tells us, that it is given internally in France, as a tonic and astringent, in doses of from 3i to 3iv. See work, vol. i. p. 46.

Pliny says, that ladanum was in his day found adhering to the beards of the goats in Cyprus, and ascribes to it most singular virtues: "ladanum suffitum corrigit vulvas: doli earum exhulceratisque imponitur." See his Nat. Hist. lib. xxvi. cap. viii. also lib. xxvi. cap. xv.

CVI.

LAC. Kóm-b-urruk ꞌකෝම්-වරුක් (Tam.) Laak ްބ (Arab.) Lak’h (Hind.) Lākshā लक्ष (Sans.) Lakáda (Cyn.) Commoléka (Tel.) Gomlac (Dut.) Laca empaos (Port.) Ambaloo (Mal.) Balo (Jav.) Kambalo (Bali.) Lacque (Fr.) Lahi (Hind.)

LACCA.

This substance, which has improperly been called a gum, is the product of an insect (chermes lacca, Roxb.), which deposits its eggs on various trees; it appears to be designed for defending the eggs from injury, and affording food for the maggot in a more advanced state; it is formed into cells, finished with as much art as a honey-comb, but differently ar-
ranged. Lac is known in Europe under the appella-
tions of stick-lac, seed-lac, and shell-lac. The first
is the article in its natural state, incrusting small
branches or twigs; the second is the stick-lac sepa-
rated from the twigs, appearing in a granulated
form, having been deprived of its colouring mat-
ter by boiling; and the last, or shell-lac, is the sub-
stance after having undergone a simple preparation.
There is a fourth sort sometimes met with, called
lump-lac, which is the seed-lac melted and formed
into cakes.

Lac is found* in great abundance on the croton
lacciferum (the halecus terrestris of Rumphius) grow-
ing in Ceylon, and on a tree called bihar, which is
common at Assam, where it borders on Thibet.
In India it is found on the butea frondosa (kœnig),
which is called in Tamool pbrásum; in Tellingoo
mōdāgā; in Dhukhanie plāspāyāra; in Hind. pūlās;
and in Sanscrit पलाष pālāṣa. It is also found on
the mimosa cineria (Lin.), which is called in Tamool
vedittálung; in Tellingoo vēlītooroo; in Dhukhanie
vārtūlica; and in Sanscrit वीरवृक्ष virā-vriksha. It
is also not seldom met with on the mimosa glauca
(kœnig) and on the shorea jala, Bucch. MSS. Dr.
F. Hamilton, MSS. informs us in his admirable ac-
count of the Puraniya country, that he there found
the jujub tree (bayr. Hind.), much cultivated to rear
the lac insect on; it is the zizyphus jujuba (Lin.).†

* A good account of the lac insect, may be found in the
Asiat. Journal for March 1817. It is found on the pepul tree
(Beng.), which is the ficus religiosa, on the bur tree (Beng.),
which is the ficus bengalensis, and on the pras, which is the bute-
frondosa.
† In the Rungspore district, Dr. F. Hamilton (late Buchanan)
found the lac insect on the pakur (ficus religiosa), Dhop (varinge-
latifolia), Mejkuri (morus Macassariensis), and on the mendu kolai
(ciliusus cajan). MSS.
Lac is an article of commerce from Siam *, from Laos, from Assam, from Pegu †, from Tonquin, and from the Ayer Rajah coast of Sumatra; it is sometimes, Abbe Rochan informs us, brought from Quamau-ton, in the province of Quei-chu, in China, "but of a quality inferior to that of Bengal." Crawford, in his "History of the Indian Archipelago," observes, that the lac insect exists in most of the forests of the Indian Islands, but especially in those of Sumatra, and the Malaya Peninsula. (See his work, vol. iii. p. 487.)

Mr. W. Franklin, in his "Tracts Political, Geographical, and Commercial on the Dominions of Ava" (p. 71.), tells us that charon is the name given in the Burmah dominions to a kind of black-lac, which is extracted from a large tree, one or two plants of which were brought to Calcutta by Captain Cox; he adds, that this lac was in general use amongst the natives for their lacquered ware. A coarse kind of lac is called in Tamool awel uruk. The Tamool doctors prescribe lac in old and obstinate bowel complaints, when the habit has been much reduced: they also, mixed with gingelie oil, use it as an external application for the head, in cases in which the patient is debilitated from long-continued fever. Of all the lacs, shell-lac, according to Hatchett, appears to contain the greatest quantity of resin †, and stick-lac of colouring matter and wax. Dr. Pearson, Mr. Brande ‡ informs us, obtained a peculiar acid from a substance called white-lac, brought from Ma-

* See Turpin's Histoire de Siam.
† The stick-lac of Pegu is reckoned the finest in the world. See Oriental Repository, vol. ii. p. 580., also Tavernier's Indian Travels, part. i. book. ii.
‡ See Philosophical Transactions for 1804.
dras, which he termed laccic acid; and Dr. John has announced the presence of a peculiar acid in stick-lac, which he has also called laccic acid.

For the use of lac in the arts, the reader is referred to another part of this work. The tincture of lac is a favourite medicine amongst the Arabians in preparing cleansing washes; they call it mehawer. I shall conclude this article by recommending my readers to peruse an excellent account of the lac insect by Dr. Roxburgh, in the lxxxvi vol. of the Philosophical Transactions.

For another interesting account of lac in its various forms, the reader may consult a little work, entitled, "Analytical Experiments on Lac," by Charles Hatchett, Esq.

Since writing the above, I have learnt from the interesting manuscripts of the excellent Dr. F. Hamilton, that a decoction of the stick-lac in mustard-seed oil, to which has been added a little of the pounded root of the morinda citrifolia, is used in Behar as an unction for anointing the body in cases of general debility.

CVII.

LEECH.  
Attéi (Tam.)  Zálágah (Tel.)  Patchet (Mal.)  Jonk (Duk.)  Jō-
ilāka  (Sans.)  Koodalla (Cyngr.)  Khera-
heen (Arab.)  Zeloo (Pers.)  Sangsue (Fr.)  Blutiuil (Ger.)

Hirudo Medicinalis.

The native practitioners use leeches for the same purposes that we do, particularly the Mahometans.
The species *medicinalis* is in general larger than the European leech, and very voracious. The horse-leech (hirudo sanguisuga) is also common in the stagnant pools of lower India, it is larger than the species above mentioned, with a depressed body and dusky-coloured back, and belly of a yellowish green. What is called the Ceylon leech, but which is also to be met with in the Southern tracts of the Peninsula, is a most dangerous animal to foot travellers at certain seasons; this little creature is seldom more than an inch long, and some of them are infinitely smaller, it is broad behind, and taper towards the fore-part; its colour brown, or light-brown; its substance nearly transparent; it is very active, and is said now and then to spring from the ground; its powers of contraction and expansion are wonderful; its point is so sharp, that it makes its way through the smallest openings, and attacks the feet, legs and thighs in the most unmerciful manner. Dr. Davy, in his Account of the Interior of Ceylon*, describes the reptile fully, and speaks with horror of the swoln and bloody limbs occasioned by it; what appears to increase the mischief is that great numbers generally attack at one time. It would seem by Marsden’s very excellent work on Sumatra, that it is the same, or nearly so, as the mountain-leech of that island.

The Hindoo doctors, but more especially the Mahometan practitioners, are very particular about washing well the part to be leeched with a little soap and water, and then with pure water. In a hot climate it is sometimes difficult to stop the bleeding from leeches, as well as from phlebotomy. It is

* See Dr. Davy’s Account of the Interior of Ceylon, pp. 102, 103.
soonest done by gentle pressure, and by applying to the parts water that has been made very cold by means of a solution of salt-petre. For the sores which sometimes follow the leech bites, the best application is castor-oil.

CVIII.

**LIME.** *Elämitchum pullum* (Tam.) *Jérook* (Mal.) *Neemboŏ* (Duk.) *Némmapündoo* (Tel.) *Dehi* (Cyn.) *Jāmbhīra* (Sans.) *Neemboo* (Hind.) *Kor-na neboo* (Beng.) *Citronier* (Fr.) *Citrone* (Ger.) *Usi* (Celebes.) *Cay-Tanh-yen* (Coch. Chin.)

**CITRUS MEDICA.**

(Var. & c. acris.) **CITRUS ACIDA** (Roxb.)


The lime tree thrives well all over India, being much more common than the lemon, which is the citrus medica, var. β. c. limon. The lime differs considerably in appearance from the lemon, being smaller, quite round, or nearly so, with a smooth rind; it is, besides, still more acid than the lemon, and to a certain degree acrid; they are, in their natural qualities, otherwise the same. Lime-juice is much used in medicine by the native practitioners: they consider it to have virtues in checking bilious vomiting; and believe, as we do, that it is powerfully refrigerent, and antisecptic. In the Tamool Medical Sastrum, entitled *Aghastier Vyția Anyouroo*, there is quite an eulogy on the lime: "It is a fit and
proper thing to be presented by an inferior to a superior; it is beautiful to behold; cooling and fragrant to the smell; the juice of it rubbed upon the head, will soothe the ravings of phrenzy; and the rind of it dried in the sun, has the power when laid under the pillow of conciliating affection.” !!!

The European inhabitants, in hot weather, find a sherbet made with limes extremely grateful, but care must be taken that the fruit is altogether ripe; for, if made with unripe fruit, and taken in considerable quantity, it is very apt to produce cholera morbus; which is best combated in such cases with calcined magnesia. The sherbet made with oranges is a much safer beverage. Dr. Thomson, in his London Dispensatory, tells us, that lime-juice, taken to the quantity of half an ounce, allays hysterical palpitations of the heart. An effervescent draught, made with about 3 ss. of the lime-juice and 9 i. of carbonate of potass, is given with success to stop vomiting, and determine to the surface; but Dr. T. says, a more pleasant draught is made by putting 3 ss. of lemon-juice, mixed with a small quantity of sugar, into a tumbler, and pouring over it a pint of aerated soda water. (See Article Orange, in this part of the work.)

CIX.

LIME, QUICK. Chūnāmboo ㄆãSheetaulo (Tam.) Hoonnoo (Cyn.) Chūnna چوننا (Hind. and Duk.) Capoor (Mal.) Soonnun (Tel.) Chūrna 重任 (Sans.) Nooreh نوره (Pers.) Ahūk اهوک (Arab.) Chaux (Fr.) Kalkerde (Ger.) CALX (Lond.)
CHAP. I. MATERIA INDICA.

The natives of India are in the habit of making quick-lime from its various carbonates, nearly in the same way that we do. That prepared from the common lime-stone by burning, the Tamools call kull chünâmboo; that got from burning sea-shells, they call kullingie chunamboo. At Bombay, for common purposes, they make their quick-lime from a coarse kind of coral, found on the numerous reefs which stretch off from the island. Lime-water, chunamboo tannie (Tam.), the Vytians prepare also as we do; adding to about half a pound of the quick-lime twelve or thirteen pints of boiling soft water; they prescribe it mixed with a little gingelie oil (oil of sesamum seeds), and sugar, in obstinate cases of gonorrhœa. European practitioners find it a useful anthelmintic, and also employ it externally as a detergent. The dose is from ʒ̣j to half a pint, alone, or diluted with milk. Some late writers have extolled the virtues of lime-water in diarrhœa, diabetes, and leucorrhœa. More will be said of quick-lime in another part of this work. Dr. Paris, in his Pharmacologia, informs us, that lime-water dissolves the mucus with which disordered bowels are often infested; milk, he adds, disguises its nauseous flavour, without impairing its virtues. (See work, pp. 429, 430.)

CX.

LINSEED. Allèvérei (Tam.) also Serroo Sanuiverei (Tam.) Ulsikêbinge (Duk.) Busruk (Arab.) Tôkhémkutân (Pers.) Alivîtûloo (Tel.) Bidgierâmnes 0 2
(Mal.) Umā उमा (Sans.) Tisi (Hind.) Lynxaad
(Dut.) Linhaca (Port.) Grains de Lin (Fr.)
Leinsaamen (Ger.) also Atasi (Sans.) सून (Hind.)
Pahaha पहाघा (Hindoese.)

Linum Usitatissimum (Lin.)

Gruinales. (Lin.) Gemeiner Flachs (Nom. Triv. 
Willd.)

There is a great deal of flax now cultivated in 
many parts of Upper India, and especially in Bengal*, 
for making oil, and of late years it has also become 
an object in the lower provinces; the plant is termed 
in Bengalese, musina.

Linseed does not appear to be much used by the 
Hindoos in medicine. European practitioners have 
long considered it as a valuable emollient and demul- 
cent, in diarrhoea, catarrh, pneumonia, dysentery, 
gonorrhoea, visceral obstructions, calculus, &c.; an 
infusion of it, in the proportion of \( \frac{3}{4} \) of the seed to 
a pint of water, is a convenient mode of prescribing 
it; a decoction of the seed forms an excellent enema, 
in abrasions of the intestines; and ground into 
powder, and simply mixed with boiling water, it 
makes a useful poultice.

Formerly, Mr. Phillips tells us, the seed of the 
flax was occasionally used with corn, to make bread, 
but was considered as hurtful to the stomach. Our 
article, with another species, the trigynium, which is 
the goolashroopie (Hind.), are growing in the botani- 
cal garden of Calcutta. The species, catharticum, 
was in the Company’s garden at Madras, in 1809, but

* See Mr. W. Carey’s Account of Flax in vol. x. Asiatic Re-
searches, p. 15.
it seemed a delicate plant, and I think afterwards died; it is well known, that as a purge the lin. catharticum was celebrated by Gerarde, and Linnaeus appears to regret that it has fallen into disuse; it is still in repute amongst the practitioners on the continent; and Deslongchamps says, it may be well used as a substitute for senna; he recommends the vinous infusion, in preference to the aqueous. The dose 3ij. of the dried leaves in infusion. Since writing the above, I have learnt that the cultivation of common flax, at Madras, has particularly called the attention of M. Nazier Shamier, who now employs the oil prepared from seed of his own rearing, in the arts.

More will be said of flax in another part of this work.

CXI.

LIQUOR, SPIRITUOUS. Chārāyum (Tam.) Arruk عرق (Arab.) Arruk (Duk.) Khulloo (Tel.) Arrak appee (Mal.) Madirā मदिरा (Sans.)

ARRACUM SPIRITUS TENUIOR (Lond.)

Arrack is used by the Tamool practitioners as an external application in cases of burns, sprains, palsy, chronic rheumatism, &c. ; they also occasionally prescribe it internally, when diluted, as a stimulant. The natives of India are proverbially sober, especially the Hindoos; with regard to the Mahometans, it is true that it is against the tenets of the Koran, to take any thing that had undergone the vinous fermentation; but such commands are but too often
evaded. The Brahmins are more rigid observers of what their religion inculcates; and will only take wine or spirits when ordered as a medicine, and that with difficulty, and many will not take it on any consideration.

The finer kind of arrack, which is met with in India, and which is the only sort employed by the higher orders of Europeans for making punch, &c., is either brought from Batavia, where it is called kneip, or from Columbo; that first mentioned is the most prized, and formerly was a source of great revenue to the Dutch. Rice, jaggary, and cocoa-nut toddy, are the principal ingredients employed in the preparation of it.

What is called in India pariah arrack, and which is made in but too great abundance in every part of the country, is of a very inferior quality, and is often rendered unwholesome by an admixture of ganja or subja (See these articles in Part II. of this work), which have the effect of making it more inebriating.* There are several kinds of this last mentioned spirituous liquor (pariah arrack), differing in strength and purity of composition. One of the best, or perhaps I ought to say, least hurtful is distilled from cocoa-nut toddy, and is named in Tamool khulloo charāyum, and in Canarese gungasir. Another sort is obtained from distilling a mixture of jaggary water and the barks of various trees, and has in consequence got the name of puttay charāyum. Many barks are so used, the chief are the vulvayyum puttay (mimosas ferruginia), and the Malay eetchum puttay (Phœnix Spec.), also the bark of the karooolem tree (acacia Arabica, Willd.)

* For the same purpose the juice of the thorn-apple is also used.
We learn from Burchell’s Travels in Southern Africa, that much of an inferior kind of arrack is there distilled from the berries of a plant which the Dutch call *brande-wyn bosch* (grewia flava), but which I believe to be the *grewia orientalis* of Vahl.

Within these last few years, arrack has been made at Madras of so good a quality, as to be considered little, if at all, inferior to the Batavia article.

The virtues of spirituous liquors in a medical point of view, as allowed by the European practitioners, are too well known to require particular notice here. Dr. Thomson says, *brandy* is simply cordial and stomachic; *rum*, heating and sudorific; *gin* and *whisky* diuretic, and *arrack* styptic, heating and narcotic. I add, the least injurious of all these to the constitution is well-made *whisky*, which rarely gives a headache when taken in moderation.

**CXII.**

**LIQUORICE ROOT.** *Addimödrum* अद्वैत (Tam.) *Jétimadh* (Hind.) *Mădhûkâ* मधुक मधुक also *Yāstīmâdhũka* यष्टिमधुक (Sans.) *Mittie luckerie* مهتي لكرى (Duk.) *Ussulsos* عسل السوس (Arab.) *Bikh-mekeh* بيخ مهك (Pers.) *Wellmie* (Cyg.) *Pao doci* (Port.) also عرق سوس (Arab.) *Reglisse* (Fr.) *Sussholzwurzel* (Ger.) *Urat manis* (Mal.) *Oyot manis* (Jav.) also *Olinde* (Cyg.)

**GLYCIRRHIZA GLABRA** (Lin.)


It would seem, by Dr. Fleming’s Catalogue of In-
dian Plants, that liquorice grows in the Bengal provinces, and we know that it is a product of the Malabar coast, where it is called irattimadhiram; but I am much inclined to think that a great deal of the liquorice root which is met with in the bazars of Lower India is imported from Persia, where it grows in abundance, particularly near Bussora* in the date groves, and on the banks of the Sewund† river. This sweet, pleasant, demulcent root, is in high repute amongst the Hindoo practitioners, who prescribe it in various forms, but chiefly in infusion for coughs, consumptions, gonorrhoea, &c.; they also consider it as a mild laxative. The root of the wild Jamaica liquorice (abrus precatorius, Lin.) so much resembles the true liquorice root in appearance and natural qualities that it is often sold for it in India, and used as such. (See article Coondumunnie vayr, in Part. II. of this work.) By Pliny's account it would appear, that the liquorice root was known as a medicine in his time; "Præstantissima in Cilicia, se-
cunda Ponto, radice dulci, et hac tantum in usu," it seems to have been prescribed for the same ailments then that it now is. See Pliny's Nat. Hist. lib. xxii. cap. ix. p. 760.

CXIII.

MACE. Jādipūtrīe ｻ ﾠｾﾪ (Tam.) Jáwd-
trīe ｼ ﾠ_keywords_ (Hind. and Duk.) Jápārī (Tel.) (Tel.)
Bunga-bua-pala (Mal.) Kambang-pala (Javan.)

† Where it is called sus and khorshuter, or camel thorn. See Morrier's Second Journey to Persia, p. 115.
Materia Indica.

Bunga-pala (Bali.) Jātipātri जातिपत्री (Sansk.)
Wassawasie (Cynag.) Bexbas بِهْبَز (Pers.) Foehy (Dutch.) Flor de nozmoscada (Port.) Moschat blumen (Ger.) Macis (Fr.) Tazīffūr طالسفر (Arab.)
Myristica Moschata (Wood.)

Cl. and Ord. Dioecia Monadelphia. Nat. Ord. Lauri (Juss.)

Mace is the oily, membranous, fleshy, pale-yellow coloured pulp (arillus), which is extended over the thin, brittle shell that incloses the nutmeg, which is itself contained within the external covering of the fruit of the myristica moschata; and is first disclosed on the fruit ripening and bursting.

Mace, which is chiefly used for culinary purposes in Europe, has the spicy, aromatic odour of the nutmeg, but is more pungent and bitter; it is brought to India from Batavia and the Banda islands, in thin, flexible pieces, which have an unctuous feel. The Dutch*, before the late disastrous revolutions in Europe, were in the habit of exporting annually from Banda upwards of one hundred thousand pound weight of it. It is a favourite medicine of the Hindoo doctors, who prescribe it in the low stages of fever, in consumptive complaints, and humoral asthma; and also, when mixed with aromatics, in wasting and long continued bowel complaints, in doses off' rom grs. viii. to grs. xii., and sometimes to as much as 3ss.; but they generally administer it cautiously, from having ascertained that an overdose is apt to produce a dangerous stupor and intoxication; the same effect is ascribed to the nutmeg

by Bontius. * The Arabians place mace amongst their Mobehyat موبهيات (Aphrodisiaca) and Mscheshyat مشفهيات (Carminativa).

We learn by Avicenna (183), as well as Serapio (c. 2.), that the Arabs gave to mace the name of مالسفر. Our article (myristica moschata) is called in Bengalese jayaphula, and is growing with two other species in the botanical garden of Calcutta.

In Mr. Crawford's admirable account of the Indian Archipelago †, we learn, that the dried produce of a nutmeg, consists of nutmeg, mace, and shell; in fifteen parts of the whole produce, there are two of mace, five of shell, and eight of nutmeg. The nutmeg requires a long and careful preparation to make it fit for commerce; but the mace requires no such trouble, simple exsiccation in the sun rendering it at once fit for the market. The tree rises to upwards of thirty feet, with many erect branches, leaves elliptical, pointed and undulated, and small inodorous flowers, which are present at the same time with the fruit, and are supported on axillary peduncles.

CXIV.

MADDER of BENGAL. Manjiittie മണിജിത്തി (Tam.) Mandestie (Tel.) Pooutvayr (Malayalie) Well madatta (Cyn. ) Runas روّناس (Pers.) Fuh فو (Arab.) Menjithé منچيت (Hind.) Garance (Fr.) Krappwurzel (Ger.) Grança (Port.) Mânjishthâ मन्जिस्थ (Sans.)

Rubia Manjista (Roxb.)

* See Bontius's Account of the Diseases, &c. of the East Indies, p. 194. Eng. Trans.
† See his work, vol. iii. p. 395.

This species of madder is indigenous in Nepaul*, and Lower Thibet; and I perceive by the Flora Indica†, grows in the botanical garden of Calcutta, but requires uncommon care to keep it alive, during the rainy season; and it has never blossomed there. It would appear to be chiefly produced in Kuchar, and the root of it is in great demand in the adjacent countries, for dyeing their coarse cloths and stuffs red; the Nepaulese are in the habit of bartering it for rock salt and borax. I am inclined to think that it is this species which grows plentifully in some of the provinces of Persia, especially in the Mekran‡; and we learn from Tavernier§, that formerly madder was much cultivated in Persia, in the country near the river Aras, and was used for the same purposes in the arts, that the rubia tinctorum is in Europe at this day.

The fibres of the Bengal madder root are neither so thick nor succulent as those of the rubia tinctorum; when exported to England, Mr. Colebrooke‖ informs us, that it has brought only about half the price of the Smyrna and Dutch madder roots.

Dr. Fleming, in his Catalogue of Indian Medicinal Plants (p. 35.), says, that he is not aware that the root of the rubia manjista has ever been tried as a medicine in Bengal, but that the sensible qualities being the same as those of the root of the r. tinctorum, he sees no reason why it should not.

* See Col. Kirkpatrick’s Account of Nepaul, p. 182.
† See Flora Indica, p. 383.
§ See his Travels in Persia, book i. chap. iv.
‖ See Remarks on the Husbandry and Commerce of Bengal, pp. 198, 199.
hakeems of Lower India are in the habit of prescribing an infusion of the root. (See article Manjittie Vayr, in Part II. of this work.)

The madder of Europe, which has a strong and unpleasant odour, and a bitterish and rather austere taste, used formerly to be considered as a valuable emmenagogue, and was often ordered in chlorosis and difficult menstruation; it was also, Dr. Thomson tells us in his London Dispensatory, recommended in jaundice, and in the atrophy of infants; but it is now but little thought of: its dose is from grs. x. to xx., given twice daily, in combination with sulphat of potass; its colouring matter is taken into the circulation, and tinges the urine red, and is deposited in the bones. The French* writers on the Materia Medica, at one time spoke in high terms of its virtues in obstructions of the liver, dropsy, and fluor albus; but they too seem of late to consider it as of little real utility.

The rubia manjista the reader will find well described by Dr. Fleming, in the Asiatic Researches (xi. 177.), also by Dr. Roxburgh, in his Flora Indica (p. 383.): it is a perennial, scendent plant, with leaves four-fold, long-petioled, cordate, acute, from five to seven nerved, hispid; corol flat, five-parted, pentandrous; by which last character it is distinguished from the r. cordifolia. Dr. Francis Hamilton†, in his Account of Nepaul, speaks of two kinds of rubia he found there, the rubia cordata of Willd. (by which he meant, it may be presumed, the r. cordifolia) (Willd. Spec. Plant. vol. i. p. 605.), and

* See Deslongchamps' Manuel des Plantes Usuelles, vol. i. p. 352.
† See his work, p. 74.
another species, which has not yet been described by botanists.*

CXV.

MALLOW-LEAF, substitute for. Toottieelley डूटीले (Tam.) also Nellie toottie (Tam.)
Toottie akoo (Tel.) Coongoonie (Hind.) Kung-
kuikapāt (Duk.) Khébaze (Arab.)
Khitmie (Hindoee.)

Sida Mauritia (Lin.)


There are several species of sida in India; the leaves of the greater number of which are employed for the same purposes that those of the marsh mallow (althæa officinalis), and common mallow (malva sylvestris) are in Europe, being soft, nearly inodorens, mucilaginous, and demulcent. Those most commonly used are the leaves of the sida mauritiana (our present article), of which Willdenow says: "foliiis subrotundo, cordatis accuminatis dentatis sub-
tus tomentosis:" besides preparing emollient fomentations with them, the Hindoo doctors prescribe the expressed juice, internally, in gonorrhœa, and give an infusion of the root as a drink in fevers.

The sida mauritiana is a common plant, growing by the road sides in many parts of Southern India;

* There appears to be little doubt but that our madder is what the Greeks called Ἡνάρα λέον, and which Pliny says the Romans termed rubia, and dyed leather red with it. Lib. xxiv. p. 341. In the middle ages, Beckmann tells us, it was named varantas. (Hist. of Inventions, vol. iii. p. 288.)
it is an annual, having very long peduncles, with orange-coloured flowers, and has got its specific name from having been first particularly noticed at the Mauritius. Some of the other species of sida, employed in Asiatic countries for similar purposes, are the sida populifolia*, which is the beloere of the Hortus Malabaricus (6. 77. t. 45.); the sida cordifolia (a native of Cochin-China), the Sanscrit name of which is bátýdlāca, and the Hindoostanie bariāla; the sida rhombifolia, which is the lal bariāla of the Hindoos of Upper India; and the sida Asiatica, which is a most beautiful plant, and is called in Tamoол perin toottie, from the largeness of its leaves, and its small lovely flower, which is stained inside with a deep purple. Nineteen species of sida are growing in the botanical garden of Calcutta.

The Arabians have two names for mallows: khāb-bāxe and ánjīl. The Persians call the seed towdrie, it is considered by them as deobstruent and detergent; the mallow plant itself they term khitme.

The Romans considered mallows as possessing many virtues; and that the juice of the plant drank every day, for a short time, was a preventive against all evils. See Pliny’s Nat. Hist. lib. xx. cap. xxi.

CXVI.

MANDRAKE PLANT. Ustrung (Arab.)

* This is common in Ceylon, where it has got the Cyngalese name of maha-anoda. Eleven other species of sida are growing in the royal botanical gardens in Ceylon. See Mr. Moon’s valuable Catalogue of Ceylon Plants, p. 50.
**Materia Indica.**

*Merdun giah* (Pers.) *Yeb-rooj* (Beng.)
*Luckmuna luckmunee* (Hindoie.) *Câat-jootie* (Tam.)

**Atropa Mandragora** (Lin.)


The fetid root of the mandrake plant has various names, arising from its supposed resemblance to the human form: *Mandragen* (Ger.) It was formerly an article in the British Materia Medica, but is now exploded, though the leaves are still sometimes employed in preparing anodyne fomentations, and discussing indolent tumours. The modern Arabians and Persians place this root amongst their narcotics, and suppose it to be antispasmodic; the former call it لُقُفال, and the latter آبَاز مَرَدُم كَبْا. Avicenna (Canon. Med. lib. xiv.) speaks of the fruit of it under the name of *loqafa*, the root he calls *jebroch*. (178.) Deslongchamps informs us, that formerly in France the root was employed as a charm by magicians. See his "Manuel des Plantes Usuelles," (vol. i. p. 397.)

The fruit of the plant the ancients were in the habit of putting under their pillows, from its supposed soporific virtues (Cels. lib. iii. cap. xviii.), and Boerhaave mentions, that even the smell of the plant induces drowsiness; the root has been externally used for dispersing the swellings of the lymphatic glands; and internally has been given to the

---

* Dioscorides speaks of it under the name of *Mâρδραγραγς*, but Dierbach in his Mat. Med. of Hippocrates, chap. viii. seems to think that the virtues of the plant, as mentioned by Hippocrates, rather resemble those of the atrops belladona; the roots, he adds, was recommended in melancholia suicida, also in agues and other diseases.
extent of 9i. twice or thrice in the twenty-four hours, in gout. The leaves boiled with milk, Boerhaave recommended in scrophulous affections. The plant is a native of Spain, Italy, and Crete. The root is in shape not unlike a parsnip, and runs three or four feet under ground; immediately from the crown of it arises a circle of leaves, at first they stand erect, but when grown to their full size (which is commonly about a foot in length, and five or more broad in the middle) they spread open and lie on the ground. Of the five species of atropa hitherto noticed, but one grows in the botanical garden of Calcutta, the *physaloides*, introduced by F. Horsley, Esq., in 1796.

In speaking of the anodyne and soporific qualities of the mandragore root, Hoffman observes: "In proverbium adeo transierat apud veteres, de languido, suisque in negotiis torpido, dicere; mandragoram illum ingessisse." (Vide C. Hoff. Offic. p. 415.)

The mandrake plant is spoken of by Pliny, under the name of circeium; he notices two kinds, a white and a black*: he is of opinion, that used cautiously, it may be taken to procure sleep; but that an overdose will destroy. Nat. Hist. book xxv. chap. xiii.

CXVII.

MANNA. *Shirkisht* (Pers. and Hind.) *Terinjebin* (Arab.) *Manna* (Dut.) *Manna*

* Modern botanists, however, allow these to be only varieties. See Roque's Phytographie Medicale, vol. i. p. 244.
(Port.) Kapur-rimba (Mal.) Gambling (Jav.) also Mun • (Arab.)

Manna Persica
(Fothergill Phil. Trans. xliii. 47.)

Dr. Fleming says, that the manna sold in the Indian bazars is imported from Bussora; and is the same with that described by Dr. Fothergill, in the paper to which I have just referred. The plant which yields it is supposed to be the *hedysarum* alhagi; and we know that it is from that that the manna of Mesopotamia*, and especially about Tauris is procured; it would appear by the Hortus Bengalensis to be a native of Hindoostan as well as the Levant, and is growing in the botanical garden of Calcutta, under the name of *juwasa*. The manna obtained from it is very inferior to that of Calabria, which is the produce of the *fraxinus ornus*, or flowering ash, and which according to Dierbach† is the *ucsha* of Hippocrates. There are three other species of ash which yield this medicine; the *rotundifolia*, the *excelsior*, and *parviflora*; and Mr. Gray seems to think, that it is from the first of these that most of the manna found in the market is got; it either exudes in dry weather spontaneously from the stem and branches; or it is obtained by making longitudinal incisions on the side of the tree, which is of the class and order Dianthria Monogynia and natural order Sepiarie: it is rather a low growing tree, with leaves smaller than those of our common ash, and flowers with petals (Miller).

I perceive by D’Herbelot’s account, that manna

* See Russel’s Account of Aleppo.
† See his Materia Medica of Hippocrates, chap. iv.
can be procured from a variety of trees in Persia, particularly in Khorasan, and near the city of Rei Sheeriar; much is also yielded by a thorny plant called khār-shooter, to be met with in abundance near the city of Zamin on the confines of the province of Samarcand, and which is on that account termed by the Arabs terinjbine alxamini. A factitious manna, a compound of sugar or honey, with scammony, is sometimes exposed for sale, but is easily detected. It is really curious to see the different opinions which have been offered to the world respecting manna; in addition to what D’Herbelot mentions, as above stated, I shall observe that in the Ulfaz Udwiyyh also, is given as the name of a substance collected at Khorasan, from the plant called khār-shooter; the same authority mentions, that it is a mild purgative resembling manna, and brought from Nishapoor. In this work too is given as the name of a sort of manna called from a barren tree, named derukt bey chowb; מִכְּנֶה we are further told, in this publication, is the general name for all kinds of honey dew in Arabia, and thatбед خشت, beed khust is the Persian, also of a variety of manna found on a willow of Khorasan; this in Persian is termed şehreshke. Whether any of these mannas may be the product of the insect, which has got the appellation of cher- mes mannijera, I know not; but the inquiry might be interesting. Major Macdonald Kinneir, mentions, in his Geographical Memoir of Persia (p. 389.), a sort of manna which the Persians call guz*, and which may be procured in great quantities in Louristan.

* And which can be no other than the guzangabben mentioned in the Ulfaz Udwiyyh as collected from the tamarisk tree.
and in the district of Khonsar in Irak; he adds, that it is obtained from a shrub in appearance like a funnel, about four feet high, and is supposed to be produced by small red insects; these are seen in vast numbers under the leaves. Now this I should presume is the substance which, within the last few years, has called the attention of several scientific men of the Indian establishments; such as General Hardwick, Captain Edward Frederick, and particularly the admirable Dr. Wallich; the last mentioned gentleman had only seen the insect which produces it in its larva state; though we know that the French entomologist Geoffroy had many years ago attributed to a species of chermes, the property of producing both in the larva and pupa state, a sugary substance of a white colour: it appears that the animal is about the size of a domestic bug, and of a flattened oval form. Mr. Hunter informs us, that the guz seems to project from the abdomen of the animal in appearance like a tail, or bunch of feathers; but perhaps more resembling snow than any thing else. The animals are found on certain trees in Persia and Armenia; swarming in millions and generating this feathery-like substance, till it gets long and drops on the leaves, caking on them, and resembling beautiful bees-wax: the insects do not destroy the leaves they feed on.

The Hindoos know, and care little about manna; the Mahometans of India prescribe it as a laxative to children and delicate women, in doses from 3ij. to 3iss., and the Arabians give it a place amongst their Mushilát-suf'ra مسيلة صفراء (Cholagoga). For further particulars respecting manna in eastern countries, the reader is referred to the writings of Mesue, Hali Abbas, Alasaravius, and other more modern
authors. The fraxinus ornus was called by Avicenna • lasān al asāfeer لسان العصامي. To the hedysarum alhagi, the tree from which the Terinjebine manna is obtained, the same writer gave the name of the غزلا، and still another sort it would appear is got from a plant called الغزول. † For an account of the Briançon manna, which exudes from the larch or sapin meleze of the French (pinus larix), the reader is referred to Deslongchamps’ “Manuel des Plantes Usuelles” (vol. ii. p. 521.): it is found in small concrete drops, which taste like honey dew: it is gently laxative, but is only used by the common people in the districts where the tree grows, which the author just mentioned says are chiefly alpine. Alibert in his “Elémens de Thérapeutique” (vol. i. p. 315.), in speaking of the different places where this medicine may be obtained, says: “on recherche aussi beaucoup celle de la pouille, près du mont Saint-Ange, malgré, sa couleur jaune, et son extrême humidité; celle de Sicile, plus sèche et plus blanche, vient en troisième ligne. On n’estime guère la tolpha ou manne pésante des environs de Rome.” Fourcroy supposes manna to consist of four different ingredients: 1. pure manna, which constitutes three-fourths of the whole; 2. a little common sugar; 3. a yellow nauseous smelling substance, to which it owes its purgative quality; and 4. mucilage. Brande tells us, in his Manual of Chemistry (vol. iii. p. 29.), that manna digested in nitric acid yields both oxalic and sacclastic acids.

It would appear by the Transactions of the Literary Society of Bombay, from a statement made by Captain E. Frederick, who had travelled into Persia,

* See Springel’s Historia rei Herbariae; also Avicenna, 260, 262.
† See Recueil de Questions, &c., par Mr. Michaelis, p. 62.
that Meerza Jiafer Tabeeb a Persian physician, had discovered another sort of manna (on a shrub called in Arabic, Athel), which is in a slight degree astringent. The same physician extols that from the alhagi tree as the best and most laxative.

CXVIII.

MARJORAM, SWEET. Mirzünjoosh مرنژیووش (Arab.) Márroo (Tam.) Mûrwa مرو (Duk.) Marjolaine (Fr.) Majoran (Ger.) Αμαραντόν (Gr.) ORIGANUM MAJORANA (Lin.)


Sweet marjoram is a native of Portugal and Palestine, but is cultivated in some parts of Lower India. The flower, from its agreeable odour, is a favourite of the Hindoos, and is considered by their doctors as possessing cephalic qualities; and we know that the species called by the Egyptian Arabs zutarhendie زاتار هندی (origanum অঞ্চলিক), Hasselquest mentions as possessing a most agreeable aromatic smell, and comforting the head. It is placed, I mean our article, by the Arabs of Arabia, amongst their Discutients مَحِيلَالات. There is a species of origanum to be met with in the upper provinces of Bengal, but which I have never seen, the origanum Bengalense; and I am informed that two other species are also cultivated there, viz. the maru and creticum, both of which are natives of Crete. Wild thyme (thymbus serpillum), or, as it is
often improperly called, wild marjoram, is common in Persia, and is termed in Persian یبی irpa, and in Arabic حاشا حاشا.

Sweet marjoram has been supposed by some to be the σαμψκυς of the ancients: it is known to possess tonic virtues, but is now chiefly used in Europe as a culinary herb: it was introduced into the botanical garden of Calcutta in 1814. The French* still frequently prescribe the leaves: "pour resoudre ce qu'ils appellent la pituité de l'estomach, et du poumon." It is an annual plant, having a long brown fibrous root, with downy, ovate, green leaves, and small white flowers. Laureiro found the plant in Cochin-China. (Flora Cochin, vol. ii. p.374.)

Murray, in his Apparat. Medic. (vol. ii. p.175.), in speaking of this plant, observes, "Tumores mammarum dolentes, scirrhosos, herba recens, viridis, per tempus applicata, feliciter dissipavit."

Mr. Moon, in his Catalogue of Ceylon Plants (p.44.), gives place to a plant he calls origanum majoranoides, which he says is of a woolly nature.

---

CIX.

MASTICH. Roomie mustiki ரூமி முஸ்திகி (Tam.) Saksı (Turk.) Roomie mustakie روپمي مضئي (Duk. and Hind.) Arâh (Arab.) also Auluk bagdadie علک بغدادی (Arab.) Kimneh (Pers.) Almacegu (Port.) Mastic (Fr.) Mastix (Ger.) Almaciga (Span.) Mastico (It.)

PISTACIA LENTISCUS (Lin.)

Cl. and Ord. Dioecia Pentandria. Nat. Ord. Amentaceae (Lin.).

This resinous substance is considered by the Hindoo doctors as corroborant and balsamic, and is generally ordered by them in conjunction with sala misrie (salep), which they reckon very nutritious. The Mahometan women of high rank use it as a masticatory to preserve their teeth, and sweeten their breath; about which they show just as much anxiety as the ladies of the seraglio at Constantinople.

Mastich is brought to India from the island of Scios*, by way of the Red Sea. Sonini† tells us, that in Egypt the smoke inhaled into the lungs is reckoned of a poisonous nature.

Mastich, which comes to us in yellowish transparent brittle tears, is nearly inodorous, except when heated, and then it has an agreeable odour; chewed, it is almost insipid, feeling at first gritty, and ultimately soft; it has been considered as diuretic and astringent, but its virtues are trifling‡; in the arts it is employed in the composition of varnishes for toilet boxes and violins; together with gum sandarach, gum elemi, lac, alcohol, and in conjunction with turpentine, the jewellers lay it under the diamond to add to its lustre. Virey, in his "Histoire Naturelle des Medicamens" (p. 293.), tells us, that from the kernels of the lentisk, or mastich tree, an oil may be obtained which is fit for table; the same intelligent writer informs us, that according to Desfontaines

* See Dr. W. Wittman’s Travels in Turkey, &c., p. 447., also Tavernier’s Persian Travels, also Pocock’s Travels.
† See his Travels, pp. 629, 680. Eng. Trans. The mastich of Scios is particularly mentioned by Pliny as being by far the best, he speaks of a white and black kind. See Nat. Hist. lib. xii. cap. xvii.
‡ See Thomson’s London Dispensatory.
and Duhamel, the *pist. Atlantica* and *pist. chia* yield resins which resemble mastic.

I have been somewhat surprised to see by Elmore’s “Directory to the Trade of the Indian and China Sea,” that he mentions mastic as a produce of Passier (Borneo). The tree is well known to be a native of Portugal, Italy, and Palestine; but is particularly abundant in Scios, where it is got by making incisions in the trunk and branches of the tree, which seldom rises higher than twelve feet, having leaves abruptly pinnate, of a lucid green colour on the upper part, and pale on the under side, with the male and female flowers on different plants. The pistacia lentiscus is growing in the botanical garden of Calcutta, introduced in 1806. The Arabians place mastich amongst their hepatics, tonics, and astringents. It would seem by Dierbach’s Mat. Med. of Hippocrates, chap. vii., that the pistacia lentiscus was known to the Greeks by the name of Σχίνος, that sort they called Πητυνη σχίνη was mastich when mixed up with certain ointments.

The species *oleosa* grows in Cochin-China, and is there called *cây-deau-truong*; the drupe abounds in a yellow edible oil. Vide Laureiro (Flora Cochin-China, vol. ii. p. 616.).

CXX.

**MELON, WATER.** *Pitchā pullum* (Tam.) Ṭurboozē ḏī (Duk. and Hind.) Dārbōjēe (Tel.) Mándēkee (Mal.) Pitchaghedie

* Avicenna treats of it under the name of madsthake, and speaks of its astringent and discutient quality; he moreover says: “Tussi et sanguinis rejectione prodest. Stomachum roborat et jecur.” Vide Canon. Med. lib. ii. tract ii. p. 189.

† Another Cyngaleso name for water melon is *komadu diya*. 
(Cyngr.) Chaya pula (Sans.) Hinduanah ٌ • (Pers.) Bateekh ziek* (Arab.) also Šá- reej (Arab.) Gourge laciniée (Fr.) also Melon d'eau (Fr.) also Shakara-koomatei (Tamil.) Fur- booza (Mah.) Cocomero (It.) Dubba farakis (Aleppo.) Cucurbita Citrullus (Lin.)


This species of gourd, though it has not much flavour, is extremely refreshing, and is in great request amongst the natives of India during the hot season. The water-melon has been so named from the great quantity of pale red juice it contains; the tytians prescribe it to quench thirst†, and as an antiseptic in typhus fever; and I have myself given it in such cases, when I could not get oranges, with the happiest effects. The plant is common in many eastern countries, and is a native of Apulia, Calabria and Sicily; it is the anguria Indica of Rumphius (Amb. v. p. 400.), and is common in most of the eastern islands. There are five species of cucurbita growing in the botanical garden of Calcutta. The lagenaria, pepo, melopepo, citrullus, and a bitter or wild sort, all indigenous in India, except the first. Our article has a round, striated, long, branched, hairy, procumbent, diffused stem, with lateral bifid

* In Abulfalid apud Cel., we find other Arabic names for water melon, such as kasa-alhemar and zeesh (see vol. i. p. 371.)

† It appears by Burchell's Travels into the interior of Southern Africa, that the Bushmen quench their thirst with the watery juice which they find contained in the root of a plant of the genus asclepias, which they know by the name of tky; the root is about the size of a large round, flat turnip.
tendrils; *yellow flowers*, and fruit large, smooth, round or oblong, and a foot and a half in length. Five species of *citrullus* are growing in the royal botanical garden of Ceylon.

The *musk melon* (*cucumis melo*) is an excellent fruit in India, and much sought after by the European inhabitants, though it is supposed to disagree with delicate stomachs, occasionally also inducing cholera, simply so called; this effect of the fruit is best obviated by means of a little pounded black pepper. It is an annual of the Cl. and Ord. Monœcia Monodelphia, and Nat. Ord. Cucurbitaceæ; it has been said that it was a native of Calmuc Tartary, an opinion adopted by Willdenow; in India it is cultivated by seeds brought from Persia†, where it is much prized, and is called *khurbooxeh* خربروخ. The Arabians term it *bateekh* بطيخ. The Dukhanie and Hindoostanie name is also *khurboozah*; *bacacoy*, also *smangha* (Malay); *molam* pullum (Tamil); *popone* (It.)

The French are still in the habit of employing the seeds of the melon, as well as those of different gourds, in their treatment of inflammatory fevers, and in consequence have bestowed upon them the name of “*semences* ν. *froides.*” The Arabians, strange to say, have placed the dried musk melon seeds amongst their *Mafattatât* مفتنتات (Lithonstriptica). Nine species of *cucumis* are growing in the botanical garden of Calcutta, all natives of India except the *melo*. Four species of *cucumis* are at present in the royal botanical garden of Ceylon. The Cyngalese for the common melon is *rata komadoo*. It is the *ضبیر* of the Egyptian Arabs (Forsk. Egyp. Arab. p. 168.).

---

* See Mr. Moon's Catalogue of Ceylon Plants, p. 66.  
† See Tavernier's Travels in Persia, book iv. chap. ii.  
‡ See Alibert's Elémens de Thérapeutique, vol.i. p. 663.
MILK, COW’S. Páshúin paal (Tam.) Aoopalo (Tel.) Dood (Hindooie) Ghayka dood (Duk.) Ellakerrie (Cynge.) Gokshíra गोक्षिर (Sans.) Gaee-cha-dood (Mah.) Soosoo (Mal.) Lait (Fr.) Latte (It.)

Lac Vaccinum.

Much has been said of the different kinds of milk in many of the Sanscrit and Tamool Medical Sas-trums, but by none is the subject so fully treated of as by Aghastier in his celebrated work, entitled Vytiia Amjouroo. It would occupy too much room, were I to enter at large into all his fanciful notions; suffice it here to observe, that he considers cow’s milk as proper food for the young, and, as is indicated in many cases, for the more advanced, who require light nourishment. He conceives it to be the most aperient of all milk, and, what is fanciful enough, that it tends to clear the intellect. The milk of a white cow, he says, is of use in hypochondriacal cases; that of a red one, for such as suffer from biliary derangements; that of a black one, particularly if it has also a dark-coloured udder, he thinks beneficial for those who are troubled with phlegm; and last of all, that a cow which is of the colour of gold, yields milk that can cure all manner of disorders! In fact, he can scarcely find words to praise sufficiently the milk of this favourite and revered animal. Much then, he proceeds to say, will depend upon the time when the milk is taken: if drank in the morning it alleviates the pains of rheu-
matism; at noon it gives appetite, but if taken at bed-time it is good for every ailment of the body.

The general names for milk of all kinds in Sanskrit are *khśhira* स्खीर, *payas* पयस, *dugdha* दुग्ध; the Arabians term it *lebnn* لبان; the Persians *sheer* شیر. Sour or curdled milk is in Sanscrit *dadhi* दधि, and in Hindoostane *dahi*; it is given with a little black pepper in ozena (*pīnas*), also in gonorrhoea (*pramek*).

Cow’s milk, as a diet for the sick in India, European practitioners differ about; it certainly, in its pure state, lies heavy at the stomach of many full-grown people; others it renders drowsy. Whey is a most delightful and safe drink, and is peculiarly relished in the hot weather in India; so is *butter milk* (lactebutyratum), which is much drank, being at once cooling, pleasant, and gently aperient; I am inclined to think, besides, that it has the peculiar quality of allaying that irritability of the stomach, sometimes occasioned by tea. In Tamool it is *moroo*. *Chaatch* चाच (Duk.) *Doogh* دوغ (Arab.) *Tsalla* (Tel.) *Takra* तक्रा also *Dandāhata* दण्डाहत (Sans.) *Mutha* (Hind.) *Butter* in India is, generally speaking, most excellent, and is made every morning by agitating† fresh milk. What is called *tyre* by the English in India is an excellent preparation of milk, being cooling, pleasant to the taste, and, from its slight acidity, gently opening; it is made by adding to warm fresh milk a little butter milk, and the whole allowed to stand all night; it is usually eaten with

Or from agitating for some time the top or richest part of tyre, or sometimes the whole of it is used.

† The oldest mention of butter is supposed to be in the account given of the Scythians by Herodotus (iv. 2. p. 281.), prepared by agitating mare’s milk.
rice. *Ghee* is butter that has been clarified by boiling, and afterwards having a little tyre, salt, or betel leaf added to it, by which means it may be kept for a long time when properly bottled; it is constantly employed in making curries and other rich Indian dishes. Before speaking of goat's milk, I shall just observe, that Dr. Sutton, of Greenwich, has lately given his opinions to the world on the subject of milk; he seems to think, however much he may differ from others, that milk may be taken as a safe and useful drink in fevers; and we know that Dr. Heberden has these words: "Lac et ova, nescio qua de causa a nonnullis interdiciuntur in omni febre." In such cases, in India, I certainly should recommend its being abstained from.* Virey† says, that milk, as a diet, is suited best to dry temperaments; to the languid and pale it is injurious.

CXXII.

**MILK, GOAT'S.** *Aattoo paal* அஷ்டோ பால் (Tam.) *Māy kā pāloo* (Tel.) *Chayūē-ka-dood* جهلي كا دود (Duk.) *Aja-kśhīra* अजस्वीर (Sans.) *Jlookeerie* (Cyg.) also *Vellatoo paal* (Tam.)

**LAC CAPRINUM.**

The native practitioners consider goat's milk as a powerful restorative, and order it in consumptive complaints. In the *Padaurtasindaumanie*, a Tamool treatise on the qualities of food, we are told that

* The produce of various trees in India has been used as a substitute for butter; such as the expressed oil got from the seeds of the *bassia longifolia*, and the butter of the *choorie* tree of the *Coomaoon* Mountains, bordering on Thibet.

goat’s milk ought to be administered in such cases as are accompanied with a deficiency of bile, and in certain bowel complaints; it is moreover stated, that it affords a very wholesome nourishment to the body in weakly habits, and is particularly useful when the bowels are inclined to be over-loose, and the appetite delicate; it resembles very much cow’s milk, except in its greater consistence*, and is by many preferred to it for tea; it throws up abundance of cream, which can be converted into butter.

The milk of the ewe, which is supposed to resemble cow’s milk more than any other, is a favourite remedy of the Arabs and Persians; the first call it *leban xan* لي بی ضار and place it amongst their cephalics; and the last term it *sheerimēsh* نمرش, and give a place to it amongst their aphrodisiacs. We are told by Dr. Hooper, in his valuable Medical Dictionary, that by experiments made on ewes’ milk, it has been found that its cream is more abundant than that of the cow, and yields a butter not so consistent as cow’s milk butter; its excellent cheese is well known. The Hindoos, it would appear, by what I find in the “Vytia Anyouroro” of Aghastier, have a notion that the milk of a red ewe increases too much both the bile and the phlegm, and brings on diarrhoea and difficulty of breathing!!

**CXXIII.**

MILK, ASSES’. Kālādy paal களட்‌பால் (Tam.) Gadilay paaloo (Tel.) Gadi-kā-dood

* It is a singular thing enough, but the milk of goats is but little affected with the food these animals eat; they often feed on the branches even of the acrid milk hedge (euphorbia tirucalli), without the milk either suffering in taste or quality.
Asses’ milk, which has a very strong resemblance to human milk in colour and consistence, is recommended by the native practitioners in maniacal cases; they also suppose it to possess virtues in leprous affections, particularly in what the Tamools call coostum (lepra arabum); in the carin kirandie (or black car-pang or milk-rash of children), they order a certain quantity of it to be taken two or three times in the day. Asses’ milk* differs from cow’s milk in its cream, being less abundant and more insipid, in its containing less curd, but a greater proportion of sugar; its virtue as affording a light nutriment to the delicate is well known. Avicenna prescribed it in hectic fever. (Vide Canon. Med., lib. ii. tract ii. p. 185.)

I cannot learn that mare’s milk † is ever used by the Hindoos: the modern Arabians consider it labanul-khel "لبن الخيل" as narcotic, placing it amongst their Mokéderrât. It contains a great quantity of the sugar of milk, and is on that account more fitted than others for vinous fermentation; hence the liquor prepared with it, which the Tartars call kou-miss, which somewhat resembles that made from the

* The ass is found in a wild state in the desert country, which separates Cattiwar from Cutch, where it is called khur or gurkhur; the body is generally of an ashy colour, the head unusually long, and the limbs strong, resembling the asses found in Tartary; they are extremely fierce, and must be taken in pits.

† The German physicians prescribe mare’s milk in worm cases (τηνία). See Dr. Good’s Study of Medicine, vol. i. p. 325.
same milk, and termed by the Turks *yaourt.* Of camel's milk, I find mention is made by Avicenna: "recens foetarum camelarum lac cum ricinino oleo internas durities curat." (Vide Canon. Med., lib. ii. tract ii.)

The different kinds of milk hitherto examined chemically, are mare's, woman's, asses', goat's, sheep's, and cow's, and I have now mentioned them according to the quantity of sugar they contain. Parmentier could not make any butter from the cream of woman's milk, asses' milk, or mare's milk; and that from sheep he found always soft; it appears, however, from Virey's statement†, that from two pounds of woman's milk he obtained six drachms of butter, but from asses' and mare's he could procure none. The first mentioned gentleman divided milks into two classes; one abounding in serous and saline parts, which includes asses', mare's, and woman's; the other in rich or caseous and butyraseous parts, which includes cow's, goat's, and sheep's.

The milk of the *buffalo* (bos bubulus), is very abundant, but much thinner than that of the cow, and not so agreeable to the taste; from its plenty and cheapness it is a great source of comfort to the natives of the lower orders. By the *Vytia Anyouroo* of Aghastier, it appears, that the Hindoo doctors consider buffalo milk as predisposing to catarrh, and that it tends to cloud the intellect. In Sanscrit, the buffalo is *mahisha महिष or mahishi महिषी*. Béynce भिन्स (Hind.) *Jāmoos* جاموس (Pers.) *Yéroom* (Tam.) *Yénnamoo* (Tel.) In Behar the native

* I have since learnt that mare's milk, is considered by the Hindoos of Upper India, as a useful medicine when applied to venereal sores; its Sanscrit name is *Hāyakshīri*.

† See his Histoire Naturelle des Médicaments, p. 112.
doctors prescribe it in cases of emaciation. *Gatrak-sin* (Sans.)

Thenard, who has, I believe, examined milk in general with great chemical accuracy, informs us, that the component parts of cow’s milk are: 1 water, 2 acetus acid, 3 caseous, 4 butyraseous, 5 saccharine, 6 attractive matter, 7, 8 muriates of soda and potash, 9 sulphate of potash, 10, 11 sulphates of lime and magnesia.*

While on the subject of milk it may not be amiss to mention, that Baron Humboldt found a tree near *Barbula* (and which grows abundantly amongst the mountains above *Perquito*, situated on the N.E. of *Maraccay*, a village to the west of *Caracas*), which yields, on wounding its branches, a quantity of glutinous milk, destitute of all acrimony, and of a balmy and agreeable smell; the distinguished traveller drank a good deal of it without the least bad effect. This is a singular substance, when we consider that almost all the lacteal plants are poisonous. For an account of the tree, the reader is referred to an interesting work, entitled “*Columbia*,” (from p. 563 to 578.) This vegetable milk, analysed by Vauquelin, was found to consist of 1 wax, 2 fibrine, 3 sugar, 4 magnesian salt, and 5 water. The presence of fibrine in a vegetable production is a surprising fact, as it is very rarely met with, except in the secretions of animals. The tree is in Spanish called

* What is called sugar of milk, is obtained from milk by evaporation and crystallization; the invention is said to be Italian, and was first mentioned by Bartoletti in 1645. Ludovice Testi, who died at Venice in 1707, contributed much to make it known. This salt is now chiefly made in Switzerland and in Lorraine. It is prepared from new milk by boiling it with eggs, and when an imperfect separation of the milk is effected, straining it, then boiling it, and suffering it to crystallize. See Beckmann’s History of Inventions, vol. iv. p. 603.
palo de vacca. Vauquelin, however, also discovered fibrine in the juice of the papaw tree (carica papaya, Lin.). See article Paāl, in Part ii. vol. ii. of this work.

CXXIV.

MILLET, ITALIAN. Ténnéy தேண்டை (Tam.) Rawla Ṭāl (Duk.) Cunganie (Beng.) Chráloo (Tel.) Kora (Hind.) Cay Khe (Coch. Chin.) Navonay (Can.) Navaria (Mal.) Dukhn دخه (Arab.) Kassob (African). Arzun أرزن (Pers.) Téenna (Hort. Malab.) Tana-hal (Cyang.) Priyangū प्रीयांगु (Sansk.) also Kangu कंगू (Sansk.) Beertia (Hind.) Bahjeree (Guz.) Chenna (Mah.) Miglio.

Panicum† Italicum (Lin.)


I have given this small round grain a place here from certain knowledge of its excellence; it is much prized by the native Indians of all descriptions, who make cakes of it and also a kind of porridge; for the purposes of pastry it is little if it at all inferior to wheat, and, when boiled with milk, it forms a light and pleasant meal for invalids. The Brahmins hold it in high estimation, indeed, more than any other grain. The culm is annual and seldom rises higher than a foot and half. Three varieties of it are cultivated in Mysore; bili on watered land, kempa in palm gardens, and mobu in dry fields; in more West-

* The seeds of the bassia butyracea (Roxb.), on being boiled, yield a rich oily substance, which the natives of the Circar Mountains use as ghee, or butter.
† No fewer than 30 species of panicum are growing in the royal botanical garden of Ceylon.
ern tracts other varieties, ghedu, jotu, and dodu are cultivated. Barrow, in his Travels in China (p. 88.), tells us, that it is common in that country. It grows in abundance in the Southern parts of Europe, particularly in Portugal, where it is called milho painco.

CXXV.

MUDAR ROOT. See article Yercum vayr in this Part (Part I.) of the work.

CXXVI.

MULLET. Máddávēy-meen (Tam.) Bonta (Tel.) Pūrhen (Hind.) Māhēe úrūbie (Duk.) Mālāi (Malealie.) Mullet (Fr.) Triglīa (It.) Čnagā (Arab.) Čnagā (Pers.)

MUGIL CEPHALUS.

This is a most excellent fish in India, but is, perhaps, a little too fat and rich for those who are delicate; it is much prized by the natives, and is very abundant in the Indian seas. It is usually from eight to twelve inches long, or more, and has, of course, the distinguishing characters of its genus, which are, a lower jaw, carinate within; scales striated; two fins on the back. It is used both in its fresh and salted state. There are seven species belonging to this genus; ours is the most common, and is what was so much prized by the ancients. The spawn of this fish, salted and dried, forms a kind of caviar, called by the Italians botorāgo. As food,
generally speaking, the *Vyi\text{tians*} consider fish* as less heating than butcher meat; less likely to excite an inordinate flow of bile; more easily digested, and to be particularly indicated in cases of diabetes. When taken in too great a quantity, however, or when too long kept, it is apt to bring on leprosy, especially if a milk diet is at the same time indulged in.

CXXVII.

\textbf{MUSK.} Castoori (Tam. Tel. Sans.) \textit{Jebat} (Mal.) Dedes (Jav.) Mishk (Duk. and Pers.) Kustowrie (Hindooie.) Mishk (Arab.) Rutta ooroola (Cyg.) Muskus (Dut.) Almiscar (Port.) Desmer (Dan.) Musc (Fr.) Bisam (Gér.) Muschio (It.) كستوري (Mal.) Moschus Moschiferus.

The native practitioners of India, like us, consider musk as stimulant and antispasmodic; and prescribe it in general spasmodic affections, and in lock-jaw. The Tamool doctors especially, suppose it to be useful in what they call \textit{manda jennie} (convulsions of children), which they conceive to proceed from indigested milk, as the name implies. They also administer it in dyspepsia and \textit{kistnah dōshum} (typhus), and, when combined with opium, in dysenteric complaints.

The odour of musk is powerful and altogether peculiar; we cannot well call it aromatic, yet it

* The natives of India make great use of salt fish, which is carried into the interior parts of the country, and must assist in counteracting any bad effects that might arise from their constant use of vegetable diet.
would be difficult to say by what other word it could better be described; it is of a deep-brown colour, and has a bitterish and heavy taste. This substance is a secretion, found in a small bag situated betwixt the navel and prepuce of the male of an animal of the deer kind, resembling a good deal what is called the hog-deer of Bengal. The animal, which is in zoology moschus moschiferus, is common in Kuchar and Lower Thibet*, where it is called kustura, also La, and the vascular covering of the musk latcha. Colonel Kirkpatrick tells us, that the musk-deer is also a native of the Turyanie, in Nepaul; and it would seem that it has been occasionally met with in Cochin-China, in Tonquin, and in the Birmah dominions.

The herdsmen of Thibet often adulterate musk. When we see it of a rather light-brown colour, and granulated, it may be considered as impure; if dark, homogeneous and divided in many parts by a thin cuticle, it is of a good quality. Pure musk, Dr. Thomson informs us in his London Dispensatory, inflames without running, and is converted into charcoal. Aetius is the first author who mentions it as a medicine. In England it was little used before the beginning of the sixteenth century.

European practitioners prescribe musk in gout, tetanus, epilepsy, cholera, hooping-cough, hydrophobia, and typhus fever. The dose is from gr. x. to grs. xxx.; that of the mist. moschat. from ʒi. to ʒiiss. every third or fourth hour. Musk is adulterated in two ways, either by dried blood or asphaltum. (See Paris Pharmacologia.)

Dr. Duncan, junior, in his Edinburgh Dispens-

* See Turner's Embassy to the Court of the Teshoo Lama, pp. 201, 202.
tory, extols highly the powers of musk as an antispasmodic, which often succeeds, he says, when other things fail, and raises the pulse without heating.

The Arabians place musk amongst their Makwuyat démagh (Cephalics); for the opinions of the Persian physicians respecting it, the reader may consult a valuable work, entitled Maadeni Shéfa معدنی شفا, or "The Mine of Remedies”, by a medical practitioner of Bokharia, called Aby Ben Hussen, and written in 1868.

A factitious musk may be made by digesting together rectified oil of amber, one part, with nitric acid, four parts, to be afterwards well washed in water; the smell is similar to that of musk or ambergris, and may be substituted for them as medicine. (See Gray’s Supplement to the Pharmacopoeia, p. 280.)

CXXVIII.

MUSTARD. Kádårhoo కడాగూ (Tam.) Räig ریگ (Duk.) Sásávie (Mal.) Gan-aba (Cyg.) Rájiká राजिका (Sans.) Riey (Hindooie.) Avaloo (Tel.) Khirdal خریدل (Arab.) Rái (Hind.) Mos- tarda (Port.) Moutarde (Fr.) Senfsamen (Ger.) Grano de mostaza (Sp.) Sirshuff سنید (Pers.) Rie (Mah.) Senapa (It.) Kíai-tsai (Chin.)

SINAPIS CHINENSIS (Lin.)


The pungent, bitterish, acrid, and biting seeds of the sinapis chinensis, are considered by the Hindoo

and Mahometan practitioners as stimulant and stomachic, and laxative; they also, when bruised into powder, use them externally in rheumatic and paralytic affections, mixed occasionally with a little warm vinegar.

Several species of sinapis are cultivated in Bengal, on account of the very useful edible oil procured from the seeds. The most common are the sinapis dichotoma (Roxb. MSS.); the Hindoostanie name of which is *serson*, and Sanscrit *sarshapa*. The sinapis ramosa (Roxb. MSS.); the Hindoostanie name of which is *rāj*, and Sanscrit *rajica*, names also given to our article; and another species, called in Hindoostanie *tori*, and in Sanscrit *tuverica*. The excellent Dr. Carey, in the 10th volume of Asiatic Researches, speaks of a species, sinapis glauca (*sheta sirsha*, Hind.). With respect to their medicinal qualities, Dr. Fleming, in his Catalogue of Indian Medicinal Plants (p. 36.), says, that the seeds of all these correspond exactly with those of the sinapis nigra (Willd.). Fifteen species of sinapis are growing in the botanical garden of Calcutta, all of them oriental plants, except the sinapis nigra (the *Narū* of the Greeks), which was brought from England by Colonel Garstín. But two species of sinapis appear to be growing in the royal botanical garden of Ceylon†, our article, and the sinapis *alba*, which the Cyngalese call *rata-aba*.

European practitioners recommend an infusion of the bruised seed in paralysis; also externally, an embrocation made with the farina of the pounded seeds, in vinegar. A valuable mustard seed cataplasm, is prepared with equal parts of the pulverised seeds and

* See Asiatic Researches for 1808, vol. x. p. 15.
† See Mr. Moon’s Catalogue of Ceylon Plants, p. 47.
crumb of bread; it is applied to the soles of the feet, in the sinking stages of fever and other diseases. A table-spoonful of the unbruised seed, given night and morning, promotes the secretion of urine in dropsies, and is at once stomachic*, aperient, and diuretic; a pound of the whey may be drank for the same purposes twice daily; this is made by boiling two or three table-spoonfuls of the bruised seeds in a pint of milk, and afterwards separating the curd.

The ancients, according to Pliny†, thought highly of mustard as a medicine, and cultivated three different kinds of it; in speaking of it, he says, "Ad serpentium ictus et scorpionum tritum cum aceto illinetur. Fungorum venena discutit; contra pituitam tenetur in ore, donec liquecat, aut gargarizatur cum aqua mulsa; stomachico utilissimum contra omnia vitia, pulmonibusque." The Greeks knew it but by two names, Ναπν and Σινης. Rhazes‡, the Arabian writer, says of it "Sinapi calidum est, quod in palato positum phlegma incidunt vermes praeterea expellit, atque apostemata maturat."

CXXIX.

MUTTON. *Aatoo irichie (Tam.) Vaynta koora (Tel.) Dagin doomba (Mal.)

* I am inclined to think, that mustard taken internally, possesses greater virtues than have yet been fully ascertained; I have known it of the greatest use in paralytic affections and general debility; and it would appear by the observations of Callisen, that the white mustard seed had been found by him to be a most powerful remedy in the low state of typhus fever, when musk, camphor, and other remedies had failed. See Roque's Phytographie Medicale, vol. ii. p. 191.
† Vide C. Plinii, Nat. Hist. tom. ii. lib. xx. cap. 22.
‡ Vide Rhaz. Oper. de re Med. lib. iii. p. 87.
Bukryka gosht (Duk.) Aja mamasa (Sans.) also in Duk. Pūlla ka gosht پوٹلا کا گوشت Goshti mēsh غوشت مبش (Pers.) Bukry-che-mas غوشت مبش (Mah.) Castrato (It.) Mouton (Fr.)

CARO OVILLA.

Mutton in India, when the sheep has been well fed, which is now generally the case at all large stations, is excellent; in Bengal the Europeans are very particular in this respect, and are at much more pains to have mutton of a superior quality than they are on the coasts of Coromandel or Malabar.

There are various kinds of sheep (ovis aries) in India, differing considerably in size, shape, &c.; but the great distinction is, that there are some that bear a kind of coarse wool, while others are covered with hair. This is a good deal owing to the climate, as it may be hot or cool; in the Carnatic, where the heat is great, they have naturally hair, are long legged, and do not so readily get fat as those of the Bengal provinces, Mysore, and Coimbatore, which resemble more the sheep of Europe, bearing wool, but of a very coarse kind, of which an inferior sort of blanket is made, for which purpose the shaggy hair is also occasionally employed. In the Bhote country, which is a vast mountainous tract, bounded by the Indus on the East, on the West by the Burhampooter, and on the North by the Hemalāya Mountains; the sheep is a large*, strong, and stately animal, not unlike the

* Forming a great contrast with the purīk sheep of Ladakh, as well described by Mr. Moorcroft: These, he says, when full grown, are not larger than South Down lambs of five or six months old, but are remarkable for the fineness of the fleece, and flavour of the mutton. See Transactions of the Royal Asiatic Society of Great Britain and Ireland, vol. i. Part I. p. 49.
Leicestershire breed; the wool of it towards the South is coarse, but farther North is finer, and the mutton very good. The sheep is the only beast of burthen that travellers have in those snowy countries, and carries about fifteen seers. The wool in the coldest regions is said to be little inferior in fineness to the fleece of the shawl goat, and is made into woollen cloth by the women. In an interesting paper in the Asiatic Journal for March, 1823, by Mr. Kendal, it will be seen, that he considers the animal which Mr. Frazer found in the Hemalāya Mountains, there called burrel, and which is termed baral by Mr. Moorcroft, is no other than the sheep in its wild state, and not, as some have supposed, the link betwixt the deer and sheep; it is remarkable for its enormous branching horns. It is found also in Kamtschatchka, Siberia, and Tartary, and in North America; nay, Pennant says it was formerly in Great Britain: it is the musmon of the Greeks, the mouflon of Buffon, the caleatoo of the Tamooleans, and Mr. Colebrooke suggests, that it is no other than the ovis ammon of North America. The Algonkin nations of India call it miatic or ugly deer. In winter the hair is long and shaggy, including a highly-respectable beard! In summer the hair falls off, and the under coat becomes a grey wool; the legs are slender and long; the agility of the motions of this animal, much resemble those of the deër kind. Mr. Kendal, however, concludes his account by saying, that the burrel is, notwithstanding, a sheep, and the only sheep or original type which nature has planted on the globe.

In Nepaul the mutton is, by all accounts, of a superior quality, and one breed of sheep there, the smallest, and called kahgia, is covered with an excel-
lent wool. The sheep of Thibet are very large, and
are used by the inhabitants of Bootan as beasts of
burthen; both their mutton and wool are much
better than those of more southern latitudes.

The Cape of Good Hope sheep are distinguished
by their long, thick tails*, which are fat, and much
used by the natives in preparing their greasy, and to
European stomachs, unpalatable food; the wool is
course, and the mutton not delicate.

As a diet for the sick, I conceive mutton to be
every way inferior to beef, kid, or lamb; it is said to
be, and I believe it is so, the most easily digested of
all kinds of butcher meat by men in health, but
when fat it has a certain heaviness of taste, or per-
haps it might be better expressed by a strongness of
flavour, which by no means recommends it to an in-
valid.

In speaking of the sheep of Malabar, Dr. Bucha-
nan (now Hamilton) informs us, that there are two
kinds, the curumbar and shaymbiar. The first are
short bodied, tail short, for the most part white, with
a black head; above the Ghafts often black, wool
thick and curly, with little hair interwoven. The
second, the shaymbiar, are more slender, wool very
scanty, their principal covering being hair; in the
low country they are commonly of a reddish brown,
but in Mysore they are usually black. In the Car-
natic, the Tamools call the wool-bearing sheep koo-
rumbadoo, and the other shèmbili or semmalie autoo.

* A sheep of nearly the same kind is common in some of the
Persian provinces, and the tail considered as an emollient. The
Arabians call the tail ulyeah ُلَيْهَا the Persians dumdumbeh دُمَدَمَبَهُ in Hindoostanie it is dumkey key poonteh. The same variety is
common also in Cabul, and there called, by Mr. Elphinstone’s
account, doomba; he tells us, their tails are a foot broad and com-
posed almost entirely of fat. See his Account of Cabul, p. 143.
In Aghastier's Medical Sastrum of *Vytia Anyouroo*, he speaks rather unfavourably of the mutton of the first, as having a tendency to promote too much the secretion of bile!!

The enlightened and excellent Dr. F. Hamilton, above mentioned, in his Account of the District of *Puraniya*, notices a breed of sheep in that part of India, and there called *garar*, which are distinguished by their long tails, and which, he says, resemble more the sheep of Europe than any he had seen in India; he also notices two other breeds of sheep common there, and that the wool of both is made into blankets; one of these is termed *bheré*, the other *bhera*. I take this opportunity of gratefully acknowledging the obligations I am under to that gentleman for much valuable information; and for the indulgence he has so liberally and politely granted me of perusing his, I must say, inestimable manuscripts, deposited in the library of the East India Company, at the India House.

CXXX.

**MYROBALAN, BELLERIC.** Tānikūī तैनिकी (Tam.) Büllā बुल्ला (Duk.) Béhýra (Hind.) Béléylūj بليلج (Arab.) Béleyleh بليله (Pers.) Boolloo (Cyg.) Bahira (Sans.)

**Terminalia Bellirica** (Roxb.)

Cl. and Ord. Polygamia Monocæia. Nat. Ord. Elæagni (Juss.)

The fruit of the belleric myrobalan, in its dried state, is little larger than a gall nut, but not so regul-
lar in shape, of a dirty brown colour, and astringent taste, and is sometimes used by the natives in cases requiring medicines of this nature. In the Mogul dominions, as we learn by the Ulfaz Udwiye, this myrobalan is considered as astringent, attenuant, and tonic; the dose, one to three direms. The large tree, which produces it, is common in Mysore, where it is called tari, and hence the name that was bestowed on it by Dr. Buchanan (now Hamilton), myrobolanus taria; it is the tani of Rheed's Hort. Malab., and shall be further noticed hereafter.

For an account of the use of this myrobalan in the arts, the reader is referred to another part of this work; its astringency has been ascertained to be pretty nearly equal to that of the emblic myrobalan. Four species of terminalia are growing in Ceylon.

CXXXI.

MYROBALAN CHEBULIC. Kádúkāi तृतीय चे (Tam.) Cárákāia (Tel.) Hulďah هولدة (Duk.) Har also Hara (Hind.) Aráloo (Cynq.) Haritaka हारितक (Sans.) Hélélithe kābulî هلبلي (Arab.) Helitch kélān هلبد كلابن (Pers.) Umbe-d-her (Hindooe).

Terminalia Chebula (Willd.)

The fruit of this species of terminalia is infinitely more astringent than that of the preceding, and is, on that account, much more used by the Hindoos in their arts and manufactures*; nay, it would appear

* See Asiatic Researches, vol. iv. p. 41. See also some account of the gall which grows on the terminalia chebula, in Part III. of this work.
by some experiments made by Dr. Roxburgh*, that it is even more astringent than the Aleppo galls. In its dried state, in which we find it in the bazars, it is about the size of a large Spanish olive, of an oblong ovate shape, yellow brown colour, and is marked with five edges and five furrows alternately.

Kádúkái, well rubbed with an equal proportion of cúttácámboo (see article Catechu), is considered by the native practitioners as an excellent application in the aphthous complaints of children and adults; the last of which is a frequent and most dangerous affection amongst the Hindoos. The tree which yields this myrobalan is common in the Mysore country, where it is called arilay, and hence the name Dr. Buchanan bestowed upon it, myrabolanus arula; it is the terminalia chebula (Willd.), and to which he has given the trivial name of zweidrusiger catappenbaum. D’Herbelot, in his Bibliothèque Orientale, expresses an opinion, that the Arabic name of the chebulic myrobalan is taken from the word cabul; the article having been first brought to Arabia from the country so named. It was on this species of myrobalan, or rather terminalia, that Dr. Roxburgh† found the larva of the coccus or kermes, about three-eighths of an inch long and a quarter broad; and which, he thinks, could they be procured in any quantity, might prove as valuable a dye‡ as the red dye of the cochineal insect.

What is called zengi har (Hindooe) in the Bengal

* See Oriental Repertory, vol. i. p. 23.
‡ It was called by the ancients coccus scarlatinum, they preferred that of Galatia and Armenia; at present it is gathered in Languedoc, and is found on the quercus coccifera (Lin.). The insect is used for dyeing, chiefly wool, when bruised it has a pleasant smell; the taste is a little bitter, rough and pungent.
provinces, singhi (Tam.), and kurkadaga (Sans.), is the Indian or black myrobalan of old writers, and is, in fact, the unripe dried fruit of the terminalia chebula. The native doctors recommend it as a brisk purge. It is about the size of a pistachio-nut, and of a deep black colour, oblong, pointed, slender, and has scarcely the rudiments of the nut. The Arbians call it ahleeluj-asood، اهلیلج اسود، and the Persians heeleleh seeah； هیلهله سهاء； they give it in decoction as a cathartic, in doses from 1 to 2 direms, with the addition of a little honey. The terminalia chebula seldom rises higher than eighteen or twenty feet, with naked, ovate, mostly opposite leaves, petioles biglandular above, racemes simple; all the flowers are hermaphrodite.

What is called the citrine† myrobalan (terminalia citrina) is ranked amongst the fruits; it is about the size of a French plum, and is often made into pickle; its Sanscrit name is liba, its Hindoostanie harva, and its Canarese alay-gara. (Further particulars in Part IV. of this work.)

CXXXII.

MYROBALAN EMBLIC. Nellie kai خندرک (Tam.) Woosherikia (Tel.) Aoonla انوئل (Duk.) Anola انولا (Hind.) Amlej املج (Hindoie.) Hac-min-san (Coch. Chin.) Amlekh املخ (Pers.) Amalaka अमलक (Sans.) also Aun-

* This myrobalan was supposed by Rhazes to have virtues in cases of melancholia. Vide Oper. Rhaz. de Remedies, lib. i. p.437.
† This myrobalan the same writer believed to have virtues in cases of cholera; again, he says of it, “ bilem rubeam, et humores educat.” Vide idem, p. 207.
werd (Hind.) also Aongra (Hind.) Awusadannelli (Cyn.) Cay-boung-Ngot (Cochin-Chin.)

**Phyllanthus Emblica (Lin.)**


The emblic myrobalan is the produce of the *myrobalanus emblica* of Rumphius, and is reckoned amongst the Indian fruits; it is frequently made into pickle. When fresh it resembles much the *chillimellie* (fruit of the *cicca disticha*, Lin.); it is acid, astringent, has a dark stone inside, and is one of those articles which were formerly known in Europe under the general name of myrobalans, but which have all been long discarded from our dispensaries. Dr. Fleeming tells us, that the present article is in general use amongst the Hindoo physicians as an *eccoprotic*, and enters as an essential ingredient into the preparation of the *bilaband*, to be afterwards noticed in Part II. of this work.

This myrobalan, in its dried state, is called in Tamool *nellie moolie*; it is then about the size of a small marble, of a dirty, dark-brown colour, and irregular surface, possessing a considerable degree of astringency. Avicenna* speaks of it under the name of *ملعيل* (*L.), and tells us, that the Arabs sometimes call the fruit *سكي* (Suk.). The tree which yields it is the *Boa malacca* of the Malays† and Javanese, and the *nelli camaram* of the Hortus Malab. i. p. 69. t. 38.

All these three myrobalans are to be met with in

* See Avicenna, p. 128.; also Sprengel's Historia Rei Herbariae, p. 267.
most parts of Lower India. In Bengal they grow in abundance; in Java, we are told by Bontius, that the Dutch are in the habit of employing the emblic and beleric sorts daily in their hospitals, in dysenteric and bilious affections. The ancients, we are informed, often prepared a plaister with powder of myrobalans, elaterium, litharge and turpentine, which they supposed had great virtues as a vulnerary. For a curious and interesting account of the different kinds of myrobalans, the reader is referred to a Persian treatise on medicine, entitled, Mekzen-ul-adviyeh, by Muhammed Hosen Shirazi.

The phyllanthus emblica does not rise higher than fifteen or sixteen feet, the leaves are pinnate, florigerous, and have very narrow leaflets; it is also a native of China and Cochin-China, in the first mentioned country, Loureiro* says, the berry is juiceless. Ten species of phyllanthus grow in the royal botanical garden of Ceylon.

CXXXIII.

MINT. Widdatiflam ღوّداتیلام (Tam.) Poodina پوودینا (Pers. and Duk.) Nana نان (Arab.) also Hibbuk حبیب (Arab.) Baume verte (Fr.) Frauenmurze (Ger.) Menta romana (It.)

MENTHA SATIVA (Var.)


This mint is occasionally prescribed by the Mahometan practitioners in dyspeptic complaints, and to stop vomiting. The Arabians and Persians place it amongst their Mulittifat (Attuentia). In Bengal it is chiefly used for culinary purposes. Dr. Fleming observes, that it is a different plant from the spear mint (menstra viridis), and Dr. Roxburgh thinks, that it comes nearest to the mentha sativa; but as the first of these gentlemen justly observes, it is of no consequence, as the podina possesses fully the aromatic flavour, as well as the stomachic, anti-spasmodic and emmenagogue virtues, which seem common to most of the species of the genus. Six species of mentha are growing in the botanical garden of Calcutta; five species grow in Ceylon. Alibert* takes no notice of the mentha sativa, or m. viridis, but extols the mentha crispa (rau-hung Cochin-Chin.) in cases of flatulence, hysteria, and spasmodic colic. Mint, the Myna of the Greeks, is often alluded to by the ancients: Theophrastus speaks highly of it; Pliny dwells chiefly on its delightful odour†, and of its quality of preventing milk from soon turning sour. The ment. peperita grows in Japan, and is there called faka.

CXXXIV.

MYRRH. Válátipólum முர்ச்சைவலாதுரையைப்புதோம் (Tam.) also Páléndra bōlum and Villey bōlum (Tam.) Balintra bōlum (Tel.) Vola वॉला (Sans.) Heera bol هيرا بول (Duk.) Bowl (Hindoioie) Murr مور

* See his Nouveaux Eléments de Thérapeutic, vol. ii. p. 129.
(Arab.) *Manisan lebah* (Malay) Madu (Jav.)
Madu (Bali.) Mirra (Port.) Mirrhe (Dut.)
Myrrhen (Ger.) Myrrhe (Fr.) Mirra (It.)

*MYRRHA.*

It is a reproach to the science of medicine, that the tree which produces this gum-resin has not yet been satisfactorily ascertained; it is said to be a native of Azam, in Africa*, also Hadramaut, a province of Arabia† Felix, and of Abyssinia‡, growing, according to Bruce, along the coast towards the Straits of Babelmandel; that gentleman observes (vol. v. Appendix, p. 27.), that the leaf of the myrrh tree resembles much that of the *acacia vera*, and that the bark is altogether like that of the same tree, from which, we might be induced to suppose, that the plant was a mimosa; but as Dr. Duncan, junior, very justly observes, in his excellent edition of the Edinburgh Dispensatory, "all the mimosas with which we are sufficiently acquainted furnish a pure gum, not a gum-resin." The Arabians term the *acacia vera* بَرْجِي also بَنْس.

That the tree should not have been accurately ascertained is the more to be wondered at, when we reflect, that myrrh has been used both as a perfume and medicine upwards of two thousand years. We are told by Arrian∥, that Alexander’s army found vast numbers of myrrh trees growing in the territory of the Gadrossi, and that the gum was gathered by the physicians; it was one of the sixteen ingredients which composed the famous *zulphi*, which, it is

*See Dr. Vincent’s Account of the Commerce and Navigation of Ancient India*, p. 127.
† See Niebhr’s Travels in Arabia, vol. ii. p. 207.
‡ See Lockman’s Travels of the Jesuits, vol. i. p. 264.
said, inflamed every night to the setting sun in the temple of Vulcan, at Memphis.* Plutarch has preserved the recipe (De Is. et Osir. c. 81. Squire's edition); and Theophrastus describes an unguent formed by the pastophori, of which myrrh and cinnamon were principal ingredients. Pliny particularly mentions the appearance of the myrrh tree, and informs us, that in his day there were known no less than six different kinds of myrrh, chiefly to be met with in Arabia; he notices its often being adulterated with gum-mastic, "Adulteratur lentisci glebes, et gummi" (lib. xii. cap. xvi.); of it Celsus says, "myrrh facultatem habet alvum moliendi; vulnus glutinat; pus concoquit et movet," or words similar to that effect (lib. iii. cap. xx., also, lib. v. cap. ii.).

The *Viyians* in India order this substance occasionally in such cases as require gentle cordials; they also employ it externally, when mixed with lime-juice, as a repellent in tumours and violent bruises.

European practitioners consider the fragrant, bitter, and aromatic gum-resin, as stimulant, tonic and expectorant, and administer it accordingly in chlorosis, cases of debility, and in certain stages of pulmonary consumption; but it must be given with caution, as it is apt to quicken the pulse considerably, and increase suddenly the heat of the body; it is often employed with advantage in humoral asthma and chronic catarrh; a solution of it in alcohol is a good local stimulant for spungy gums, and correcting the fetid discharge of vitiated ulcers. The dose of the substance is from gr. xv. to EMPL. The pulv. myrrhæ comp. (ph. Lond.) in doses of one or two scruples is a powerful emmenagogue.

* See Disquisitions on the History of Ancient Medicine, by Dr. R. Millar, p. 310.
The modern Arabians * place this gum-resin amongst their Munziyat (Suppurantia). Its qualities may be found fully treated of in the Hulli Mejiz al Canun جل موجز القانون, an Arabic medical work, by Nafiz Ben Aviez.

Baconnot informs us, that 100 parts of myrrh consist of 23 of resin, and 77 of gum; but Dr. Thomson, by his experiments, found somewhat different results, corresponding more with Pelletier, who made the proportions to be 34.68 of resin, and 66.32 of gum. An inferior kind of myrrh is sometimes exposed for sale in the bazars of Lower India, under the Tamool name of villey bolum.

CXXXV.

NATCHENNY. Kekwäräggo కెక్కురికు (Tam.) Rägie راجي (Duk.) Moorooa (Beng.) Tamidaloo, also Ponassa (Tel.) Mootämy (Malealie) Tsjettipullu (Hort. Mal. xii. p. 149. t. 78.) Räjikä राजिका (Sans.)

Cynosurus Coracanus (Lin.)

Cl. and Ord. Triandria Digynia.

Natchenny is the name given by Europeans, on the Coromandel coast, to a useful and most valuable grain, which is eaten and prized by the native Indians of all descriptions; it is about the size of mustard seed, and darkish coloured; it is either made

* Avicenna speaks highly in favour of myrrh, "Aperit, flatus discutit, adstringit, glutinat, emollit; ad laxitatem, et inflationem ventriculi prodest myrrha pura et sincera; but he says not a word of the tree which yields it. Canon. lib. ii. tract ii. p. 197.
into cakes, or is eaten as porridge is in Scotland with milk; it is pleasant to the taste, and in its nature aperient. It is called in Tinnevelly cāpā, and in some parts of Hindoostan maud. In Mysore three kinds are cultivated: carī, kempu and kūruparīa. The plant is the *eleusine coracana* of Gaertner; and rises to the height of three or four feet, having large, bifarious, smooth leaves, and a corolla with valves nearly equal (See Flora Indica, vol. i. p. 343.).

CXXXVI.

**NIGHTSHADE, DEADLY.** *Sug-unnggor* (Hind.) *Roobāh turbuc* (Pers.) *Inubas saleb* (Arab.) *Belladone* (Fr.) *Tolkraut* (Ger.) *Belladona* (It.)

**ATROPA BELLADONA** (Lin.)

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Luridae (Lin.)

I have merely given this a place here from finding that it was a plant well known in the Mogul country, and to the Arabians* and Persians, who place it, like us, amongst their narcotics, *Mokederrat*; I have never seen it in India. It is a perennial, found in many parts of Europe, and by no means uncommon in Britain, especially in church-yards and on dung-hills. It has a thick, fleshy root, from which spring many purple-coloured herbaceous, annual stems; the root-leaves are often a foot long and five inches broad; the stem-leaves are egg-shaped, on short pe-

* The name of *unggor shefa* आंकूर शेफा is, I am told, given to a species of atropha in the upper provinces of Bengal.
tioles, pointed, entire, of a dusky-green colour above, and paler below; the flowers are large, nodding, having a very faint narcotic odour; the berry is large, roundish, at first green, but when ripe of a shining black colour, containing many seeds, and a violet-coloured juice. Every part of the plant is poisonous; in medicine the leaves (which are inodorous, nauseous, sweetish, and subacid) are chiefly employed. Besides being powerfully narcotic, the deadly nightshade is diaphoretic and diuretic. The complaints for which it has been recommended in England, are schirrous and cancerous affections, obstinate intermittents, rheumatism, amaurosis, gout, and palsy; and Hufeland was of opinion that it had the power of allaying convulsions arising from scrophulous irritation; externally, its use has been found very efficacious in mitigating the pain of cancerous and ill-conditioned sores, either in the form of fomentation, or by sprinkling a little of the powder of the leaves over the part affected. The infusion dropt into the eye produces a singular dilatation of the pupil. The physicians on the continent, and some of great note, such as Dehaen, Heister, and more recently Rahn of Zurich, contend that the belladona is not only inefficacious in cancerous complaints, but in many instances hurtful.* On the other hand, it is supposed to have virtues which render it a useful remedy in epilepsy, at least according to the testimony of Greding.† Its success in hydrophobia, in spite of what has been said of it by M. M. Muench, of Hanover, and Bucholtz, of Weimar, Alibert thinks is very doubtful. The medical men of Germany, as we are

* See Alibert’s Nouveaux Elémens de Thérapeutique, vol.i. p.422. See also Murray’s Appar. Med. vol.i. p.648.
† See the same, p.423.
told by Loiseleur Deslongchamps*, prescribe it with as much faith in hooping-cough (coqueluche) as we do bark in intermittent fever. The dose of the powder of the dry leaves of the belladona is from grs. viii. to xvi.; of an infusion made with a scruple or half a drachm of the dried leaves in ten ounces of boiling water, two ounces may be given daily; of the extract, or succus spicatus, the dose is from gr. i. to grs. v. or vi. Orfila places belladona amongst his poisons, and ascertained that it acted equally on dogs and men.† The berries, when eaten, are said to produce intoxication, accompanied with fits of laughter and violent gestures, great thirst, nausea, difficult deglutition, vertigo, dimness of sight, convulsions, and death. Vauquelin‡ found the leaves to contain: 1. vegetable albumen; 2. a bitter narcotic principle; 3. nitrate, muriate, sulphate, binoxalate, and acetate of potassa. "Dr. Brandes has announced the existence of a new vegetable alkali in this plant, which he calls atropia; it forms brilliant acicular crystals, is tasteless, and difficultly soluble in water and alcohol||, and affords distinct salts with the acids. Dr. Paris informs us, that the best antidote for belladona in an over dose is vinegar (Pharmacologia, p. 298.).

* They prepare a sirup by boiling 3ij. of the leaves, and ij. of root in a sufficient quantity of water, and adding a proper proportion of sugar: the dose from 3ij. to 3iv. two or three times in the day. See Deslongchamps Manuel des Plantes Usuelles, vol. i. p. 395.
† See Traité des Poisons, vol. ii. part i. p. 299.
‡ See Annales de Chimie, lxxii.
CXXXVII.

NUTMEG.  Jādicāi  கற்றைச்  சிற்றைச் (Tam.)
Jaéphal (Hind.)  Jātīphala  जातिफल (Sans.)
Jáyaphala (Beng.) Jatipullum, also Sādikka (Cyng.)
Jāphul (Duk.)  Joux bewá  جوز بوا (Pers.)
Jowzalteib  جوزالطيب (Arab.)  Jāūphul  (Hindoioie)
Buah-pala (Mal.)  Woh-pala (Jav.)  Bu-wah-pa
(Bali)  Jājikāia (Tel.)  Gasori (Ternat.) Muskaat-
noten (Dut.)  Nox moscada (Port.) Noix muscade
(Fr.)  Muscatennusse (Ger.)  Japhul  (Mah.) Noce
Moscada  (It.)

MYRISTICA MOSCHATA (Woodv.)

Lauri (Juss.)  Aechte Muscatennusse (Nom. Triv.
Willd.)

Nutmeg, which is the kernel of the fruit of the
myristica moschata, has a fragrant agreeable spicy
odour, and warm aromatic taste and unctuous feel;
it is considered by the natives of India as one of
their most valuable medicines in dyspeptic com-
plaints, and in all cases requiring cardiaics, and corro-
borants; they likewise prescribe it to such puny chil-
dren as appear to suffer much in weaning. The
nuttmeg tree is a native of the Molucca islands, but
is principally cultivated at Banda, and of late years at
Batavia, Sumatra, and Penang. There is an inferior
and long-shaped kind of nutmeg, common on Borneo,
and an export from Passier* to India, and there is a
wild sort (cāt jadicāi), frequently to be met with in

some of the woods of Southern India, especially in Canara, which Dr. Buchanan thinks might be greatly improved by cultivation. The true nutmeg tree now grows to a tolerable size, in certain sheltered situations in the Tinnivelly district, especially at Courtalum, and bears pretty good fruit; it would also appear by Mr. Moon’s valuable Catalogue of Ceylon Plants, to grow in that fine island, and has got the Cyngalese name of sadikka. Three other species of myristica grow in that country.

The cultivation of nutmegs was introduced into Sumatra, by the excellent Mr. J. Lumsdain’s account, in 1798, as we learn by his valuable Memoir, published in 1821, in the Proceedings of the Agricultural Society of Sumatra: this attempt however, was not very successful; but it was tried again by Dr. Roxburgh, 1808, and with great success; that gentleman, carried with him no less than 20,000 vigorous nutmeg plants from Amboyna to Sumatra.

Nutmeg, like mace, taken in large quantity, is apt to produce stupor and drowsiness. Cullen cautions us against its use in subjects disposed to apoplexy, and Dr. Pearson thinks that in over-doses it has a narcotic effect, similar to that of camphor. Rumphius, who has given the scientific appellation of nux myristica, sive pala, to the nutmeg tree (Rumph. Amb. ii. p. 14. t. 4.) tells us, that the juice of the green nutmeg mixed with water, is used in Amboyna as a wash in apthous affections. Mr. Crawford, in his History of the Indian Archipelago, informs us, that there are no less than eight cultivated varieties of the tree in the Indian islands (vol. i. p. 505.), and according to De Comyn*, two sorts grow in the

* See his State of the Philippine Islands, p. 26.
Philipine islands, one shaped like a pigeon’s egg, the other perfectly spherical.

I perceive by Avicenna (148), that the Arabs, besides the Arabic name already mentioned, give nutmeg the appellation of bussabussa بُسابسأ. They place it amongst their Mokewyat kabid مقوبات كبد (Hepatica), and Mokewyat meoadeh مقوبات معدة (Tonica). The volatile oil of nutmeg, which possesses the odour and taste of the nutmeg, in a concentrated degree, is occasionally used as an external stimulant. The expressed oil, (which is improperly called oil of mace, and which Dr. Thomson conceives to be a kind of vegetable cerate, or a triple compound of fixed oil, volatile oil, and wax) is rarely prescribed, but as an external application; it is called in Tamool jadiputrie-tylum, and in Dukhanie جووترى كاتیل; it is of a very stimulating nature, and is brought to India from Banda, where it is chiefly employed in preparing liniments for palsy and chronic rheumatism. The dose of nutmeg may be from three or four grains to a scruple, that of the volatile oil from two drops to eight. The nutmeg tree was unknown to Linnaeus, and was first well described by Thunberg, in the Stockholm Acts for 1782. It is a large tree with erect branches, and a smooth ash-coloured bark; but the inner bark is red, leaves petioled, elliptical, pointed alternate, quite entire, shining, paler underneath, nerved, and have a delightful aromatic taste. The flowers are present at the same time with the fruit; they are minute, and without odour, and male and female are on the same and on separate trees. Willdenow, in speaking of the myristica moschata, says, habitat in Moluccis; but it will appear by the following passage, that it is also a native of America.
"Le muscadier, m'écrir Zea, se trouve dans les lieux "les plus chauds du royaume de la Nouvelle Gre-"nade, surtout à Mariguita, le long du grand flueve "de la Magdeleine*;" and we know, that Ruiz and Pavon found it in Peru, and Swartz in the American islands. † By Beckman's account in his "Voyage to Borneo," the nutmeg tree grows in the island of Ce-lebes, and is an export from Macasser.

Malao, bhanhahorac, bashi, and barabee, are the names of different wild nutmeg trees growing on Madagascar; an oil got from the fruit of the last is an excellent stomachic (See Copeland's History of Madagascar.).

CXXXVIII.

OIL OF ALMONDS. Vādomcottay-yunnay
ersedhēkkaṇaḷal RESULTUL (Tam.) Vadom
vittilo (Tel.) Farsi bādām ka tail
فارسي بادام كا تайл (Duk.) Inggudi tailam इंगुदी तैलम् (Sans.)
Oleum Amygdali (Lond.

This is not prepared in any part of India, and its use there seems to be chiefly confined to the Mahometan practitioners, who recommend it for the same purposes that we do, as a demulcent and emollient in coughs and pulmonary complaints; it is, however,

† See same work, vol. and page.
‡ The bitter almond is called in Hindooie, keruey badam; its root is considered as a medicine in Upper India. The wild almond is called in Hindooie junglieka badam.
but seldom seen in our Asiatic dominions. Almonds* are brought to India, of a very good quality, from the Persian gulf, and ports of the Red Sea. The dose of the oil is from 3ij. to 3i. A mixture of 3iv. of the oil, and eight drops of acetate of lead, is a good injection in gonorrhoea at the commencement.

CXXXIX.

OIL, CASTOR.  Sittámoonakayunnay, also Cottay umnay ကြက္ဗော်အမေရိုးကြက္ဗော် (Tam.) Endooroo tail (Cyg.) Oobali erundyka tail اووبالي اربندی کاتبل (Duk.) Sitt-āmindialoo noona (Tel.) Eranda tailam हर्नाद तैलम् (Sans.) Dūhn ul kherooa دوحن البورا (Arab.) Rowgen Bēdangeer روجن بید انچیر (Pers.) Miniak jarak (Mal.) Lenga jarak (Jav.) Langis jarak (Bali.) Huile de ricin (Fr.) Rizinus korner (Ger.) Olio di ricino (It.)

OLEUM RICINI (Lond.)

This most valuable oil is prepared from the seeds of the ricinus communis, fruct. minor (Lin.), a plant of the cl. and ord. Monoecia Monadelphia, and nat. ord. Tricoccæ (Lin.). The trivial German name of which, according to Willdenow, is gemeiner wanderbaum.

The oil is highly prized as a purgative medicine by the native practitioners of India, who conceive it

* Laureiro informs us, in his Flora Cochin-China (vol. ii. p.316.), that both the sweet and bitter almonds grow in China, but he is doubtful if they grow in Cochin-China; where, however, the tree amyg. com. is called him-ho-gin, the amyg. Persica (Peach) grows in Japan, and is there called momu, also too.
to be particularly indicated in cases of neercuttoo (Tam.) ischuria and valacuttoo (Tam.), obstinate costiveness, from its operating freely and without irritating; it is usually given daily, in small quantities, to new-born children, for three weeks together; and is also considered as an invaluable medicine as an external application in various cutaneous affections.

The castor-oil plant*, from the seeds of which the oil is made, grows in great abundance in almost every part of India; on the Malabar coast it is called by the Portuguese figueiro d'inferno, in Sanscrit it is eranda दङ्ग in Canarese haralu, in Malayalie citavanacu, in Hindoostanie arend, in Arabic kherwa, in Persian beedinjeer, in Bengalie bherenda, and in Sumatran jarak, which, according to Rumphius†, is also Malay. That distinguished writer speaks of the plant under the scientific appellation of ricinus albus, and informs us, that in Ternate it is termed palatsgayt, in Banda cajulohuy, and in Amboyna camiri; it is the avanacu of Rheede (Hort. Malab. ii. p. 57. t. 53.). Marsden, in his History of Sumatra, says, the plant‡ is common there (p. 92.).

The capsule is a trilocular nut, about the size of a large marble, of a pale-green colour, and covered with flexible prickles; this, on bursting, elastically expels the seeds, usually three in number; they are

* Dierbach in his Materia Medica of Hippocrates informs us (chap. v.), that the plant was known to Hippocrates under the name Kpopo and the Germans call it familiarly wunderbaum.
† See Rumph. Amb. iv. p. 92.
‡ Dr. F. Hamilton in his admirable account (MSS.) of the Puraninya country, informs us, that he found the ricinus cultivated in that district for the purpose of feeding a worm which produces a kind of coarse silk; which worm, I am told by my friend Mr. Wilkins, in spinning the cocoon, leaves an aperture at one end, through which it can force its way out, without injuring the fibre: this is not the case with the common worm.
almost quite white, of an oblong, flat figure, and heavy mawkish taste. The plant itself grows fast, and often to the height of fourteen or fifteen feet, with a round, thick jointed, farrowed stem, glaucous in the lower part, but of a purplish colour towards the top; the leaves grow singly on very long footstalks, they are large, peltate, palmate, from eight to twelve parted, or in other words, deeply divided into eight or more pointed serrated lobes, of a blueish-green colour; the flowers are in terminating racemes, the male below, with a five-parted calyx, the female at the upper part of the spike, and is composed of a three-cleft reddish calyx. The plant is the ḫima and too goma of the Japanese, and the cay-du-du-deau of Cochin-China.

The oil is obtained in two ways, either by expression or coction: in the second mode it is apt, occasionally, to become a little rancid, though it (so prepared) looks clearer, having the colour of beautiful pure amber, and is almost without smell, or disagreeable taste. Dr. Thomson informs us, that castor-oil is distinguished from all other expressed oils, by being nearly completely soluble in sulphuric acid.

The bark of the root of the tree is a powerful purgative, and when made into a ball about the size of a lime, in conjunction with chillies and tobacco leaves, is an excellent remedy for gripes in horses.

In the Mysore country, where the castor-oil plant is much cultivated, two varieties are distinguished: our present article, which is the ricinus communis, fruct. minor, and which is in Canarese chicca hárálú;

* Laureiro speaks highly of the virtues of the oil as a purgative, anthelmintic, &c., see his Flor. Cochin-China, vol. ii. p. 584.
and the larger sort, which is the ricinus communis 
fruct. major, and which in Canarese is dōdū hārdī.

Well prepared castor-oil* is, as already mentioned, 
mildly cathartic, and is much used by the European 
medical practitioners in India in dysenteric affections, 
in doses of from 3vi. to 3i. In obstinate constipa-
tion, an enema prepared with two ounces or more of 
this medicine, the due proportion of warm water, 
and a little common salt, or Glauber salt, seldom 
fails to give relief. Castor-oil is best taken in weak 
pepper water (malagatanie). Below† is the process 
for making this oil, commonly adopted in the Sou-
thern provinces of India.

The castor-oil plant is now much cultivated in the 
West Indies, and the oil has of late years become an 
export from Jamaica, of a superior quality; in that 
island it is considered as a valuable external remedy in 
cramps, and pains arising from colds, &c. Long, in 
his History of Jamaica, gives a particular account of 
it (p. 712.).

The physicians on the continent of Europe, par-
ticularly Messrs. Odier and Dunant, of Geneva, 
have found it efficacious in tape-worm (tænia).

* Castor-oil is strongly recommended by a French writer, 
Sainete Marie, in colica pictorum. See Roque’s Phytopraphie 

† Take five seers of the small castor-oil nuts, and soak them 
for one night in cold water; next morning strain this water off 
and throw it away, and put the nuts into a second quantity of 
fresh water, and boil them in it for two hours; after which strain 
the water off and throw it away, as in the first instance: the nuts 
are then to be dried in the sun on a mat for three days; at the 
end of which time, they are to be well bruised in a mortar: add 
to the nuts thus bruised ten measures of water, and set the whole 
on the fire to boil, taking care to keep continually stirring the 
contents of the pot, until all the oil appears at the top; when it 
is to be carefully strained off and bottled for use. The quantity 
of nuts mentioned in this formula, ought to yield about one quart 
bottle of oil.
Alibert gave it with success in many cases of *lumbricusteres*, "Nouveaux Eléments de Thérapeutique" (vol. i. pp. 376, 377.).

What is called in the Southern districts of India lamp-oil, from its being chiefly used for burning, is termed in Tamool *vīllīkyūnnay*, and in Tellingoo *āmūdum*; it differs from the castor-oil, in having a more unpleasant odour, with a considerable degree of empyreuma owing, no doubt, to the seeds being roasted previously to the operation of boiling for the purpose of extracting the oil; it is, besides, of a darker colour, and altogether of a more gross nature. This oil is got from the nut of the ricinus communis, *fruct. major*, and which I believe is the *ricinus viridis* of Willdenow (Spec. Plant. vol. iv. p. 564.). It is the r. ruber of Rumph. (Amb. iv. p. 97. t. 41.), the *pandi-avanacu* of Rheede (Mal. ii. p. 60.), and differs from the other species in the greater size of the stalks, leaves and fruit. The ricinus communis, with two other species, the *mappa* and *dicoccus* (both natives of Amboyna), are growing in the botanical garden of Calcutta; the two last introduced by Mr. C. Smith, in 1798.

Castor-oil, boiled in nitric acid, is converted into a sort of wax, which, however, Mr. Brande says, he found to be too easily melted to be used for making candles. Castor-oil is completely soluble in alcohol and ether.

**CXL.**

**OIL OF CLOVES.** *Kirāmbootāylum* चिंमुप्त (Tam.) *Lawinghatāylum* (Tel.) *Woo-
raia tail (Cyg.) Löung ka tail (Duk.)
Huile de girofle (Fr.) Oleo de garafano (It.) Loung-ga-tcha-tile (Mah.)

Oleum Caryophilli.

The oil of cloves is chiefly prepared by the Dutch at Amboyna, at least that which is usually found in India; it is of a deep red colour, having the flavour of the clove, but comparatively milder; it is, however, in its effects, powerfully stimulating, and, on that account, is seldom used internally, except as a corrigent to griping extracts; externally, it has been found to relieve the toothache. The specific gravity of oil of cloves is, according to Brande, 1.034. This, like the other volatile oils, absorbs oxygen when long exposed to it, and becomes thick and resinous. From one hundred weight of cloves may be obtained from eighteen to twenty pounds of the essential oil. See article Clove.

CXLI.

Oil, Kánari (Malay.).

I should not have given this oil a place here, as it undoubtedly hitherto has not been considered as one of the articles of the British Materia Medica; but on finding it so highly spoken of by Mr. Crawford, in his admirable "History of the Eastern Archipelago," I have been tempted to notice it, and at the same time to express a regret, that he was not able to add the botanical name of the tree from which it is obtained. I cannot do better than give that gentle-
man's own words: "Of all the productions of the Archipelago, the one which affords the finest edible oil is the kanari. This is a large handsome tree, which yields a nut of an oblong shape of nearly the size of a walnut. The kernel is as delicate as that of a filbert, and abounds in oil; it is one of the most useful trees where it grows. The nuts are either smoked and dried for use, or the oil is expressed from them in their recent state. The oil is used for culinary purposes, and is more palatable and finer than that of the cocoa-nut; the kernels, mixed up with a little sago meal, are made into cakes and eaten as bread. The kanari is a native of the same country as the sago tree, and is not found to the Westward. Into Celebes and Java it has been introduced in modern times, through the medium of traffic."

CXLII.

OIL KYĀPOOTIE or CĀJUPUTE. Kayyā-pooti tayilam கய்யாபூதி டாயிலம் (Tam.)
Kyāpoottie ka tail کیاپوئی کا ٹائل (Duk.)
Cajuputa (Mah.) Kāyū pūtīeh كايو پوتيه (Mal.)
MELALEUCA CAJUPUTI (Maton.)


The tree which yields this oil was long supposed to be the melaleuca leucodendron (Smith Soc. Lond. iii. p. 274.), but as specimens of the plant which really does yield it, on being sent home by Mr.
Christopher Smith, differed from the m. leucoden-
dron*, and agreed with the arbor alba minor of Rum-
phius (Amb. ii. p. 72. t. 16.); Drs. Maton and Smith
have fixed it as a new species, under the name of
m. cajuputi. We are told by Mr. Crawford, in his
"History of the Indian Archipelago," that there are
three varieties of this tree, which is a native of Am-
boyna, Java, and Borneo; but that "the two largest
only afford substances for economical † purposes:
the bark of the largest of these yields the material
with which the native ships of the Moluccas are
caulked; and from the leaf of the smaller, by dis-
tillation, the fragrant essential oil which has been
used for medical purposes; sometimes internally, as
a powerful sudorific, but more frequently externally,
as a useful embrocation, under the ignorant and cor-
r upt denomination of cajeput."

This valuable volatile oil is distilled from leaves,
which had been previously infused in water, and left
to ferment for a night. Rumphius informs us, that
when newly drawn it is limpid, pellucid and volatile,
and smells strongly of cardamoms, but is more plea-
sant. Dr. Thomson has well described it, as it is
brought to Europe, comparing its powerful odour to
a mixture of oil of turpentine and camphor; it is
limpid, transparent, and commonly of a blueish-green
colour.

Mr. Crawford, in speaking of the gajeput trees,
says, that "they are gigantic myrtles." The largest
sort is a mountain tree, and grows in extensive

* Laureiro has fully described the mel. leuc. in his Flora
Cochin-China (vol. ii. p. 468.), and speaks of the virtues of the
leaves. "Roborans stomachicæ diureticæ et emenagogæ, &c.
&c." adding, "valet in obstructione hepatis," the tree itself is the
cay tlam of the Cochin-Chinese.
† See the work, vol. i. p. 513.
continuous forests; the smaller (which yields our article), thrives near the sea-coast; it has got its name from its colour, kāyu-puti, which signifies white wood, and hence its appellation, as given to it by Rumphius, arbor alba; besides its current name, it is known in Malay countries under other terms: such as galam, daun, kitšil, &c.; in Ternate by that of bajule; in Amboyna by the various appellations of kilam, ilan, and elan; and in Ceram by that of sake-lan. It is a smallish tree, with alternate, lanceolate leaves, on short petioles; and flowers which are white, sessile, and accompanied with minute ovate bractes.

Kāyapootie oil is hitherto but little known to the native practitioners of India; it is in use, however, amongst the European medical men of that country, who recommend it, when mixed with an equal quantity of some mild oil, as an excellent external application in chronic rheumatism. The Malays are in the habit of prescribing it internally, and I understand with great success, in what they call peetam-boobie, and loompoo (epilepsy and palsy). It is, no doubt, a highly diffusible stimulant, antispasmodic, and diaphoretic, and may be efficaciously given in dropsy, chronic rheumatism, palsy, hysteria, and flatulent colic; the dose from two to six or seven drops, on a lump of sugar. On the continent of Europe, according to Virey∗, this volatile oil is considered as carminative, cephalic, and emmenagogue, and its smell, it is supposed, keeps off insects from collections of natural history; it may be further added respecting it, that it dissolves caoutchouc or Indian rubber; by which means a good varnish may be made.

* See his Histoire Naturelle des Médicaments, p. 264.
CXLIII.

OIL OF MACE. Jādipūtrī tylum जादीपुत्री तयलम (Tam.) Wassa wasitali (Cyg.) Jawatīrī ka tail जावतीरी कातैल (Duk.)

Oleum, Oleum Macis expressum dictum.

What is commonly called oil of mace is, in fact, an expressed oil, obtained from the nutmeg; there are two sorts: one a soft sebaceous kind of substance, of a yellowish colour, sub-aromatic odour, and having a somewhat fatty, pungent, and bitterish taste; it is made at Banda, and is little used, except as an external application in palsy and chronic rheumatism. The other sort is usually brought from Holland, in flat square cakes, and is sometimes called in commerce Banda soap; it is weaker in smell, and fainter in colour than the first mentioned, which leads us to believe that it is sophisticated. See article Mace.

CXLIV.

OIL OF NUTMEG. Jādikāi tylum जादिकाई तयलम (Tam.) Jāphul ka tail जाफुल का तैल (Duk.) Jatipullūm tail (Cyg.)

Oleum Nucis Moschatæ.

By this is meant the volatile oil of nutmeg; the expressed oil is usually, but improperly, called oil of mace. The essential or volatile oil, is prepared by the Dutch at Banda, and is, when properly made, of
a. pale straw colour, limpid and transparent, and possesses, in a considerable degree, the odour of the nutmeg. (See article Nutmeg.) In doses of two or six drops, it is sometimes given as a stimulant; but it is oftener had recourse to as an external application in sprains and chronic rheumatism.

The specific gravity of oil of nutmeg, according to Brande, is 948. See article Nutmeg.

CXLV.

OIL OF MUSTARD SEED. Kádághoo-yunnay कड़कघूयुन्नाय (Tam.) Rāśān ka tail راشرین کا تائل (Duk.) Avala nooney (Tel.) Sarshapa-tailam सर्पचपैलम् (Sans.)

Oleum Sinapeos.

An expressed oil, prepared from the seeds of different species of sinapis is used in the Northern parts of Hindoostan, and in many parts of Malabar, for culinary purposes, in the same way that butter or ghee is on the Coromandel coast; it is reckoned extremely wholesome by the natives, being at once gently stimulating and nourishing. The various species cultivated in the Bengal provinces, for the purpose of making this edible oil, are the surson (sinapis dichotoma, Roxb.), the rāśi (sinapis ramosa Roxb.), and the toree, which is in Sanscrit tuverica; all these in respect to medicinal qualities, correspond exactly with the sinapis nigra of Willdenow, and may be used as such, either internally or externally.

The specific gravity of oil of mustard seed, is a little below that of water; it is insoluble in water,
but forms an emulsion by the aid of mucilage: it is partially soluble in alcohol and ether.

CXLVI.

OIL, ROCK, or PETROLEUM. *Mun tyhum* 
(Tam.) *Muttie ka tail* 
(Duk.) *Nef* 
(Arab.) *Minnia-tanna* 
(Mal.) *Bhûmi-tailam* 
(Sans.) *Ippoo* 
(Sumat.) *Kesosa no abra* 
(Japan.)

For an account of this mineral oil, the reader is referred to the article Bitumen, in this Part and Chapter of the work.

CXLVII.

OLIBANUM. *Páringhi sámbraṇi* 
(Tam.) *Avul coondoor* 
(Duk.) *Looban* 
(Arab.) *Koondir zûchir* 
(Hind.) *Looban* 
(Mal.) *Encens* 
(Fr.) *Weirauch* 
(Ger.) *Olíbano* 
(Ital.) *Lahniyá* 
(Syr.)

*Boswellia serrata* 
(Roxb.)

*Libanús thurífera* 
(Colebrooke.)

Cl. and Ord. Decandria Monogynia (Lin.)

It will be seen, by referring back to the article Frankincense, how much the real olibanum differs from a substance sometimes mistaken for it, commonly called *coondoor* by the Mahometans of Lower India, and *koondricum* by the Tamools; and which may be met with in almost every bazaar. The gum-resin now under consideration, on being shown to a
Hakeem, is immediately termed either looban or avul coondoor, which last signifies first sort of coondoor. It appears to be very scarce in the interior of India, though I perceive by Elmore’s "Guide to the Trade of India" (p. 129.), that it is amongst the exports from Bombay to China. Good olibanum, is in semitransparent tears, of a pink-colour, brittle, and adhesive when warm, when burnt the odour is very agreeable, its taste is bitterish, and somewhat pungent and aromatic; it flames with a steady clear light which is not easily extinguished, and which seems to me to be a peculiarity, which has not been hitherto sufficiently inquired into: it burns for a long time, leaving behind a black ash, not a whitish, as has been said. Till lately much uncertainty seemed to have been entertained respecting the plant which actually produced the olibanum; Dr. Thomson in his London Dispensatory, observes, “It was supposed on the authority of Linnaeus, to be the production of the bark of the Juniperus Lycea,” but Woodville was not satisfied that it was procured from that plant; and Mr. Colebrooke very properly remarked, that it was by no means probable that it could ever be obtained from it; as it was well known to be a native of the South of France; and moreover, that the French botanist denied that it yielded the gum-resin in question: subsequent investigation by that gentleman has fully ascertained that the olibanum of the shops is the actual produce of the libanus thurifera, a truth which the reader may satisfy himself of, by a perusal of Mr. H. T. Colebrooke’s excellent paper on the subject in the Asiatic Researches, vol. ix. p. 377. Indian edition, to which is affixed a botanical description of the tree, by Dr. Roxburgh.

The boswellia serrata (Roxb.), or rather the liba-
nus thurifera, as it has been named by Mr. Colebrooke, is a native of the mountainous tracts of Central India; its Sanscrit name is sallaci, in Hindoostanie it is called sâlāi; it is a large tree, with the foliage crowded at the extremities of the branches, the leaves are impari-pinnate, consisting of ten pairs of leaflets, each an inch or an inch and a half in length, obliquely ovate, obtuse, serrate, and villous, supported by round downy petioles; the flowers are numerous, small, and of a white colour, accompanied with minute bracteas; the capsule is smooth, three-sided, trilocular, three-celled, and three-valved, each cell containing one perfect seed only, which is broad, cordate, and winged.

I perceive by Dr. F. Hamilton's valuable MSS. (account of the Shahabad country), that the libanum thurifera is there very common, and its resin called sale-gond, or sale-lassa; but, strange to say, it is not applied to any use; at Chandalgar, however, where it is termed biroza, it is employed as a medicine. When collected, Dr. Hamilton adds, as it flows from the tree, it is of the consistence of turpentine, but of a clear greenish colour; and Mr. Turnbull, surgeon of Chandalgar, assured him, that in this state it is named gandah biroza; in its dry state the resin is called sukkha birosa, and this it is that is sold in England, as Mr. Colebrooke has mentioned, as olibanum. Dr. Hamilton, notwithstanding, seems to be of opinion, that though a kind of olibanum may be procured from the lib. thurifera (Col.), what of the article is commonly taken to England under the name of olibanum, is the produce of an amyris, or at least of a thorny bush; and this, he is the more disposed to think, as he cannot learn that the resin of the sale was ever used by the Hindoos as an incense.
It has been observed by Geoffroy, that olibanum is produced only in *Arabia Sabaëa*; while others have alleged, that it comes from Ethiopia. The Arabsians have two names for it, *looban*, and *condur*; the first, taken in all probability from the Hebrew word *levonah*; the second is most in use; though I am inclined to think, that it is more properly applied to frankincense. We are informed by D’Herbelot*, that olibanum is found in abundance in Arabia Felix, particularly near the city of *Merbath*, and we know from Niebhir (‘Travels in Arabia, vol. i. p. 99.’), that it is an export from Mocha, as is also noticed by Mr. Milburn in his “Oriental Commerce,” (vol. i. p. 99.)

Olibanum is now rarely used in European medical practice; it is certainly in its nature stimulant and diaphoretic, and used formerly to be administered in affections of the chest, and externally as a vulnerary: on the continent it is by some considered as possessing a degree of astringency, and ordered in fluxes. Virey† in his “*Histoire Naturelle des Médicaments*,” mentions it as being yielded by the amyris kataf of Forskahl (descrip. 80.), (so thought Lamark),‡ and usefully employed, “comme parfum est en fumigations, pour purifier l’air malsain:” the same author (Virey) tells us, that the resinous bark of the tree is called *narcape*, also *thymiama*, but where, or in what language, he does not add. The Arabsians place olibanum amongst their *Tonics*.

---

* See Bibliothèque Orientale, p. 527.
† See his work, p. 290.
The reader may find it fully treated of in an Arabic work تذكري تمريدي وجاير صغير in two vols. by Ishāk and Hafiz Mohammed. Olibanum appears to consist, according to Thomson, of resin, gum, and a volatile oil, and this is confirmed by late experiments by Braconnot; who found in 100 parts of it, 8 of volatile oil; 56 of resin; 30 of gum; and 5.2 of a matter resembling gum, but not soluble in water and alcohol.

Another species of boswellia, the b. glabra (Roxb. Cor. Pl. vol. iii. p. 4.), is a tree of great value in India; it is a native of the highest mountains of the Circars: the wood is heavy, hard and durable, and is used for ship-building. From wounds made in the bark, a resin exudes, called in Tellingoo gūgūl (the tree gūgūla-tschittoo); this resin mixed and boiled up with a certain portion of some low-priced oil, is used as a pitch for the bottoms of ships. On the Balla-Ghaut mountains another species is common, the canarium odoriferum hirsutum. (Rumph. Amb. 2. t. 51.)

CXLVIII.

OLIVE. Zietoon (Arab.) Julpaïy (Hindoie.) Oliva (It.) Olive (Fr.) بوه منيـف (Māl.)

OLEA EUROPAEA.


The olive tree is not cultivated in India, nor would it thrive there. In the Northern parts of Persia it is often met with, and in Syria; but Italy, France, Spain, and North Africa, are the chief countries in
which it grows to commercial advantage. Pliny ranked the olive tree as next in virtue to the vine. See Nat. Hist. lib. xxiii. chap. iii. The Arabians, according to Avicenna, put a high value on the leaves of the wild olive as a vulnerary; the oil, which they term زيت, they occasionally employ as we do in preparing laxative enemas. Vide Canon. Med. lib. ii. tract.

CXLIX.

ONION. *Venggāyum* வங்கையும் (Tam.) *Loono* (Cyn.)* Peeaj* (Hind.) *Būsslil* بسعقل (Arab.) *Peeāx* پیاز (Pers.) *Pee-aj* (Hindoie) *Peeāx* (Duk.) *Bavangmira* (Mal.) *Woolţgudda* (Tel.) *Palāndu* पलाणु also *Latārka* لاتارک and *Sukandaka* मुकन्दक (Sans.) *Kembally* (Can.) *Brangbang* (Jav.) *Bawung* (Bali) *Ognon* (Fr.) *Swiebel* (Ger.) *Cipella* (It.)

*Allium cepa* (Lin.)

Cl. and Ord. Hexandria Monogynia. Nat. Ord. Spathaceae (Lin.)

This valuable plant grows in great abundance all over India. Bombay onions are of a particular fine quality, being large, and singularly mild and delicately flavoured; cut into thin slices, and eaten with bread and butter, they are truly excellent; boiled, they are one of the best of all the Indian pot vegetables.

Onions are prescribed by the native doctors internally, in conjunction with other articles, in cases of

* Abel, in his "Journey to China," informs us, that a very good edible oil is obtained from the seeds of the camellia oleifera. See work, p. 175.
bleeding piles; they are also employed externally, when boiled and made into a kind of poultice with certain herbs, to hasten suppuration; if, on the contrary, they are applied raw, the Vytians suppose them to have a repellent quality. Dr. Thomson says, that "as food, the onion is said to produce flatulency, and to occasion thirst; as a medicine, it is stimulant, diuretic, and expectorant." The Greeks called the onion Κριμων; the Romans cepa, also unio; the first, it is conjectured, from the word caput, owing to the largeness of the head; the second from the circumstance of its being a single root, without offsets. The onion was reckoned by the Egyptians amongst their divinities, and many of the ancients have written on it: such as Theophrastus, Palladius, Pliny, and Celsus; the latter writer is of opinion, that both garlic and onions produce flatulence, and heat the body; he observes, however, in other parts (lib. ii. cap. xxix. xxxi. and xxxii.), that they are laxative, diuretic, and have the effect of quickening the senses. Pliny ascribed to them the power of clearing the sight, and recommended them for pains in the loins, bites of serpents, dropsies†, &c., but thought that they might do mischief in cases where all was not right about the præcordia. Asclepiades‡, on the other hand, was of opinion, "ad calorem quoque validum profici hoc cibo, et si jejuni quotidie edant, firmitatem valetudinis custodire; stomacho utilia esse, spiritus agitatione."|| See article Garlic in this Part and Chapter. The leek (allium porrum)

† See Pliny's Natural History, lib. xx. cap. v. p. 606.
‡ See the same.
|| An opinion, in which Roques in his valuable Phytographie Médicale altogether agrees. See vol. i. p. 111.
is but little known to the natives of India; it is stimulant and diuretic. The expressed juice has sometimes been given with advantage in dropsies, in doses of from 3 ss. to 3 ij. in syrup.

The allium cepa grows in Japan, there called Soon, also Fitomosi (Flor. Japon. p. 132.): it is also cultivated in Cochin-China, where it is termed cay-hank; its many virtues are noticed by Laureiro; pectoral, diaphoretic and diuretic. (Vide Flor. Cochin-Chin. vol. i. p. 202.)

CL.

OPIUM. Apini (Tam. and Tel.) Afeem (Duk.) Uffyoon (Arab. and Mal.) Chasa * also Apaynum (Sans.) Sheerikhaskash (Pers.) Abim (Cyng.) Ufeem (Hindooie) Apium (Jav.) Hapium (Bali) Caruppa (Mal.) Opium (Fr.) Mohnsaft (Ger.) Madjoon (Turk.)

OPIUM (Edin.)

Opium is well known to be an inspissated juice, obtained by incisions made in the capsules of the white poppy, which is a native of Asia, though now cultivated in many parts of Europe. It is only, however, in India, Persia, and Turkey, that opium is prepared, and of late years in small quantities at the island of Celebes, and in Penang. The Indian opium is inferior to none: Dr. Thomson seems to think, that it has less of a peculiar, heavy, narcotic odour than the Turkey article, is somewhat less compact in texture, and of a darker hue; but that it agrees with it in other sensible qualities.

* This is more properly the Sanscrit name of the poppy plant; but, for either, it is not given with much confidence.
The opium of Hindoostan is chiefly furnished in the provinces of Bihar and Benares, where the plant is called *post*; and is sold in Calcutta by public sale. A learned and ingenious inquirer, Dr. Keir, estimated the produce of one acre at sixty pounds of opium, but Mr. Colebrooke* thinks he must have made a mistake, and over-rated the quantity. The India opium Dr. Paris thinks inferior to the Turkey, being less compact, softer, darker in colour, and fainter in odour; and Dr. Thomson found the Turkey opium to contain three times more morphia.

The native practitioners of India use opium for the same purposes that we do; with this exception, that they conceive it to be particularly injurious in typhus fever. The *Vytians* administer it to procure sleep, shorten the cold fit of an intermittent fever, also in lock-jaw, and to afford ease in certain stages of dysentery. They likewise recommend it externally, when mixed with arrack, and in conjunction with benzoin, bdellium, aloes, and ginger in rheumatic affections; but they at the same time, at least the most intelligent of them, maintain, that opium, though it may often alleviate distressing symptoms, cures few or no diseases, and but too often, by giving temporary relief, conceals deep-seated mischief.

Opium, in moderate doses, increases the fulness of the pulse, and augments the heat of the body; also invigorates both the corporeal and mental functions, exhilarating even to intoxication; these are, however, soon followed by languor, lassitude, and sleep. In large doses, Dr. Thomson† observes, the

---

* See Remarks on the Husbandry of Bengal, p. 117.
† See London Dispensatory, article Opium; the reader may also consult Réflexions Médicales sur les Effets sensibles de L’opium, par Philibert: Joseph Roux, who seems to be of opinion that opium is at once stimulant and sedative.
primary excitement is scarcely observed, but the pulse seems at once diminished—stupor quickly ensues, followed by delirium, sighing, deep and stertorous breathing, cold sweats, convulsions, apoplexy, and death.

For excellent accounts of the uses and abuses of this extraordinary extract, the reader is referred to Dr. R. Pearson’s work entitled Practical Synopsis of the Materia Medica; to Chevalier Roque’s valuable publication, entitled Phytographie Medicale, vol. ii. p. 58.; and to Dr. Thomson’s London Dispensatory; from the last of which I cannot resist copying the following passage.

“Opium, for exhilarating the spirits, has long been employed in Turkey, Syria, and China, (he might have added the Malay countries,) and it has of late years been unfortunately adopted by many, particularly females, in this country: its habitual use cannot be too much reprobad, as it impairs the digestive organs, consequently the vigour of the whole body, and gradually destroys the mental energies.” Opium is efficaciously given in some diseases of debility, such as in typhus fever. It produces constipation, and is hurtful where there is a disposition to local inflammation, or to visceral obstruction, and in what is called ardent * remittent fever, it is a positive poison.† It checks intermittent fever, given a little before the approach of the pa-

* Fever attended with great heat of skin. See Dr. James Smith on the fevers of Jamaica.
† Marcet, in his Memoir on the Action of Poisons on Vegetable Substances, would appear to maintain, that vegetable poisons act on vegetables as they do on man, viz. on the nervous system; and he thinks it probable, that there does exist in vegetables a system of organs which is affected by the poisons nearly as the nervous system of animals is. See Journal of Science, Literature, and the Arts, No. xxxix. p. 195.
roxysm. In acute rheumatism it is only safely given in conjunction with ipecacuanha or antimonials. In hemorrhagia it is useful when the discharge arises chiefly from an increased degree of irritability. In the latter stages of catarrhal complaints opium may be given with advantage; but, in dysentery, never when the bowels have not been previously evacuated; and inflammatory symptoms mitigated. “It is in spasmodic attacks, such as tetanus, epilepsy, and cholera, that the good effects of opium are most evident. A quarter of a grain frequently repeated, is enough to keep up its stimulant effect; and from gr.j. to gr.ij. act as a narcotic, and produce sleep; while in tetanus or hydrophobia, and some other diseases, ʒvss. of laudanum have sometimes been given in twenty-four hours, without occasioning any bad effects or bringing on sleep.” In violent pain from ophthalmia a solution of opium as an eye-wash affords immediate relief.

Should the reader be desirous of any information regarding those medicines which might be substituted for opium, he may consult Loiseleur Deslongchamps’ valuable work, entitled “Manuel des Plantes Usuelles Indigènes” (vol. ii. fourth Memoir, from p.81. to the end of the volume). The safest would appear to be that obtained from the lactuca virosa, which was known to Pliny, Celsus, Galen, and Dioscorides; (Vide Plin. lib. xix. cap. viii.) the dose from gr. ij. to gr. xviii. of the extract, according to circumstances; he also mentions (I mean Deslongchamps) the datura stramonium as a substitute. The soporific virtues of henbane are noticed in the same chapter. Those of the lactuca sativa are well known. Gray, in his supplement to the Pharmacopoeias, informs us, that the hypecoum pendulum yields a
narcotic juice resembling opium. It would appear, by a paper lately published by Mr. J. Murray, in Brewster's Philosophical Journal (No. 4.), that the acetic acid is a perfect counter poison for opium.

The substance to which the narcotic power of opium is referable has been examined with much attention by Mr. Serteurner, who has given it the name of morphia. It would appear in some respects to possess the properties of an alkali; it reddens turmeric, and forms crystallizable compounds with acids; Magendie found morphia to be soluble in olive oil, and that the compound acted with great intensity.

The poppy plant, papaver somniferum, is of the class and order polyandria monogynia, and nat. ord. rnoedææ (Lin.). It is called cassa cassa in Tamool, khashkhash (Arab. and Duk.) Kooknar (Pers.) Post (Hind.) It is the jeisoku, also the kes of the Japanese (Flor. Jap. p. 222.); and is what Homer speaks of under the name of Μηνεων: it is the garten-mohn of the Germans; the mak of the Bohemians and Hungarians, and the maczek of the Poles; the Cyngalese term it albin atta; on the capsule, with its contents, the Tamools have bestowed the name of póstákæi; in Dukhanie it is Poost. The poppy is an annual plant, with a glaucous coloured stem, smooth, erect, and round,

* I perceive, however, by Chevalier Roque's Phytographie Médicale, vol. ii. p. 140., that late experiments, made by M. Robiquet, have brought the analysis of opium to very great perfection; that gentleman says, opium contains: "de l'huile fixé, du caoutchouc, une substance vegeto-animale, du mucilage, de la fécule, de la résine, des débris de fibres végétales, de la nacotine, de l'acide méconique, un acide nouveau découvert par M. Robiquet, et un substance jouissant des mêmes propriétés que les alcalis, designée sous nom de morphine." See Formulæ at the end of this volume.
seldom rising higher than five feet, with large, simple, obtuse, lobed and crenated leaves, embracing the stem, on which they are alternately placed; and flowers which are large, terminal, of a silver-grey, and tinged with violet at the base.

The Arabian and Persian physicians * place opium amongst their *Mokederrat* (Narcotica). For much curious information respecting it amongst the ancients,† the reader may consult Pliny's Natural History: that writer tells us (lib. xx. cap. xviii. p. 652.); that the seed of the white poppy is a cure for elephantiasis; he also informs us how opium was prepared in his day, and dwells on its pernicious effects, "non vi soporifera modo, verum si copiosor hauriatur, etiam mortifera per somnum." Some of the contemporary authors, it is true, approved of it when used cautiously; its greatest enemies were Diagorus and Erasistratus, who condemned it. "Diagorus et Erasistratus in totum damnavere, ut mortiferum;" and Andreas, as is quoted by Mr. Phillips in his History of Cultivated Vegetables, (vol. ii. p. 61.), was of opinion, that if it were not adulterated by the people of Alexandria, it would cause blindness. The remedy on which the ancients seem to have had most reliance in cases of poisoning from opium was the *artemisia*: "Bibitur et hæc ex vino adversus opium." Pliny, lib. xlv. cap. x.

* In the writings of Rhazes, a celebrated Persian physician, who published towards the end of the ninth century, I can find little more regarding opium than a theriaca, which he recommends to be taken to mitigate its bad effects, when used incautiously. Vide Oper. Raz. de Re Med. lib. i. p. 198. Avicenna, however, thought better of it: "Importum tussi medetur, dysenteriae remedium est accomodatum est." Canon. Med. lib ii. tract. ii. p. 51.
† In speaking of the use of opium amongst the ancients, Murray says, "Veteres usum opii ad chronicos unice morbos restringerunt." Appar. Med. vol. ii. p. 291.
On the subject of opium the reader will find a great deal of curious and useful information* in Murray’s Appar. Med. vol. ii. p. 254., Gottingen edition. Marcret† in his Memoir on the Action of Poisons on Vegetable Substances, informs us, that a bean plant was destroyed in a day and a half by being watered with a solution of opium. For the use of Morphine and Narcotine, in medicine, see Dr. Dunglison’s Formulary of New Remedies, p. 1.; also, Magendie’s “Formulaire.”

CLI.

OPOBALSAMUM, or BALSAM OF GILEAD.
Akoooyeela semoon-i-roomie (Arab.)
Roughen balsan (Pers.)
Balessan (Egypt.)
Balsamier de la Méque (Fr.)
Opobalsamo (It.)

AMYRIS GILEADENSIS (Lin.)

Cl. and Ord. Octandria Monogynia. Nat. Ord. Terebintaceæ (Juss.)
This balsam is obtained from the tree just mentioned, by “cutting the bark with an axe; at the time that the juice is in its strongest circulation, which is considered to be in July, August, and September.” When it first flows, it is of a yellowish,

* Since I wrote this article, I have been informed by my friend Mr. George Read, who was acting collector in Coimbatore, that he obtained a specimen of opium from the hills near Nellgherry, which was pronounced by the house of Messrs. Letour and Co., Madras, to be nearly equal to the fine Patna opium; and there can be no doubt from the climate of that country, but “that the poppy could be there cultivated with success.”
† See Journal of Sciences, Literature, and the Arts, No. xxxix. p. 194.
turbid colour; but after standing some time, it becomes clear, and heavier, and the colour changes into a golden yellow.

I have never met with opobalsamum in any medicine bazar of India; I perceive, however, that it is an article in the *Ulfus Udwiyeh*, and, therefore, cannot be unknown to the Moguls. We are told by Alpinus, that the tree grows wild in Arabia, and there only; on the other hand, we learn from Mr. Bruce,* that it is a native of Upper Ethiopia, and was thence, at an early period, transplanted into the Southern Provinces of Arabia. Niebhir tells us, that in most parts of Arabia they only burn the wood as a perfume; but that in the neighbourhood of *Hedsjas* they collect the balsam. It is considered almost as a panacea in Egypt, where it is prescribed for bad wounds, ulcers, poisonous bites, and also in nervous and pulmonic affections. The Arabians reckon it amongst their *Adviyah Heezeh* (Stomachica.) The opobalsamum of the ancients was an article in a famous Mithridate, which was recommended by Celsus against poisons †, it is said to have been the green liquor found in the kernel of the fruit. The Carpobalsamum is made by the expression of the ripe fruit. There is a third and very inferior kind of balsam, the *xylobalsamum*, which Mr. Miller observes, was prepared by boiling the small twigs; it is I perceive noticed by Celsus, as a medicine of value in nervous affections, see his recipe (Cels. lib. v. cap. xxiv.). The reader will find much curious information, regarding the amyris gileadensis, in the edition of Miller’s Dictionary by Martyn. I have doubts, whether much of the real

* See Bruce’s Travels, vol. v. appendix, p. 17.
† Vide Cels. lib. v. cap. xxiii.
balsam of gilead is ever brought to Europe, the dried Canada balsam being usually used as a substitute. We are told by Mr. Lunan, in his Hortus Jamaicensis, that there is strong reason for believing, that the *amyris balsamifera* by incision would yield a balsam not much inferior to the balsam of gilead.*

The odour of the real balsam of gilead is at first pungent, but that goes off after some time being exposed to the air, when it acquires the consistence of turpentine; it is yellow outside, and paler within; the taste is pungent and acrid; when good it dissolves easily in water. As a medicine it is scarcely known now in Europe; in Turkey it is used as a cosmetic. The tree which yields the opobalsamum rises to the height of fourteen or fifteen feet, with leaves thinly scattered, small, composed of one or two pairs of opposite leaflets, with an odd one; these are obovate, entire, veined, and of a bright-green colour; the flowers are white, appearing upon the young shoots, three on one stalk, but two generally drop off, and only one produces fruit.† Nine species of *amyris* are growing in the botanical garden of Calcutta, few of which are natives of India; our article was introduced by Dr. Berry, in 1798, from Arabia. I shall conclude what I have to say on this subject by observing that the Arabians call *carpobalsamum, hubul-bulsan حب البلاسم*, the Persians *tokhem, bulsan تخم بلاسم*; they consider it as attenuant and cardiac; dose two direms.

The *amyris ambrosiaca* is a native of Cochin-china, and called there *to-hap-binh-khang*. By Laureiro's account it yields a valuable fragrant balsam (Flor. Cochin-chin, vol. i. p. 290.). This species would also

* See Hortus Jamaicensis, vol. i. p. 147.
† See Thomson's London Dispensatory.
appear to grow in the woods of Guiana; its Caribbee name is arowaou; the French call it l’arbre de l’encens.

CLII.

OPOPONAX. Jawesheer (Arab.) Gaw-sheer (Pers.) Opoponax (Fr.) Panax gummi (Ger.) Opoponace (It.)

Pastinaca Opoponax (Lin.)


I have never met with opoponax in any Indian medicine bazar; it has, however, a place in the Ulfaż Udwiyeh, and is, therefore, known to the Moguls. The Arabian physicians consider it as discutient, placing it amongst their Mohelīlat. I perceive by the work just quoted that they also conceive it to be deobstruent, attenuant, and diaphoretic: from the same work we learn, that when fresh taken from the tree it is white, but afterwards changes to a yellow; its solution resembles milk, and the dose is half a dīrem.

Opoponax is a gum resin of a strong, unpleasant smell, and a bitter, acrid taste. The plant, from the root of which it is obtained by making incisions, is a species of parsnip; it is a perennial, and a native of the South of Europe; rising commonly to the height of four or five feet, with a thick, branched, yellow-coloured root. The Arabs use the whole root occasionally in medicine, terming it uṣṣul ajje-washeer. What we find of the opoponax used in medicine in Europe, is brought from Turkey; it is considered as antispasmodic and emmenagogue, and
has been given in hysteria and chlorosis, in doses of from grs. v. to 3 ss., but is not now, in England, in much repute. The ancients*, particularly Celsus, had a high opinion of the virtues of opoponax, and administered it in affections of the spleen, and in struma (Cels. lib. v. cap. xviii.). The physicians on the continent speak of it as "bon discussif, resolutif, chasse les vents, attenue dans l'asthme et les obstructions; tien, selon Pelletier, résine 42., gomme 33., ligneaux 9., amidon 4., malate de chaux 3., cire et caut-choue 6., matière extractive, &c."†

CLIII.

**ORANGE.** *Kichlie pullum* किच्ली पुल्लम् (Tam.) also *Collingie pullum* कॉलिंझी पुल्लम् (Tam.) *Naringhe* नारिंघ (Duk.) *Nârângé* نارنج (Hind.) *Kichidie pundoo* (Tel.) *Jéroc manîs* جروق منيس (Mal.) *Jeruk-legi* (Jav.) *Jaruk manis* (Bali) *Cay-cam* (Cochin-Chin.) *Panneh dodang* (Cyng.) *Naringe* (Hindooie) *Oranjen* (Dut.) *Laranga* (Port.) *Pomeranzin* (Ger.) *Fnemp* (Japan.) *Arancio* (It.) *Orange* (Fr.) *Pomeranster* (Dan.) *Usi* (Celebes). *Nâga runga* नागरंग (Sans.) *Saku limba* (Mah.) نازج حلو (Arab.)

**CITRUS AURANTHUM** (Lin.)


* By Dierbach's account in his Mat. Med. of Hippocrates, the plant was the Πομεράνζιον of Hippocrates. See his work, chap. vi.
ance from the citrus medica, except that the leaves, not so large as those of the lemon tree, are more pointed, are entire, smooth, and furnished with wings or appendages on the foot stalks; it may at the same time be observed, that the flowers are large, white, odorous, and arise from the smaller branches upon simple and branched pedicles. Willdenow notices but six species of citrus, of which our article is the fourth. Roxburgh makes what he calls citrus acida, and citrus medica, different species; at least so it appears by the Hortus Bengaensis: of the citrus acida (and by which, we would understand, is meant the lime tree, as distinct from the lemon) nine varieties are there noticed; of the citrus medica three varieties; besides four other species of citrus: c. aurantium, decumanus, myrtifolia, and inermis; they are all growing in the botanical garden of Calcutta. Forskahl gives several species of c. medica; the لمور ملح (Arab.) comes nearest to the Indian fruit.

CLIV.

ORRIS COMMON, or IRIS FLORENTINE, ROOT OF. Irsá (Hind.) Ussul-alsosun-ulasmanjoonee (Arab.) اصل السوسي الاسماور جوني Iris de Florance (Fr.) Violenwurzel (Ger.) Ireos (It.) IRIS FLORENTINA (Med. Bot.)

* The lemon tree is a beautiful ever-green, of small growth; with alternate leaves, of a pale green colour, ovate, acuminate, about four inches long, and two broad, slightly indented at the edges; and does not appear to have been cultivated in Italy (according to Willdenow's account,) till after the days of Virgil and Pliny.

† See Descriptiones Plant., p. 142.

The iris root is a favourite medicine with the Arabians and Persians, who suppose it to have deobstrucent and suppurative powers, and place it accordingly amongst their Mufettehat مفتتحات and Munxygen منضجبات. The dose about two direms, to which frequently a little honey is added. It is found in the medicine shops of Persia, and the Southern parts of Europe, in mis-shapen, roundish pieces, evidently with the outer skin pared off, full of little holes, and of a dirty white colour. The roots are nauseous, bitterish, and extremely acrid to the taste: all this, however, disappears, or nearly so, on their being dried, when they are easily broken, and have a rather sweetish taste, slight degree of pungency, and agreeable odour, resembling much that of the violet.

In Europe, this root used formerly to be reckoned as a cathartic of some value, in dropsies; now, at least in England, it is almost never used. Virey says, "il est errhine, sialogogue, et incisive." Alibert, "cette plante passe pour faciliter l'expectoration dans l'asthme, la dyspnée, et autre affections semblables." Vogel would appear to have considered it as drastic and hydragogue.

I find that the same Arabic and Persian names have been bestowed on our article and on what is called the blue iris, which I conceive to be a variety of the iris germanica, and particularly distinguished by its blue standards and purple falls. Four species of iris were growing in the botanical garden of Calcutta in 1814; none of them Indian plants. "The iris florentina, is a native of the island of Rhodes; it has a tuberous and jointed root, which sends off many fibres from the under part; the leaves
spring directly from the root, spreading in opposite directions, and are of a sea-green colour, but yellow at the base; the stem rises amidst the leaves upwards of a foot in height, and commonly bearing two large flowers, of a pale whitish colour." I shall conclude what I have to say of iris florentina, by observing, that Celsus places the root of it amongst his purgatives (lib. v. cap. v.), adding, "ad discutiendo vero ea, que in corporis parte aliqua coierunt, maxime possunt, abrotonum, alba viola, mel, iris, &c. &c." (Lib. v. cap. xi.).

CLV.

ORTOLAN. Bergherie (Hind.) also Bageyra (Hind.) Ortalon (Fr.) Ortolano (It.) Emberiza Hortulana (Var.)

This beautiful little bird* is not uncommon in many of the Indian provinces, particularly in the Puraniya country; and, at certain seasons, is anxiously sought after by the European inhabitants, who consider it as a great delicacy, especially when fat. This Indian bird is a good deal like the ortolan of Europe, and by Dr. Hamilton's account (MSS.), resembles much the calandre lark of Latham, though he suspects that they are still a distinct species. The quill feathers are darkish, the three outer ones with whitish margins; the tail feathers black, the two lateral ones, externally, white; it is somewhat smaller than the yellow-hammer, and makes a singular whistling noise. The real ortolan is not found in Great

* General Hardwicke informs me, that he observed and drew several species of emberiza; but our article is the only one sought after as food.
Britain, but in various other parts of Europe. Those of the plains about Toulouse are reckoned superior to those of Italy.

CLVI.

OYSTER. *Alioe* ḍāṇeर (Tam.) *Puttirke seepie* (Duk.) *Ostrica* (It.) *Kustura* (Arab. and Hind.) *Tirram* (Mal.) *Cavatie* (Cyngh.) *Ostras* (Port.) *Osters* (Dan.) *Huître* (Fr.) *Tirim* (Mal.) also *Badlan* (Arab.) *Mooroo* (Malealie). *Mow-le* (Chin.) *Ostrica* (It.)

*Ostrea Edulis.*

The oysters of the Coromandel coast, though by no means large, are inferior to none in any part of the world, and are best in the months of May, June, July, and August. The places they are found, of the best quality, are the following: at *Alumparva, Ennore,* and near *Rammad*; at these fisheries they are excellent; at *Karikaul, Topetory,* and Sadrâs, not quite so good; at Fort St. David and Cuddalore tolerably good. On the Malabar coast the best oysters are procured at Calicut; they may also be got of a good quality near Tellicherry, and, in fact, at many other places along the shore; also at the mouths of several rivers, where oyster-beds have been made by the natives. They are best in *Malabar* in the months of March, April, and May.

The oysters brought to the Calcutta market are mostly all from Chittagong; they are very large, so much so, that they require being divided before they are eaten; at certain seasons they are much prized.

I have been informed, that the variety of oyste
called rock-oyster by the English fishermen, is occasionally met with in some parts of the Coromandel shores; distinguished by being thin, and having membranaceous plates, wrinkled into irregular, interrupted ribs; the upper valve flat, and a corneous margin half an inch broad; but I cannot say that I have ever seen it.

CLVII.

PARTRIDGE, COMMON GREY. Cowdārie (Tam.) Kowoonzu (Tel.) Ibn tahir (Arab.) Kūbak (Pers.) Tēetūr (Duk.) Firfir (Pers.) Boorongsofo (Mal.) Tittira तितिर or Tittiri तितिरि (Sans.) Teter (Mah.) also Tībīj (Arab.) بوروع سونو (Malay). Per-nice (It.) Perdrix (Fr.)

Tetrao Cinerea (Lin.)

Partridges are common in, I believe, every part of India, and during the season that the small, dry grains are ripe, are sought after; though, generally speaking, they are inferior as food to the same bird in Europe, being dry, and rather insipid. They are chiefly sought after by the Mahometans, who keep them, as they also do quails, loha لهوها (Duk.), for fighting, as we do cocks in England. There are several varieties of the tetrao cinerea in India, which have not, hitherto, been scientifically examined; and, I may add safely, some species* of tetrao (Lin.) or perdix (Cuv.), still to be more accurately described:

* The excellent General Hardwicke informs me, that he had drawn eight species in the Bengal provinces; in a valuable manuscript volume at the India House, prepared chiefly by Dr. F. Hamilton, thirteen or more species of partridge and quail together, are well described.
one not noticed by Buffon, Dr. Hamilton is inclined to call *perdix sylvatica*, MSS.; and there is a large and most beautiful bird, of this kind, in the more Northern tracts of the Ganjam district, named the *cattack partridge*, which I have met with no where else; it is of a dark-brown colour, and has on its back, breast, &c. many golden-coloured spots; the bird is scarce, and differs from the more common, *kala titur*. *Chukwur* is the Hindoostanie name of a species of partridge frequently met with, I understand, in the upper provinces of India, and also common in Nepaul, which the Hindoos suppose capable of eating fire. As far as I can learn, it is a variety of the *tetrao rufus* of Linnaeus, at least it would appear to come nearer to that than any other species. This is commonly known in Europe under the trivial name of the red or Guernsey partridge; it is singular that all attempts to introduce it into England have hitherto failed. Of partridges, the *Vytians* of Lower India say, that the flesh of the cock bird occasions too much bile, but that that of the hen strengthens the body. The Arabians and Persians hold the eggs of the partridge in high estimation; and place them (*byzeh kubk* ببضه كيك) amongst their Aphrodisiacs (*Mobéhyát* مبيبات). We are informed by Captain Macdonal Kinneir, in his "Geographical Memoir of Persia," that a black partridge, *kala titur*, is common in the province of Scind (p. 244.).

The quail (*tetrao coturnix*) is common in India, and, as food, is supposed to differ in nothing from the partridge. It is *kikilivie* (Sans.) also *bartalo; kaday* (Tam.); *loha لحوا* (Duk.); *bater* (Hind.); *wurtung* ورنج (Pers.); *salway* (Malay); *sumanie سمانه* (Arab.); *pooredoo* (Tel.). The *Vytians* recommend...
the flesh in incontinence of urine. It is also a medicine amongst the Chinese, who call the bird chuh-ke.*

CLVIII.

PEACOCK. Myle Μύλο (Tam.) \textit{Nīlkantha} नीलकंठ (Sans.) Némilie (Tel.) \textit{Mayūra} मयूर (Hind.) \textit{Varhi} वर्ही (Sans.) \textit{Moor} مور (Hind.) \textit{Navelu} (Can.) \textit{Moor} (Hindooie) \textit{Tārous} طَارُوس (Arab.) \textit{Mirrik} مَرِيق (Mal.) \textit{Paon} (Fr.) \textit{More} (Mah.) \textit{Pavone} (It.) \textit{Kung-tseo} (Chin.) مرغ (Pers.)

\textit{Pavo Cristatus} (Lin.)

Peacocks, though long naturalized in Europe, are of Eastern origin. They are found in abundance in many parts of India, and, it has been observed, commonly in those jungles most resorted to by tigers. On the islands of the Chilka lake, near Ganjam, there are great numbers, and so tame that they will allow you to pass them almost quite close without taking flight. To see them floating about in the air, if I may use the expression, in their native woods, their lovely plumage brightening in the sun, is certainly amongst the most beautiful objects in nature.

The peacock when young, or rather the young peahens, at certain seasons, are not inferior to turkeys, as food; indeed, in India, they are generally preferred. The flesh is amongst the medicines of the

* Dr. Horsfield, in the xiii. of the Transactions of the Linnean Society, describes three species of partridge as natives of Java: 1. \textit{Perdix chinensis} of Latham (Ind. Orn. 682.), which is the \textit{pikur} of the Javanese. 2. \textit{Perdix Javanica}, the \textit{dagu} of the Javanese. 3. \textit{Perdix orientalis} (Horsf.).
Hindoos, and may be found particularly noticed as such in the *Poorna Soosrum*, a Tamool medical sastrum, which treats of religious disciples and of their forms of devotion, and also of the Materia Medica; it is written by Aghastier, and consists of 216 verses. In the *Vytia Anyouroo*, by the same author, we are told, that it is prescribed with great advantage in all cases of contracted limbs.

"Peacocks had never been seen by Alexander till he entered India, where he found them flying wild on the banks of the Hyarotis, and was so much struck with their beauty, that he decreed a severe punishment on all who should molest them. They were introduced into Rome towards the decline of the republic, and the orator Hortensius was the first who had them presented at table, at a feast which he gave the Augurs." Celsus believed the flesh of the peacock to be particularly wholesome: "item omnem grandem avem, quales sunt anser, et pavo, et grus." Pliny, in speaking of the same bird, says, "qua in mentione significandum est pavones, finum suum resorbere tradi invidentes hominum utilitatibus, accipiter decoctus in rosaceo efficacissimus ad inunctiones omnium putatur; item fimi ejus cinis cum allico melle." Peacocks are common in Guzerat, Cambay, the coast of Siam, and Java. As early as the days of Solomon they were imported into Judea, by the fleets which that monarch equipped in the Red Sea, and which, in all probability, traded to the coast of Malabar.

As in every animal capable of being domesticated, so there are varieties of the peacock; for instance, we

* Vide Cels. lib. ii. cap. xviii.
† Vide Pliny, lib. xxix. cap. vi.
know that the peacock of Norway, and which migrates during winter into Germany, has the wings, cheeks, throat, and upper part of the belly white. The beautiful bird, however, which may be seen, well preserved, at the museum of the India House, and which was brought home from Java by the erudite and scientific Dr. Horsfield, is, no doubt, a distinct species: the neck and breast, in place of being of a glistening purple colour, is covered with moons, much resembling those of the tail of the common peacock. Dr. H. has bestowed on it the scientific appellation of pavo primus. In Bengal there are two varieties of peacock; one with a white ring round the eye, the other with a yellow one.

CLIX.

PEARL. Mootthoo (Tam.) Mootie (Hind. and Duk.) Looloo (Arab.) Mirwareed (Pers.) Mootie (Hindoie). Mootium (Tel.) Muktá (Sans.) Moottoo (Cyng.) Mootara (Malay.) Perla (It.) Paarden (Dut.) Perolas (Port.) Perle (Fr.) Perler (Dan.) also Mutya (Malay).

Margarita.

There would appear to be several Arabic names for a pearl. Jühür جوهر is a common name in Arabia for all precious stones, but is more particularly applied to the pearl. Other names for pearl in that country are gēmān جمان, also shuzzir شزر. The Arabian physicians suppose the powder of the pearl to have virtues in weak eyes; they also consider it as having efficacy when administered in palpitations, nervous tremors, atrabilious affections,
and hemorrhage. They have, besides, this strange notion, that when applied externally, while in its embryon state in the shell, it cures leprosy.∗

The pearl, though it formerly had a place in the British Materia Medica as an antacid, is now exploded. The Indian practitioners, especially the Vytiens, recommend it to the affluent, calcined, in cases of azirna pedie (Tam.) (lentery), and pittie érivoo (heartburn), as also in kistnah doshum (typhus fever). The Arabians place the pearl amongst their Mokewyatdil (Cardiaca) مقربات دز.

The pearl, which is well known to be a small, round or oval concretion, of a bright translucent whiteness, found in the inside of the shell concha margaritifera (Lin.), or mother-of-pearl fish, is of great value when of the best quality. Those procured from the pearl oysters found in the bay of Condatchy, on the island of Ceylon, are very beautiful; as are those got at the Southern extremity of the Indian peninsula. Pearls are also brought from the gulf of Persia, near the Bahrin island, and from the shores of the island of Kharrék†, in the same gulf; these, though large, are not so white or round as the pearls of Ceylon. Pearls are found, by De Comyn's account‡, at Mindano, and on some of the smaller islands, not far from that of Zebu; they may also be obtained, of a good quality and in abundance, at the Soooloo islands, and on certain shores of Japan§, Sumatra, China, Java||, in the

∗ See Ahmed Teifusci's work on Precious Gems, as translated from the original Arabic by Antonio Raineri, Professor of Oriental Languages at Florence. Article Pearl, p. 5.
† See Morier's Journey through Persia, p. 53.
‡ See his State of the Philippine Islands, pp. 38, 39.
§ See Tavernier's Indian Travels, part. ii. book ii.
islands of Mergui and Borneo.\* What are called the occidental pearls, are procured, in vast quantities, near Panama, in Terra Firma proper, between the islands of Cubagua\+ and Coche, and the coast of California; in the gulf of Mexico; along the coast of New Spain; off St. Margarite, or the Pearl Island; in the Rio de la Hacha; and in the islands of St. Martha, Quibo, Gorgonia, &c. In Europe they have now and then been met with on the coasts of Scotland, Livonia, Courland, in the river Ilts in Bohemia, in the Regen (a river in Bavaria), and in certain lakes near Augsburg.

The colour the most desirable in a pearl is a silver-like brightness, and with this quality the largest is, of course, the most valuable; the most beautiful shape is round; it has been observed, that the larger ones have often the figure of a pear. One of the most remarkable for size, hitherto known, was bought by Tavernier, at Catifa, in Arabia, for the sum of 32,000 tomaus (110,000l.); a fishery famous even in the days of Pliny\; it is regular, without blemish, and shaped like a pear; the diameter of it is 0.63 inch, at the largest part, and the length from two to three inches. The same writer tells us, that at the pearl fisheries in Eastern countries it has been observed, that the greater the quantity of rain that falls during the year, the more profitable is likely to prove the fishing. Mr. Crawfurd, in his Account of the Indian Archipelago, informs us (vol. iii. pp. 444, 445.), that "the pearls, and the mother-of-pearl oyster, are productions of the seas of the Indian


\+ See Anson's Voyage round the World.

\; "Verum Arabiae etiamnum felicissimum mare est; ex illo namque margaritas mittit." Pliny, lib. xii. cap. xviii.
islands: the first, as an object of trade, are found nowhere but in the Suluk Islands, and the last principally there also. The quantity of pearls annually exported from the Saluk group to China is reckoned worth, on the spot, 25,000 Spanish dollars; and the quantity of mother-of-pearl shell obtained there, and exported to the same country, is about 5000 piculs, worth in China, at the rate of fourteen Spanish dollars the picul, 70,000 dollars, or 15,750l.” The revenue derived from the Ceylon pearl fishery, of late years, has not been more than 45,000l. per annum.

The pearl oyster is found at a considerable depth at the bottom of the sea; is very coarse, and forms no part of the food of the Indians; it is called in Sanscrit shookti. The production of the pearl within it has excited much curious speculation amongst naturalists. While some suppose it to be an accretion, within the animal, of the superabundant matter called mother-of-pearl, which coats over the inside of the shell; others, among whom is Reaumur, consider it a disease of the fish, similar to bezoar; pearls like it being composed of lamellae, or coats formed round a foreign nucleus: in this way, the modern Chinese force certain shell-fish (mytilus cygneus), or swan muscle, to produce pearls, by throwing into the shell, when it opens, five or six minute mother-of-pearl beads strung on a thread; in the course of one year these are found covered with a pearly crust, which perfectly resembles the real pearl.

For curious instructions for making artificial*

* The glass pearls, so much in vogue at present, and which approach as near as possible to nature, were invented by a French bead-maker, named Jaquin; they are made by covering the inside of hollow glass beads with the soft shining powder obtained from water in which scales scraped from the fishes, called ablettes, had been allowed to remain some time. See Beckmann’s History of Inventions, vol. ii. p. 12.
pearls, the reader may consult Smith's School of Arts (vol. i. p. 161.), as also a paper of Reaumur, in the Memoirs of the French Academy for 1716; by which last we perceive, that what is used to give the pearly lustre, is often a fine silver-like substance, found on the under side of the scales of the blay, or bleak fish. This mode Mr. Smith notices as the best for imitating pearls; in all the methods he recommends, however, the seed pearls are required; but at Rome, where what is called the Roman pearls of commerce are made, and than which no real pearl is more beautiful, the purest and finest alabaster is preferred; the pearly lustre being added by means of the substance above mentioned, procured from the bleak fish.

I have noticed above, and generally speaking it holds good, at least in Eastern countries, that the pearl oysters are not used as food by the Indians; but I find from "Moriër's Journey through Persia" (p. 55.), that those of that country are excellent; not at all inferior to the common oyster. The same interesting writer tells us (p. 53.), that of the Persian pearl there are two sorts, the yellow and the white; the first is commonly sent to the Mahratta countries; the white is circulated through Bussora and Bagdad, into Asia Minor, and thence into the heart of Europe. The seed pearls are arranged round the lips of the oyster, the large ones are nearly in the centre of the shell and middle of the fish. I see by the Journal of Science*, that very beautiful pearls have lately been found in oysters procured from the river Tay, in Scotland. Hatchett, by analysis, found pearls to consist of alternate strata of a thin mem-

branous substance; being a compound of 66 parts of carbonate of lime, and 24 of albumen.

The pearl fisheries, at one time, in America* were most productive. We know that in 1587, upwards of 697 lbs. of pearls were imported into Seville, amongst those some of great value for Philip the Second, who had one from St. Margarita, which weighed 250 carats, and was valued at 150,000 dollars. Those of the Seychelles Islands are often large and beautiful; but they are, it would appear, got with difficulty, from the great depth of sea in which they are found.

CLX.

PEA. Puttanie वृत्र (Tam.) Vātāṇā (Guz.) Buttani بنتا (Duk.) Goondoo Sānighéloot (Tel.) Wan (Japan.) Muitir (Hind.) Harenso (Sans.) Muthur (Hindoioie). Kirshenèh کیستن (Pers.) Pois (Fr.) Pisella (It.) Watana (Mah.) PISUM SATIVUM (Lin.)


The pismum sativum is said to be a native of the South of Europe; but we are told by Loureiro, that peas are natives of China, and Cochin-China, and called in the last mentioned country dau-tlon (Flor.

* The pearl-fishery of Colombia, has of late years been considered as of great value; and I perceive by an excellent work, entitled, "Journal of a Residence in Colombia, during the years 1823, 1824," by Captain C. Stuart Cochrane, that the exclusive right of that fishery had been granted by the last congress to Messrs. Rundell, Bridge, and Rundell, of London, for the term of ten years. See more respecting pearl, in Part iii. of this work.
Cochin-China, vol. ii. p. 448.). Thunberg says, the pea is cultivated in most provinces of Japan; and I have every reason to believe, that it is indigenous in Central India, as we find whole fields of peas growing in many parts of the Mahratta country. In the more Southern tracts of the peninsula they are only cultivated by the European inhabitants, who, with care, have them in great perfection in the cool season.

Some people find peas flatulent, but with others they agree well; and we know, that the pulses are in a peculiar degree nourishing. The variety of these cultivated in the Northern parts of Hindoostan is great. The Afghans, and the Persians of the Southern provinces, who rear but little rice, feed chiefly on them; and I am inclined to think, that this is one cause why they are the strongest, most muscular, and, perhaps, the handsomest race in the world. Two of the pulses most in esteem in those regions are the towaray (Tam.), and the carpoo woolandoo (Tam.). The first the Persians call shakhool, the Mahrattas toor, and the Bengalese urkur; it is the thora pæru of Rheed, the citysus cajan (Lin.), and is sometimes called by the English pigeon pea. The second is the mowng of the Hindoos of the higher districts; it is the mash ماش of the Arabians; the benoomash بئوماش of the Persians; the kachang kâdalé of the Malays, and the chicúdú of the Canarese; in Bengal it is sometimes termed ticoray colai; in Sanscrit it is māsha माघ.

The Greeks called the pea Πίσον, from Pisa, a town of Elis, where, we are told, they grew in great plenty. Pliny seems to have entertained a strange idea, that lentils, when taken as food, had the effect of producing equanimity: "Invenio apud auctores,
æquanimitatem fieri vescentibus ea." Celsus† was of opinion, and perhaps he was right, that peas were less nourishing than what are commonly called the pulses or legumes: "Ex leguminibus vero valentior faba, vel lenticula, quam pisum." A very good kind of coffee may be made from toasting the chick pea, which I find is sometimes done even where the true coffee should not be scarce, such as in Egypt, in which country this pea is called hămús حمص, according to Forskahl; it is in Tamool cădălei; chăná (Guz.); hurbhury هوبری (Duk.); saníghëlo (Tel.); chenna (Hind.); nakhođd نخوود (Pers.); chëñëuka (Sans.). It is the cicer arietinum of Linnæus, and is, by Professor Link’s account, much eaten by the lower classes in Spain †, where it is named garvanzos.

CLXI.

PEACH. شفتالو Shufthaloo (Pers.) Persica (It.)

Amygdalus Persica (Lin.)

Cl. and Ord. Icosandria Monogynia. Nat. Ord. Rosaceæ (Juss.).

The amygdalus persica, with care, now grows tolerably in the Mysore country, and in Upper India; and produces pretty good fruit. By Mr. Moon’s account it also grows in Ceylon, whither it was brought from Persia (See his Catalogue of Ceylon Plants, p. 89.)

* See Pliny’s Natural History, lib. xviii. cap. xii. p. 449.
† See Cels. de Medicina, lib. ii. cap. xviii. p. 84.
‡ See Link’s Travels, p. 195.
CLXII.

PELLITORY OF SPAIN. Akkárákárum (Tam.) Parietaria (It.) Parietaire (Fr.) Akkaraputta (Cyg.) Akkurkurha عاقتر حا (Arab. and Duk.) Pyrethre (Fr.) Zahn wurtzell (Ger.) also Pietro (It.) Sesin (Chin.)

Anthemis pyrethrum (Lin.)


This root is to be found in most of the Indian bazaars; though I cannot learn, that the plant grows in any part of India. It is a native of Arabia, Syria, Calabria, Crete, and Bohemia; and it is, no doubt, from the first mentioned of these countries, that it is brought to Hindoostan, an export from Mocha. I am much inclined to think, that it is the root we find noticed by Forskahl in his Materia Medica Khairina, under the name of ood alkurrakh عود الكرح; with regard to its Asiatic names, there is this peculiarity, that its Arabic, Persian and Dukhanie appellations are nearly the same.

The pungency of the pellitory root (which is long and tapering, and not thicker than the finger), is not perceived till it has been chewed for a few seconds, when it occasions at first a glowing heat in the mouth, soon followed by a pricking sensation in the tongue and lips. The Vytiians prescribe an infusion of it, in conjunction with the lesser galangal sitta-
rictie (Tam.), and ginger, as a cordial and stimulant in lethargic cases, in palsy, and in certain stages of typhus fever; they also order it to be chewed, as a masticatory for the toothache. It certainly possesses powerful stimulant properties, but is scarcely ever employed in Europe as an internal remedy; though it has been found useful as a sialagogue, and as such, Dr. Thomson says, has been given with success in some kinds of headache, apoplexy, chronic ophthalmia, and rheumatic affections of the face.

With regard to the chemical properties of the pellitory root, Alibert says, "par la distillation, cette racine fournit une huile butyracée très acrimonieuse." By the Persians and Moguls it appears to be considered as discutient and attenuant; and is placed accordingly amongst their Mulutifät: the dose two dangs. See a work entitled شرح اسباب وعلامات by Nafis Ben Abiez, dedicated to Sultan Ulugh Beig Gurgan.†

The anthemis pyrethrum is a perennial plant; having leaves doubly pinnate, with narrow linear segments of a pale green colour; the flowers large, with the florets of the radius white on the upper, and purple on the under side: and those of the disc yellow. But one species of anthemis was growing in the botanical garden of Calcutta in 1814., the anth. cotula (Willd.), introduced from Europe.

Celsus informs us, that pyrethrum was one of the articles contained in a famous malagma (cataplasm), which was employed as a resolvent, and for maturing‡

† The Arabian physicians, in the days of Avicenna, prescribed pellitory in rigors; "ante rigoris invasionem ex oleo corpori affractum contra rigorem valet, sive cum febre veniat, sive citra febrem." Vide Canon. lib. ii. tract ii. p. 232.
‡ Vide Cels. lib. v. cap. xvii.
pus; he also mentions it as useful for opening the mouths of wounds.*

CLXIII.

PEPPER, BLACK. Mellághoo (Tam.) Gammiris (Cyg.) Miriâllo (Tel.) Meeritk (Hindo). Marîch or Mirch (Sans.) Gol-mirch (Hind.) Kâli mirch (Duk.) Filif lusvud (Arab.) Filil seeeh (Pers.) Lada (Mal.) Marîcha (Jav.) Micha (Bali.) Sahan (Palembang). Poivre (Fr.) Schwarzne pfeffer (Ger.) Pepe nero (It.) Pimiento (Sp.) Pimenta (Port.) Kaly meerchingay (Mah.) Huo-
tseaou (Chin.)

Piper nigrum (Lin.)

Cl. and Ord. Diandria Trigynia. Nat. Ord. Piperitæ. In no part of the world does this species of pepper grow in greater abundance than on the Malabar† coast; whence it is a most lucrative export. It is, however, a production of many other Eastern countries; but in all these, Mr. Crawfur‡ informs us, of a quality inferior to that of Malabar. The kingdom of Bantam on Java, alone, used to furnish to the Dutch||, six millions of pounds annually;

* Vide Cels. lib. v. cap. iv.
† Dr. Buchanan says, in his “Travels through Mysore, Can-
ara,” &c. (vol. iii. p. 269.), that the best black pepper that grows in Southern India, is that of Nagara, much better than that of the district of Malabar: that of Nagara, sells at the rate of 515 lb. for 92 rupees.
‡ See his History of the Indian Archipelago, vol. i. p. 481.
|| See Sketches Civil and Military of Java, p. 37.
though Mr. Crawfurdo is of opinion, that the Java pepper is the worst that grows in the Indian Archi-
pelago. On Sumatra, three different kinds of black pepper are cultivated; the lada lawör, the lada
manna, and lada jambee; the first or lampoon pepper, is reckoned the best and strongest. On Borneo*,
pepper was first cultivated by the Chinese, about fifty years ago; the produce of that island is not
good. At Palembang there is now produced up-
wards of fifteen thousand peculs annually. It is a
common produce of Siam, at Prince of Wales's Is-
land; at Malacca, and at the Philippine† islands
much attention is given to the rearing of this spice.

The piper nigrum, the tieo-bo of the Cochin-
Chinese‡, is the mélágho-codi of Rheede (Hort. Mal.
vi. p. 23. t. 12.), is a vine requiring the support of
other trees; those commonly planted for this pur-
pose in India, are the betel nut palm (arecha catechu),
the moochie wood tree (erythrina Indica, Willd.), the
mango tree (mangifera Indica), the jack tree (arto-
carpus integrifolia), and the hyperanthera moringa;
but it has been remarked, that the vines which cling
round the two last thrive best. The trees commonly
preferred in the islands of the Eastern Archipelago,
are what the Malays call the dapap (erythrina coral-
lodendron), and the mánghúdú (morinda citrifolia).
The plants are about four years old before they pro-
duce fruit, and the berries are nearly five months in

* See Dr. Leyden's Sketches of Borneo, in the seventh
volume of the Transactions of the Batavian Society.
† See De Comyn's State of the Philippine Islands, p. 20.
Pepper is there chiefly cultivated in the provinces of Tayabas and
Laguna.
‡ Loureiro speaks highly and justly of the virtues of black
pepper, extending its tonic virtues to the brain as well as the
coming to perfection, from the time they first appear. The plant is the فنل of Serapio (c. 367.). The Arabs consider pepper as powerfully deobstruent, and as such, I see it has a place amongst their مفتهات. With regard to the notions of the ancients respecting pepper, the reader may consult Pliny and Celsus; the first (lib. xii. cap. vii.) tells us where it was produced best in his day, and enumerates three sorts; the second mentions both the round and long pepper amongst his diuretics* (lib. ii. cap. xxxi.). Nine species of piper are growing in the botanical garden of Calcutta; eight species grow in Ceylon.

As a medicine, the native doctors of India consider black pepper as stimulant and stomachic, and prescribe an infusion of the toasted berries in cases of cholera morbus; and I have myself known it put a stop to the vomiting in this disease†, when many other remedies had failed. They also prepare with it a kind of liniment, which they suppose to have sovereign virtues in chronic rheumatism. In Europe it is occasionally employed as a stimulant in retrocedent gout, and in palsy. The watery infusion has proved a useful gargle in relaxation of the uvula. The dose of the black pepper may be from six grains to a scruple. What is commonly called white pepper, is merely the black pepper blanched by steeping it for a time in water, and afterwards gently rubbing it, so as to remove the dark outer coat; it is considerably milder than the other, and is much

* The same virtue in pepper is noticed by Rhazes. Vide Opera Aphorismorum, lib. iii. p. 536.
† Though a far more certain mode of combating that disease, in its sporadic form, is by a speedy use of calcined magnesia, given not in milk, but in tepid water.
prized by the Chinese; a great deal of it is prepared at Bencoolen. It appears from Avicenna (Can. lib. ii. tract ii.), that in his day the white pepper was most esteemed as a stomachic; and Celsus says, that it was one of the ingredients used in preparing a famous antidote (lib. v. cap. xxiii.). The use of black pepper as a seasoner of food, will be noticed in another part of this work, suffice it here to observe, that it is a never-failing ingredient in many of the Indian dishes, curries, mélagnhotané, pilloes, &c., as well on account of its pleasant flavour, as from a conviction of its powerful stomachic* virtues; it is, doubtless, the most valuable of all the spice kind. Before concluding, I shall shortly state, that the piper nigrum is "a climbing plant; the leaves, which are ovate, entire, pointed, seven-nerved, and dark-green, are petiolate at the joints of the branches; the flowers are sessile, white, small, and placed on terminal spikes, without any regular calyx or corolla; the fruit is a globular berry of a red-brown colour."

The piper peltatum, Dr. Horsfield informs us, is common at Java, there called lamba-ang gelumbo. The fruit is applied, externally, in swellings and dropsies, in many of the Eastern islands. Mr. Brande regrets, that the piper nigrum has not been satisfactorily analyzed; it contains, he adds, a volatile oil, with starch and extractive matter.

* A virtue Roques is quite sensible of: in his Phytographie Medicale he says, in speaking of it, "il corrige par sa qualité stimulante les alimens fades ou visqueux, reveille les facultés digestives; et donne aux temperament inertes un sentiment de force et d'alacrité."
CLXIV.

PEPPER, CAYENNE, or CHILIE. *Mölläghāi* (Tam.) *Mérápákāia* (Tel.) *Brahm maricha* (Sans.) *Lāl mirchī* also *Fūlīlī sūrkh* (Hind.) *Fānār sūrkh* (Pers.) *Felsel-achmar* (Arab.) *Meneshēna* (Can.) *Lombok* (Jav.) *Lada mira* (Mal.) *Tabia* (Bali.) *Poiivre d'Inde* (Fr.) *Spanischer oderkercher pfeffer* (Ger.) *Pepperone* (It.) *Gasmiris* (Cyng.) *Tam-bhudda meerchingay* (Mah.)

*Capsicum Frutescens* (Lin.)


Our present article, which is universally called red or Cayenne pepper, or Chilie by the English in India, is not the produce of the capsicum annuum, but of the capsicum frutescens (Lin.), which is the capsicum Indicum of Rumphius (Amb. 5. d. 248. t. 8.); it is usually termed the shrubby *capsicum* plant by botanists, and is the *cāpō-mölāgō* of Rheede, in contradistinction to the capsicum annuum, which he calls the *Vāhli-cāpō-mölāgō*. The difference betwixt the two does not appear to be considerable, and would seem chiefly to consist in the nature of the stem, which in our article is shrubby; while in the other it is herbaceous. The Chilie plant is the *lat-tsiao* of the Cochin-Chinese, who use much of the fruit with their victuals (Flor. Cochin-Chin. vol. i. p. 128.). It is cultivated in every part of India, on account of
the pod, or rather pod-like berry, so much used by
the natives as a warm seasoner. As a medicine, the
Vytians believe it, and justly, to be stomachic and
stimulant; and also prepare with it cataplasms,
which they employ in cases requiring rubefacients.
It has of late years been successfully given in Eng-
land in atonic gout, dyspepsia, accompanied with
much flatulence, tympanitis and palsy. Dr. Wright
has recommended capsicum in dropsies, and other ca-
chetic complaints, when chalybeates are at the same
time indicated:—dose from gr. vi. to gr. x. in pills;
of the tincture, from 3i. 3ij. in a glass of water.
As a gargle it is supposed to clean, without im-
peding the healing of ulcers in the fauces; this
gargle, Dr. Thomson says, is prepared by beating
into a paste 3i. of the cayenne pepper, and 3i. of
common salt, then adding 3vi. of boiling water, and
to the solution, when cold, 3v. of vinegar. With
hogs’ lard, capsicum forms a good liniment for para-
lytic limbs.

There are growing in the botanical garden of Cal-
cutta, six species of capsicum; the annuum, grossum,
frutescens*, baccatum, purpureum, and minimum.
The grossum is called in Hindoostanie kaffrie-murich.
Of our article, the frutescens, there are two varieties,
the red and yellow, termed in Bengalese lall-lunka
murich and huldi-lunka murich; the two last species
have been scientifically examined by Dr. Roxburgh;
of these the minimum is named in Hindoostanie
dhan-murich. The c. grossum bears a fruit as large
as a small apple, which is called by the English in

* Mr. Moon, in his valuable Catalogue of Ceylon Plants, in-
forms us, that the Cynagalese name of the capsicum frutescens is
gas miris, and that there are three varieties of the plant in that
island; a red, a yellow, and a black. See work, p. 16.
India coffrie Chilie; it is preferred for pickling, the skin being fleshy and tender: the seeds are previously taken out. Virey*, in his “Histoire Naturelle des Médicamens,” expresses a singular notion, that it is owing to an abuse of this pickle that the inhabitants of hot climates suffer so much from liver complaints.

The Chilie plant is constantly found in its wild state in the Eastern Islands†, though, from its being so commonly called Chilie, Rumphius argues its American origin. “It seldom rises higher than four feet, with a roughish stem, and branches diffused, and often scendent; the leaves are lanceolate, quite entire, waved, small, smooth, petioled, alternate or scattered; flowers, axillary, small, white, and five or six-cleft.”

Capsicum is supposed by the German physicians to be peculiarly injurious in gonorrhæa, “imo gestatum in linteo supra abdomen, gonorrhœum post octo menses resuscitavit” (Murray’s Appar. Med. vol. i. p. 704.).

CLXV.

PEPPER, LONG. Tipīle திப்பிளை (Tam. and Cyng.) Pīpūlūo (Tel.) Pipilie پپلی (Duk.) Pipel (Hind.) Pippali पिप्पली also Krishnā कृष्णा (SANS.) Dar filfil دار نفلل (Arab.) Fīflī daraz (PERS.) Tābee طابي (Mal.) Chabi-jawa (Jav.)

* See the work, p. 182.
Poivre longue (Fr.) Langer pfeffer (Ger.) Pepe lungo (It.) Pimienta larga (Span.)

Piper Longum (Lin.)


This species of pepper, which is the cay-lot of the Cochin-Chinese*, is produced in abundance in many parts of Upper as well as Lower Hindoostan. The berries are small, and lodged in a pulpy matter, like those of the black pepper; they are at first green, and become red when ripe. Having been found to be hottest in their immature state, they are then gathered and dried in the sun, when they change to a dark grey colour. It is imported in the entire† spikes, which are about an inch and a half long, and indented on the surface.

Dr. Cullen is right, when he says, this pepper has the same qualities as the black, but in a weaker degree; the aromatic odour is rather faint, but its taste is pungent. The Vytians on the Coromandel coast prescribe it in infusion, mixed with a little honey, in catarrhal affections, when the chest is loaded with phlegm; the plant is the cātā-trightpali of the Hort. Mal. (vii. p. 27. t. 14.). It is a perennial, a native of India, and also of Nepal ‡ and Java §; "its stem is smooth, branched, slender, and scendent; leaves cordate, pointed, nerv'd, and of a deep green colour:

* Loureiro speaks highly of the medicinal virtues of long pepper: "caelefaciens, stimulans, deobstruens" (Vide Flora Cochin-China, vol. i. p. 32.).
† See the London Dispensatory.
‡ See Kirkpatrick's Account of Nepal, p. 205.
§ An export from that island to Surat. See Sketches Civil and Military of Java, p. 207.
the flowers are small, in short, dense, terminal spikes, nearly cylindrical.”

There is a large variety of it sometimes met with in Lower India, called in Tamool ana tipilie (or elephant pepper), in Telinghoo it is yeanyha pipulloo, and in Sanscrit goja kunnie.

The root of the long pepper is a favorite medicine of the Hindoos; it possesses the virtues of the berry, but in a weaker degree; and is prescribed by them in cases of palsy, tetanus, and apoplexy. It is termed in Sanscrit granthika and pippali-mūla पिप्पलिमूल; in Tamool by the various names of bengula modie, kandam-tipili, and tipili moolum, in Hindoostan it is peeplamool, in Persian beik derucht julfil draz and in Arabic فلفل مويه، and in Arabic julfil mooeh. The Arabsians consider it as cardiac.

CLXVI.

PETROLIUM. See OIL, ROCK.

CLXVII.

PHEASANT. تدرچ Tezurj (Arab.) Tedroo (Pers.) Faisan (Fr.) Fugiano (It.) Phasianus (Lin.)

Several species of this beautiful bird have been discovered amongst the more Northern tracts of the

* The Arabsians, in the days of Avieenna, thought very highly of this medicine; he said of it, “concoquit digeritique cibum, et ventriculum roborat: libidinem concitat, zingiberis aquat efficacitatem.” Canon. Med. lib. ii. tract ii. p. 106.
Indian continent; thanks to the interesting research of General Hardwicke, and other naturalists. I have already noticed (under the head of fowl) the *phasianus gallus*, which is the *gallus Indicus* of Leach, the *gallus sonnerati* of Temminck, or wild cock of Latham. For the following list of pheasants, distinctly so called, I am indebted to the kind attention of General Hardwicke:

1. *Phas. cruentus* (Hard.), *chelmin* (Nepaulese), noticed also by Latham (Gen. Hist. No. 19.); it is a native of Nepal, and the snowy mountains.

2. A pheasant, which has only yet been examined by General Hardwicke, and of which he has a fine drawing; it is a native of Nepal, and called by the inhabitants *cheer*.

3. A pheasant, as yet only particularly examined by the same gentleman; it is a native of the Almorah mountains, and named by the inhabitants *pukraas*; the General has a drawing of the bird.

4. *Phasianus ferruginis* (Hard.). The native name of this species is not known; it is found amongst the snowy mountains, and in Nepal.

5. *Phas. satyrus* (Tem.). It is the horned pheasant of Latham, and is a native of Sireenagur and Nepal; it is of a reddish-brown colour, is a middle size, betwixt a common fowl and a turkey, and is distinguished by a callous blue substance, like a horn, which springs from behind each eye.

6. *Phas. impeyanus*. This most beautiful species is *moorghi zereen* (Pers.); *moonal* (Hind.); it does not correspond with the *phas. pictus* (Lin.), but is, unquestionably, the *lophophorus refulgens* of Temminck, so named from the brilliancy of its plumage, being made a bird of a new genus in France, owing to its having a crest.
7. A pheasant only hitherto noticed by General Hardwicke, who has a drawing of the bird; it is the jeelmeah of the inhabitants of the snowy mountains, who bring it for sale to Nepal, where the flesh of it is considered as a remedy for jungle fever.

8. *Phas. leucomelanus* (Lin.). This is a lovely bird; it is the coloured pheasant of Latham; and is a native of Nepal, where it is named kaledje.

A gentleman sent lately from the Burmah country, for the museum of the Royal Asiatic Society, two stuffed pheasants: the one has purple wings, a brownish breast, a beautiful yellowish green neck, and a crest of dark reddish brown feathers; it is the mee-nal of the Burmese, a name very much resembling the Hindooie name of the *lophophorus refulgens*, above noticed, and of which it, no doubt, is a variety. The other sent, is called, by the Burmese, *singchinis*; it is also a most beautiful bird, being of a greyish mottled brown on the back, with small white spots all over it; the breast is a pale crimson, having, likewise, numerous white spots all over it, with this difference, that each spot on the breast is surrounded with a black margin; it has no crest, but a neck of bright crimson. It becomes a question how to name it.*

Pheasants, it will be seen by what has been just observed, cannot be procured in India in such quantity as to make them an object of much request as food. They are well known to be a great delicacy in Europe, and to be at once light and nourishing. The common pheasant *p. colchicus*, so named from having been originally found in Colchis, has, of late years, been ascertained to be a more hardy bird than

* General Hardwicke believes this to be the species known in Nepaul by the name of *mennür*. 
it was, at one time, supposed to be, and thrives admirably in the gentlemen’s parks of some of the most Northern counties of our island.*

CLXVIII.

PIGEON, DOMESTIC. Prūṇa (Tam.) Kabooter (Duk.) Purewa (Hindooie). Pāwoorū (Tel.) Merapatti (Mal.) Hūnam (Arab.) Purewa (Hind.) Kabooter (Pers.) Kapōta कपोत (Sans.)

COLUMBA DOMESTICA (Lin.)

The natives of India, like us, consider pigeons, when taken as food, as stimulating and nourishing. The Arabians and Persians give them a place amongst their Aphrodisiacs, as they do also their eggs. There are many species to be met with, chiefly reared by the Mahometans.

What is called the rock pigeon on the Coromandel coast, is a variety of the columba cenas, or wild pigeon, beautifully speckled, and if killed young, and at certain seasons, when the small grains are on the ground, is excellent. The Tamools call it maley pora, or hill pigeon, the Persians junglie kebooter. The parula (Canarese), which Dr. F. Hamilton tells us is common in Canara, differs in almost nothing from the stock-dove or wild pigeon of England.

The turtle-dove (columba turtur) is also very common in the Indian woods, and has nearly the same

* In a manuscript volume at the India House, I find two species mentioned as Indian birds; the p. argus and p. lineatus.
plaintive note as in Europe; it is small, of a blueish grey colour, but as food, it is dry and insipid. The Tamools call it caat pora; on the Malabar coast it is termed ciangälli; in Malay تاکوکور.

What is termed the green pigeon by the English in India, is a beautiful bird, found, at certain seasons, on the topmost branches of the banyan tree (ficus Indica), on the small fruit of which it feeds. It is of a bright green colour, with a short bill, in a slight degree curved, and has very short legs; it is, as food, the most delicate of all the pigeon kind. Where its proper place may be in natural history, whether a distinct species of the columba, or a variety of the col. turtur, has not, I believe, hitherto been fully ascertained. Its colour and form appear to come near those of the columba migratoria (Lin.), or Canada turtle, but it is much smaller, and has by no means the same habits. On the Malabar coast it is termed ciula; the Tamools call it patchei pora, or green pigeon.*

CLXIX.

PINE APPLE. Anäsie pullum (Tam.) Anänäs (Duk.) Nanas naneh (Mal.) Pandang (Macassar). Pandang (Bugis.) Usi bangala, also Mangala (Amboynese). Koida Cheeka (Malealie). Ananas pundoo (Tel.) Kapatsjakka (Rheede). Anasi (Cyg.) Ananasso (It.)

* In a manuscript at the India House, I find noticed as Indian birds, by Dr. F. Hamilton, the c. nicobarica, c. lineata, c. hursala. Ten species of columba are described by Dr. Horsfield as natives of Java. See Transactions Lin. Soc. vol. xiii.
Cl. and Ord. Hexandria Monogynia. Nat. Ord. Bromelieae (Juss.)

The pine apple grows in great abundance* in most parts of India, and, with a little care, large, and of an excellent quality; it is, certainly, a delicious fruit, and is too well known to require a description here. In hot weather it is most refreshing, but, owing to a certain pungency, it does not agree with every stomach; and not unfrequently produces cholera morbus.

There seems still to exist some doubt respecting the native country of the pine apple plant: it is, evidently, indigenous in Africa. It is common now in the Eastern islands: Mr. Crawford thinks it was first introduced there by the Portuguese, from America; how that may be, I know not, but this is well known, that the plant is growing wild in the woods of Ceylon; yet it is singular, that it is there called by the same name it has in America, or nearly so, anasi. The finest in the world are supposed to be the sugar-loaf pines of Brazil; and next to them, those of Montserrat. A very pleasant wine may be made with this fruit, and which Long, in his "History of Jamaica," says, is sometimes added to give zest to rum (see work, p. 793.). The pine apple was introduced into Bengal, in the reign of the Emperor Akbar, by the Portuguese, who brought the seed from Malacca. In 1594, it was cultivated in China; brought, perhaps, thither from America, through the Philippine Islands: indeed, Acosta, in his Treatise on the Drugs and Medicines of the East Indies, tells

* Four varieties of the plant grow in Ceylon: the queen red, the white, the sugar-loaf, and the stone. See Mr. Moon's Catalogue of Ceylon Plants, p. 24.
us, that the fruit was brought from Santa Cruz to the West Indies, and that it was afterwards transplanted to the East Indies and China. It would appear to have been first described by Gonçalo Hernandez, who went to America in 1518. The plant grows in great abundance in the fields of Cochin-China, and is there called *tlai-thom* (Flor. Cochin-China, vol. i. p. 192.).

**CLXX.**


*MUSA PARADISIACA* (Lin.)

Cl. and Ord. Polygamia Monoecia. Nat. Ord. Musæ (Juss.)

The plantain is certainly one of the most delicious of all the Indian fruits, and one of the safest for such as have delicate stomachs, being entirely free from acidity; it is, moreover, very nourishing, and is always prescribed as food, by the Hindoo practitioners, for such as suffer from bile and heat of habit. It is improved in flavour by means of sweet milk and sugar, the rough covering being scraped off which is immediately under the skin. There are
many varieties* of the plantain†, differing in size and shape: the best are the yellow, commonly about four inches long; the rajah, not quite so long, and tipped with green at the end; and the red, which last is luscious, but has a somewhat perfumed taste. The banana (musa sapientum), some botanists, such as Loureiro and Gärtner, thought did not specifically differ from the musa paradisiaca; Willdenow, however, has made them different. The banana tree is, moreover, marked with purple spots; the fruit is shorter and rounder, with a softer pulp, of a more delicate taste: besides, in the m. parad. the male flowers are permanent; in the other, they are deciduous. The plantain and banana are the principal fruits of the Eastern islands; unripe, they are sliced and made into curry, when they taste like potatoes. Rumphius noticed no less than sixteen varieties of plantain and banana in the Molucca islands. The wild banana (musa textilis) grows in Mindanao, and the Philippine islands; it is remarkable for this, that the fibrous bark of it is made into cloth; it also affords material for cordage and cables, called in Eastern countries, manilla ropes.

CLXXI.

POISON NUT. Yettie cottay (Tam.) Moosítighénza, also Musadi (Tel.) Culaka, also Kutaka, also Veshamooostibeejum (Sans.) Kodakaddooruatta (Cyg.) Koochla खुच्छ (Duk. and Hind.) KhanékJ.

* On Ceylon, where the tree is called anawalu-kesel, no fewer than ten varieties grow.
† The Tamool doctors prescribe the plantain තෝරතලිලා (Tam.) to strengthen the body.
ulkelb (Arab.) Jawuz alkie (Serpicio) Ma-tseen (Chin.)

**Strychnos Nux Vomica** (Lin.)


The seeds of the fruit of the nux vomica, which is the goda-kaduru, also *divie kaduru*, of the Cyngalese, are reckoned amongst the most powerful vegetable poisons of the Hindoos, and so Loureiro declares them to be. The fruit itself is about the size of a small apple, is covered with a smooth, somewhat hard, shell, of a beautiful orange colour when ripe, and is filled with a soft, jelly-like, bitter, poisonous pulp. It is in this pulp that the seeds are immersed; they are usually from three to five in number, round, flattish, and about three quarters of an inch in diameter.

The *Vytians* are of opinion, that if the seeds are not taken in sufficient quantity to cause death, they will produce mental derangement: about as much of the powdered nut as will lie on a sixpence is, they say, sufficient to kill a dog; much less will cause the death of a man. When finely pounded, and intimately mixed with margosa* oil, the Tamoos, like some of the German and Swedish physicians, consider it as a tonic and astringent, given in minute doses; they also recommend it in chronic rheumatism, and, blended with the white of an egg, they employ it as a repellent. Dr. Fleming informs us, that the natives of Upper Hindoostan are in the habit of adding the poison nuts in the process of distilling arrack, for the pernicious purpose of rendering the spirit more intoxicating.

* A fixed bitter oil prepared from the fruit of the *milia azadirachta* (Lin.).
The root of the tree, as well as that of the strychnos colubrina (lignum colubrinum), is amongst the remedies used in cases of snake bites, on the Malabar coast. This last mentioned tree is the modira caniram of Rheede (Hort. Mal. 7. 10. t. 5.); our article is the caniram of the same writer (Hort. Mal. 1. 67. t. 87.). In Malealie it is canyara.

The Arabians would seem to prescribe the root of the poison nut tree*, as the Hindoos do, in cases of snake bites; they call it adrakie ادرکی, which is, properly, a Syrian word. The seeds they place amongst their Mokederrat مخدرات (Narcotica). See an Arabic medical work, entitled Shereh Ashab va Ilāmut شرح اسپاب و علامت, written by Nafis Ben Aviez, and dedicated to Sultan Ulugh Beig Gürgan.

The tree is a native of Cochin-China, and called cay-cu-chi (Flor. Cochin-China, vol. i. p. 125.), also of Persia, and the nuts, by Elmore’s† account, are an export from Mocha. It with three other species are growing in the botanical garden of Calcutta. The strychnos nux vomica is quite a common tree on the Coromandel coast. Dierbach in’ his Mat. Med. of Hippocrates, says, it may be the Στρυγγος of the Greeks. “It is of a middling size, with a rather crooked, but thickish trunk, and irregular branches; the leaves are opposite, on short petioles, ovate, shining, smooth on both sides, entire, three-five nerved, about four inches long, and from an inch to three inches broad; the flowers are small, greenish, white, and collected in small terminating umbels.”

* Four species of strychnos grow in Ceylon. See Moon’s Catalogue of Ceylon Plants, p. 16.
Several medical men of distinction* on the continent, have examined, with great accuracy, the deleterious qualities of the nux vomica: such as Gesner, Heyde, de Wepfer, de Hillefeld, de Brunner, and Loss, and compared them with those of the upas tiente. Alibert, in his "Nouveaux Élémens de Thérapeutique," has minutely described its effects on a dog, when given to the quantity of 30 grains; the animal neither barked nor moaned, but was carried off by convulsions. It does not appear, however, that the vomic nut, is equally poisonous to all animals. Loss assures us, that a hog may eat a considerable quantity of the nuts, without suffering in the smallest degree; and we know, that Desportes gave very large doses to a goat, without doing it any harm. The seeds of the nux vomica, as well as those of another species (strychnos ignatia), have been chemically examined by Chevreul and Desportes, who found, but I shall quote their words; "que cette substance est formée de malate de chaux, de gomme, d’une matière vegeto-animal, de matière amère, d’une huile fixé, d’une matière colorante jaune, et probablement d’amidon" (starch). Later examinations, however, by Pelletier and Caventon, have discovered in these seeds a peculiar principle which they have termed strychnine†; and which, like morphia, they found to possess alkaline properties. Mr. Brande tells us, that it is nearly soluble in

* Marcet, in his Memoir on the Action of Poisons on Vegetable Substances, informs us, that a bean plant, watered with a solution of extract of nux vomica, was killed in a day and a half. It has been supposed by some, that when taken by animals, the nux vomica poisoned by acting on the spinal marrow, while opium produced the same effect by acting directly on the brain itself. See Journal of Sciences, Literature, and the Arts, No. xxxix. p. 194.
† Loureiro informs us, that the seeds burnt till they have become black, may be safely given, and are useful in fluor albus. See vol. and page above quoted of Flora Cochin-China.
water; it dissolves in alcohol; and the solutions are intensely bitter (See his Manual of Chemistry, vol. iii. p. 73.).

By experiments, made by Magendie and Delile, it appears, that the vomic nut has a peculiar action on the spinal marrow, through the absorbent and sanguiferous system; and excites to motion the muscles to which that organ distributes nerves; it has, in consequence, been given with advantage in cases of paraplegia and hemiplegia, in doses of four grains of the extract*, every three hours, for a few days together. The same medicine has also been administered on the continent, with varying success, in mania, gout, epilepsy, hysteria, and dysentery.† In speaking of the vomic nut, I perceive Orfila, in his work on Poisons, has words to this effect (vol. ii. part 1. p. 380.): "The upas tiente, nux vomica, and St. Ignace's bean, are all powerful poisons on man and beast;" and we know, that Hoffman mentions the case of a girl of ten years old, who was killed by taking fifteen grains for a quartan ague. As far as I can judge from my own experience, its virtues, as a medicine, are rather equivocal; though it may safely be said, that it often affords relief both in gout and acute rheumatism, but the dose should not be more than three grains, repeated thrice daily; it inclines to sleep, producing a considerable degree of stupor.

* In speaking of l'extrait alcoolique of this nut, Roques, in his Phytothétrie Medicale, has these words: "l'extrait alcoolique est promptement delitère; suivant les experience de M. Bartelemi, six grains suffisent pour empoisonner un loup." Phytothétrie Medicale, vol. i. p. 281.

† Mr. Martin, of Stutton, in Suffolk, tells me, that in doses of five grains, repeated every four or five hours, he has known it prove most efficacious in dysentery.
As a remedy for the poisoning from the improper use of the nux vomica, Roques recommends emetics and purgatives, and a prompt administration of mucilaginous drinks (See Phytographie Medicale, vol. i. p. 287.).

CLXXII.

POMEGRANATE. *Magilam palam* Ԫ奁aviolet (Tam.) *Anār* (Pers. Hind. and Duk.).

*Rāā* (Arab.) also *Roman* رمان (Avicenna).

*Dārim* (Hindooie). *Dādima pundo* (Tel.) *Dādima*

*दादिमा* (Sans.) *Dālema*, also *Daima* دايم (Mal.).

*Melagrana* (It.) *Gangsalan* (Jav.) *Grenade* (Fr.).

*Granatass felschale* (Ger.) *Pomo Granato* (It.).

*Roma* (Port.) *Delunghedie* (Cyg.) *Daleemb*

(Mah.) *Podia* (Mod. Gr.) *Nar* (Turkish).

**PUNICA GRANATUM** (Lin.)


The juice of the ripe fruit of the pomegranate, which is contained in the red succulent pulp which covers the numerous small seeds, is slightly acid, and extremely pleasant to the taste, not unlike that of an orange; it is very refreshing, and well calculated to quench thirst in fevers. The Hindoo doctors prescribe it, combined with saffron, when the habit is preternaturally heated. The bark of the fruit, as well as the flowers, are useful astringents, and are commonly given by the natives in decoction, combined with powdered cloves, in such bowel affections.
as are not accompanied with tenesmus. The bark of the root the Mahometan physicians administer in diseases requiring astringents, and, moreover, consider it as a perfect specific in cases of tape worm*: it is then given in decoction, prepared with two ounces of fresh bark, boiled in a pint and a half of water till but three quarters of a pint remain; of this, when cold, a wine-glassful may be drank every half hour, till the whole is taken. This quantity occasionally sickens the stomach a little, but seldom fails to destroy the worm, which is soon after passed.

The pomegranate tree, which, by Dierbach’s† account, was the Ποον Σιδῆ of Hippocrates, is a native of the South of Europe, of Arabia, of Japan‡, Persia, and Barbary, but is now much cultivated in India and Ceylon. In the Indian Archipelago, Mr. Crawford tells us, it is only found in its cultivated state; the same gentleman adds, that by far the best pomegranates‖ he ever saw, were those brought into Upper India by the caravans from Eastern Persia. The punica granatum often rises to the height of eighteen feet, or more, sending out branches the whole length; the leaves are opposite, about three inches long, half an inch broad in the middle, pointed at each end, and of a light lucid green colour; the flowers come out at the end of the branches, singly, or three or four together; the fruit is pulpy, many-seeded, and is the size of an orange. Russel, in his

† See Dierbach’s Materia Medica of Hippocrates, chapter iv.
‡ Where it is called sakaro (Flor. Japon. p. 199.).
‖ Olivier, in his Travels in the Ottoman Empire, informs us (vol. ii. p. 9.), that those of Ghemlek are the finest in Turkey.
History of Aleppo (vol. ii. p. 85.), observes, that there are three varieties of the punica granatum, differing in the degree of acidity of the fruit. The Arabians and Persians hold the pomegranate fruit in great estimation; placing the juice amongst their Cardiacs Mokewyat-dil متاويات دل مغويات دل. The flowers of the male plant, كئنار gulnar, they rank amongst their Styptics Manyatroafwuisshualuddum مانعات رعاي والساري الدم; the blossoms amongst their Modumilatkerough مدملات قروح (Cicatrizantia); and the seeds, which they term حب الربار Hubulrumân, amongst their Stomachics. See Madeni Shefâ معدني شفا, or the Mine of Remedies, an Arabic work on medicine, by Aby Ben Husseen, of Bokhârá.

The ancients valued the pomegranate fruit as a stomachic: Celsus especially speaks of it amongst those things, "stomacho aptissima" (lib. ii. cap. xxiv.); and Pliny informs us, that its flower, called balaustium, "medicinis idoneus, et tingentibus vestibus, quarum color inde nomen acceptit" (vide Hist. Nat. lib. xiii. cap. xix.); he describes five different sorts. Murray cautions us against the internal use of the bark of the fruit, in cases of hæmorrhage, as unsafe: "non satis fidus tutusque" (See Appar. Med. vol. iii. p. 264.). Sloane, in his Nat. Hist. of Jamaica, tells us, that the leaves of the pomegranate tree, beaten with oil of roses, applied to the head, cures its aching (See Hortus Jamaicensis, vol. ii. p. 89.). In China the pomegranate is of a fine quality, and is there called sheh-lew.
CLXXIII.

POMPHLET. Véwäl meen சூராக்கு (Tam.) Súndánāpoo chápoo (Tel.) Pátámēdi (Cyng.) Húlva māhiē (Duk.) Aūy meen (Malealie).

STROMATEUS PARU (La Cepede.)

This excellent fish is common on the Coromandel coast, and is much prized, both by the Europeans and natives, for its delicacy, being at once light and nourishing; and after the whiting, and perhaps the sole, may be considered as the safest of all fish for the sick. The pamphlet has the distinguishing characters of its genus; it is greatly compressed and oval, usually about eight or ten inches long, and not much less in breadth. Five species of stromateus have hitherto been ascertained, the s. fiatola has been longest known, and is remarkable for the brilliancy of its colours: it inhabits the Red Sea. The natives of India, generally speaking, are great fish-eaters; their medical men recommend them to such as have weak digestions and flatulence, in preference to all other food. Aghastier, however, in his Vytia Anyouroo, a celebrated Tamool medical sastrum, forbids the use of fish taken for the first meal in the morning supposing it to be more proper after fatigue, or the usual bodily exertion during the day.
CLXXIV.

POPPY. Casa casă Ḍṝḍḍṛ Ṭṝ (Tam.) also Cassa cassa (Tel.) Post (Hindoie). Khushkhash (Arab. and Duk.) Kooknahr (Pers.) Post (Hind, also Sans.) Abin atta (Cyg.) Gay-sagussa (Can.) Capsules des pavots blancs (Fr.) Die kopse des weissen mohns (Ger.) Μηξαν (Gr.) Kes (Japan.) Ying-suh (Chin.) Pappavero (It.)

PAPAVER SOMNIFERUM (Lin.)


The small, numerous, white seeds of the poppy are not considered as narcotic in Europe; but the Indians conceive them to be in a slight degree so; and the Vytiens, under that notion, prescribe them in certain cases of diarrhœa: they also, occasionally, order a weak decoction of the dried capsule in those complaints which require sedatives. The Romans bruised the calix† of the poppy in wine, which they took to procure sleep; and we have already noticed, that Pliny affirmed, that the seeds were an excellent remedy in elephantiasis. The same seeds, however, were sometimes used by the ancients as food, or rather, as a seasoner of food.

* Post is also a name given, in the higher provinces of India, to an intoxicating liquor, prepared by beating the husks, or capsules, of the poppy, with jaggary and water.
† Vide Pliny's Histor. Nat. lib. xx. cap. xviii.
Hippocrates believed them to be nourishing. The native Indians not unfrequently put them into sweet cakes, which are much eaten, by the higher ranks of Hindoos, at some of their festivals. Three species of papaver grow in the botanical garden at Calcutta; of our present article, two varieties, single and red single (See article Opium).

The oriental poppy (papaver orientale) is common in many parts of Arabia, and is called in that country nameesa; it is the papaver hirsutissimum flore magno of Tournefort. The papaver somniferum, is the reisjun of the Japanese (Flor. Jap. p. 222.).

CLXXV.

POTASS, IMPURE CARBONATE OF.  
Marra oopoo (Tam.) Kshāra-lavāna (Sans.) Hindee loonoo (Cyng.) Manie oopoo (Tel.) Jhār kā nēmuck (Duk.) Carbonate alkalinule de potasse (Fr.) Koloensaures kali (Ger.)

Carbonas Potassæ Impura (Lond.)

The more enlightened Vytians know how to prepare an alkaline salt from the ashes of burnt vegetables, which they usually distinguish by the name of the plant from which it is obtained; such as

* Dierbach, in his Materia Med. of Hippocrates, observes, that opium appears to have been little, if at all, used by Hippocrates, which is the more strange, as it was known before his time, and great abuses afterwards committed by it.

† The plants in Europe which contain most potash, are fumitory, wormwood, vetches, beans, and cow-thistle. See Sir Humphry Davy's Elements of Agricultural Chemistry, p. 113.
valley elley ooppoo (the salt of the plantain leaf.) The Vytians consider it as diuretic, and prescribe it accordingly: it is the potash, or pearl-ashes of commerce.

The same description of men also know how to prepare from that salt, though in a clumsy way, a sort of subcarbonate of potass, which they consider as diuretic; they are also in the habit of making with it a kind of travagum or strong liquor, by adding to it certain hot seeds: this they also consider as diuretic.

The subcarbonate of potass has long been considered by European practitioners as diuretic, deobstruent, and antacid; and prescribed in doses of from gr. viii. to gr. xv. or more, in dropsies, gravel, and stone. The principal use of this salt, however, is for the formation of saline draughts, 9i. of the salt, to 5iv. of the lemon-juice. The dose of the solution of potass* (Lond.) may be from ten drops to a drachm, in any convenient vehicle; the dose of the aqua supercarbonatis potassae (Edin.), which is tonic, diuretic, antacid, and lithontriptic, is about 3viii. taken thrice daily.

In Travancore, the impure carbonate of potass is obtained by burning cocoa-nut leaves, and thence called tennam muttay chārum. The people of that country, as well as the Cyngalese, who know not the use of impure carbonate of soda, overmunnoo (Tam.) for the purposes of bleaching and washing linen, employ the ashes of burnt vegetable, which serve the same end.

* Dr. Willan, in his work on Cutaneous Diseases (p. 141.), says, he found the best effects from the internal use of this solution, in lepra; it is given in chicken-broth, and Dr. Thomson observes, that it is most efficacious in the various species of psoriasis, which are consequent of acidity in the prime vire.
CLXXVI.

POTATOES, COMMON. Wallarai kilangoo (Tam.) Ooralay gudda (Tel.) Rata innala (Cyang.) Pomme de terre (Fr.) Pome de terra (It.)

Solanum Tuberosum (Lin.)


Potatoes were first introduced into India from the Cape of Good Hope, and have, for many years past, been cultivated with great success in the Bengal provinces; and, lately, of an excellent quality, in several situations in the Mysore country; particularly at Bangalore and Nundydroog. They are not so large as the potatoes of Europe and America; but not inferior in mealiness and taste to any in the world: the round kind is chiefly cultivated.* For many years the Hindoos would not eat potatoes, but, latterly, they appear to have got over all their prejudices in this respect, and like them as much as they do the white yam, which they resemble greatly in taste.† There are several species of yam: the white dry yam is by far the best, and is the yamska-lung of the Tamools; perinvullie kêunghu (Malealie); rosakenda (Cyang.). The plant is the dioscorea alata (Lin.), and is indigenous in the Indian islands,

* Of the genus solanum, no less than fourteen species grow in Ceylon.
† Thunberg informs us, that potatoes grow at Nagasaki, but of an inferior quality, and that they are reared with difficulty. Flora Japan, p. 92.
where, however, though the yam often grows to a large size, it is not so delicate a root as in India. In the Western parts of the Archipelago it is called *ubi*; in Ternate *ima*; in Macassar *lamí*; in Amboyna *heli*; and in Banda *lutu*. Our name yam is evidently taken from the Portuguese word igname. It would seem that no less than fifteen species of *dioscorea* were growing in the botanical garden of Calcutta, in 1814. The species *alata* is the *kamaaloo* of the Bengalese. What is termed the purple yam, *dioscorea purpurea* (Roxb.), many people prefer to the white yam; it is seldom so dry, however, and has, I think, a somewhat perfumed taste; it is called in Hindoostanie *lal-gurña-yālu*. Mr. Lunan*, of Jamaica, considers the purple yam as only a variety of the white yam; the stem, leaves, and manner of growth being exactly the same. On Ceylon the species *bulbifera* is common; it is the *katu-katsjil* of Rheede (Mal. vii. p. 69. t. 36.), and only differs from the *d. alata* in having stems even, in place of winged. Notwithstanding the great quantity of yams grown in India, such is the consumption, that they are brought to the Coromandel coast, for sale, from Acheen. For an account of the cultivation of yams in the Eastern islands, the reader may consult Rumphius (Herb. Amb. tom. v. p. 347.). What is called by the English in India *sweet-potatoe*, is a root about four or five inches long, and about two or more round; of a sweetish pleasant taste; in other respects resembling the potatoe, but seldom so dry; it is much sought after both by the Europeans and natives, and is considered as extremely nourishing. It is *sukkarayvellie kālining* (Tam.); *ghēnāsa* (Can.);

pendaloo (Duk.); sukkara velligudda (Tel.); shukkerkund (Pers.); castilian (Amboynese); batata (Malay); catela (Jav. and Bali.). It is the convolvulus batatas of botanists, and is now quite common in the Eastern Archipelago; it would appear to be a native of both the Indies, China, Cochin-China, and New Zealand. We are told by Mr. Crawford, in his Indian Archipelago (vol. i. p. 378.), that there is a tuberous root much cultivated by the Javanese, and called by them kantang, which greatly resembles the common* potatoe, both in appearance and quality; it is, he says, the root of the ocimum tuberosum (Roxb.). The Tamool doctors consider the sweet potatoe as proper food when the natural heat of the body is diminished, and for such as have an aversion to victuals. See Aghastier’s Vytia Angyouroo, a Tamool medical sastrum.

CLXXVII.

PRAWN. Eeräl (Tam.) Jhenga (Duk.) Roieello (Tel.) Issoo (Cyn.) Oodang (Mal.) Agni matsuja (Sans.) Ingrha (Hind.) Gambero marino (It.) űdug (Mal.)

Cancer Serratus.

* The process of making brandy from the common potatoe has, of late years, been much adopted in Germany, and the Northern parts of Europe. In Sweden it has been recommended to the government by Berzelius, and in Denmark, by Oersted. The method of the last is said to be the best: the potatoes are exposed to the action of steam, which heats them more than boiling water, and facilitates their reduction to paste; to this paste, boiling water is added, previous to distillation, and also a little potash, rendered caustic by quick-lime. The Professor frees the potatoe brandy from its peculiar flavour by means of chlorate of potass, which makes it equal to the best wine-brandy.
The prawns in India are excellent, especially on the Coromandel coast. As food, they are considered, by the Hindoos, as stimulating and aphrodisiac, and to possess virtues in diabetes, which they, and perhaps with some reason, suppose to be often produced by an insufficient quantity of animal food. Prawns make a delicious curry.

CLXXVIII.

QUINCE SEED. Bēhdānā बेहदना (Tam.) Bēdānā بهدانة (Pers. and Arab.) Kūdōnia (Gr.) Hubalsufirjul حب السفرجل (Arab.) Bēkeekey beej (Hindooie). Semen de coignassier (Fr.) Quittenkorner (Ger.) Melacotogna (It.) Abee (Hind.) Quincunx (Fr.)

PYRUS CYDONIA (Lin.)


The little of this article which is found in Indian bazars, is chiefly in use amongst the Mahometan practitioners, who occasionally order an infusion or decoction of the seed, as a demulcent in gonorrhoea, and in cases of tenesmus. It is brought to India from the sea-ports of the Persian Gulph.

The juice of the fruit when sour, اب ابي ترش, the Persians and Arabians place amongst their Stomachica ادوبه هبضه; so they also do the apples themselves when fried ابي وسبب بريان كرده اب ابي ترش.

The seeds, which are inodorous, nearly insipid, ovate, angled, reddish brown, and coriaceous, are contained within the cells of the pear, which is of a
yellowish colour; when long chewed, they have a degree of bitterness; and are directed, by the London College, to be made into a decoction, recommended in aphthous affections.

Pliny informs us (lib. xv. cap. xi.), that the quince used, in his days, was brought from Crete; and hence, no doubt, as Dr. Thomson observes, its name κωδωνία taken from Cydon in that island. The *pyrus cydonia* is growing in the botanical garden of Calcutta; its Hindoostanie name *abee*. The *pyrus communis*, and *p. malus*, are now growing in Ceylon. The pyrus cydonia has been found wild on the shores of the Danube, and thrives well in England; it is described, botanically, in the London Dispensatory, p. 460. Thunberg found it growing in Japan, where it is called *umbats* (Flor. Japon., p. 200.)

CLXXIX.

**RAISINS.** *Dividātsipālvūtil* கொய்க்கொடைலுட்டு (Tam.) *Velitcha moodika gheddie* (Cyg.) *Kishmish* کشمش (Hind. and Duk.) *Mèwux* میوز (Pers.) *Zébeeb* نیپب (Arab. and Mal.) *Raisin* (Fr.) *Uva passa* (It.) *Kishmish* (Hindooie).

VITIS VINIFERA (Lin.)

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Hederaceae (Lin.)

Though grapes are common in many parts of India, yet, I am not aware that raisins are ever prepared from them. The small kind called *kishmish*, and which are common in the bazaars, are brought
from Persia, and are made from the Shiraz* grape. The natives of India employ them in their cooling and opening electuaries. The Persians consider them as emollient and suppurative, given to the quantity of ten direms for a dose; they have no seeds inside, and on that account are termed by them مویز انگور بیدانه mewez ungoor beydaneh. The raisins of Europe are well known to be made from the varieties named the black-raisin grape and white-raisin grape; and are considered as more laxative than the fresh fruit.

The ripe fresh fruit is cooling and antiseptic; and is much prized by the natives of India, who conceive it to be highly useful in many diseases, especially in pulmonic affections. The juice of the grape, the Arabians call umaseen اماسین; in Hindooie it is drakhkaypānee; in Persian آب غور اب غور abghow-ra ungoor. The vitis vinifera† is called in Sanscrit द्राक्षा drāksha. Six species of the genus were growing in the botanical garden of Calcutta, in 1814. It would appear that but two species are as yet growing in Ceylon, the vitis vinifera, and vitis Indica; the first known to the Cynghalese by the names of mud-drap-palam, wael-midi, and oowas. See Moon's Catalogue of Ceylon Plants, p. 18.

CLXXX.

RENNET. Puneermāyeh پنیر مایه (Pers. Hind. and Duk.) Unfekkeh انفخه (Arab.) Chustah (Hindooie).

* There are two sorts of Shiraz-wine, a red and white; the greatest quantity, by Morier's account, comes from the district of Corbal, near the village of Bend Emir. See his Journey through Persia, p. 74.
† Thunberg found grapes growing at Nagasaki, and the plant called by the Japanese foto, also budo. Flor. Jap. p. 103.
A knowledge of the preparation and use of rennet in Lower Hindoostan seems to be entirely confined to the higher classes of Mahometans; and there is this peculiarity in it, that it is the stomach of the kid that is employed for making it, and not that of the calf, which is used in Europe by the farmer for making cheese, and by the pharmacopolist for preparing whey. The Europeans in India, in making what they call cream-cheeses (and which are excellent), also employ the stomach of the kid, or a little lime-juice, which answers the same purpose. The Arabians suppose rennet to possess considerable medical properties, and to be of a deobstruent and attenuant quality. They are in the habit of preparing it from the stomach of different animals; for instance, from that of the horse, which they call انفخة الفرس; the rennet of a hare, is انفخة صرف; the rennet of a male kid of a mountain-goat, is انفخة الخشف; the rennet of a camel, is انفخة الجيل; that of a calf, is انفخة الجيل; the rennet of the ewe, which the Arabians call enfekheh-zan انفخة ضار, they place amongst their Cephalics. The rennet of the camel, which the Persians term پنیر مایه شتر, they place amongst their Aphrodisiacs.†

* See the Materia Medica of Noureddeen Mohammed Abdullah Shirazy, article Unfekheh.
† We are told by Pliny, that in his days the rennet of a rabbit was a medicine in dysentery. The rennet of the calf the Italians call appiola.
CLXXXI.

RESIN, INDIAN, or DAMMER. Coongkiliium குங்கிளிய ரண் (Tam.) Rall ر (Arab.) Dhoonā दूना (Hind.) Googhilum (Tel.) Dammar (Mal.) Yakshadhūpa यक्षधूप (Sans.) Dummula (Cyg.)

Chloroxylon Dupada (Buch.)

Cl. and Ord. Enneandria Monogynia.

Of the substance usually termed dammar, and improperly, country rosin, in India there are three sorts to be met with in the bazars, called in Tamool vullay coonghilium, carpoo coonghilium, and noray coonghilium, or white, black, and coarse dammar. It much resembles the rosin obtained by distillation from the turpentine of the pinus sylvestris, both in appearance and natural qualities, and would seem to be a common product of many Asiatic countries. I perceive it is to be procured in great abundance in Sumatra, from a tree called by the Malays canari (dammara nigra legitima, Rumph.). In Java, Borneo*, Joanna, and several of the Soloo Islands, it is quite common, and a regular export to the continent of India. The coarse, or stony kind, the Malays call damar batu, and the Javanese damar selo; the white, or fine sort, they term damar-putch.

We are told by Colonel Kirkpatrick, that the resin of a species of pine was an export from Nepaul; the tree yielding it he found growing in luxuriance,

* See Leyden's Sketches of Borneo, 7th vol. Transactions of the Batavian Society.
on the banks of the river *Bethicori*, the turpentine of which was used by the natives in religious ceremonies: it is called by them, *sulla* *, also *surendhool, also *doobkee.*

The Mahometans employ dammar as we do resin and Burgundy pitch, in the composition of plasters; but its chief use appears to be as a pitch for the bottoms of vessels, for which purpose it finds a ready sale in the Bengal and China markets.

Dr. Buchanan (now Hamilton), in his interesting "Journey through Mysore, &c." informs us, that he found the tree which yields dammar, growing in the woods of Malabar†, and bestowed on it the scientific appellation of chloroxylon dupada; though I know well, that the greater part of the dammar met with in India, is an import from more Eastern countries. How far the chloroxylon dupada differs from the *dammara nigra legitima* of Rumphius, I regret that I am not now prepared to state; but the reader may refer to the work above mentioned, and compare what is there said of the chloroxylon *dupada*, with what Rumphius says of the *dammara nigra legitima* (tom. ii. lib. iii. cap. ix.), also with what Willdenow says of the *pinus dammara* (Spec. Plant. vol. iv. p. 303.); this last is the dammara alba of Rumph. (Amb. ii. p. 174. t. 57.).

The Tamool name of the chloroxylon dupada (Buch.), is *cladacula*; in Malealie *payana*. (See articles Rosin, and Dammar, in another part of this work. See also article Turpentine, in this part and chapter.) Sonnerat tells us, that pitch is common at Pegu. Fir-trees, by Turner's account, grow in Bootan. Dr.

* Hence the tree is called the sula pine. See Kirkpatrick's Account of Nepaul, pp. 33. and 205.
† Also in the mountainous tract which separates the Travancore country from the Madura district.
Buchanan saw at Ava a pine-tree, where, Symes informs us, it is called toenyō; and that the natives actually extract from it turpentine (See his Embassy to Ava, vol. ii. pp. 373, 374.); this, I should imagine, can be no other than the *pinus dammara* (Willd.), or the *dammara alba* (Rumph.).

**CLXXXII.**

**RICE.** आरिशेय (Tam.) Chawl चाओल (Hind. and Duk.) Arüz ارز (Arab.) *Barunjé* برنج (Pers.) Beeum (Tel.) Chawul (Hindoosie). Bras (Mal.) Vrihi व्रीही (Sans.) Rīz (Fr.) Arros (Port.) Riis (Dan.) Motsī, also Gome (Japan.) Tandool (Mah.) Riso (It.) Ko (Jap.) Lua (Coch. Chin.)

Oryza Sativa (Lin.)


This excellent grain is too well known to require a minute description here. It is cultivated in every Eastern and Asiatic country; in the West Indies; in many parts of America; and also in some of the most Southern tracts of Europe. It is a light, wholesome grain; but, I should be inclined to think, contains much less of the nutritive principle than wheat. Rice having become decayed, constituting what has been called the *oose* rice in Bengal*, Dr. Tytler supposed to be the chief cause of the spasmodic cholera; an opinion successfully combated.

The different sorts of rice cultivated in India, are

* See Mr. W. Scot's admirable Report on the Epidemic Cholera, as it appeared on the territories belonging to the Madras Establishment, p. 43.
almost endless; the author of the *Hortus Bengalensis* informs us, that on the Coromandel coast alone he found upwards of forty, well known to the farmers: of all these, simply speaking, what are termed the *white* and *red* are the best. The various kinds of rice have commonly been called varieties, but Dr. Buchanan, in his "Journey through Mysore," &c. (vol. i. pp. 85, 86.), has given it as his opinion, that many of them are different species of the *oryza*, as distinct as the different kinds of barley that are cultivated in Europe.

In Southern India, three modes of cultivating this grain are pursued: 1st. the seed is sown dry in the field; this mode is called in Canarese *bara butta*. 2nd. It is made to vegetate before it is sown, and the field when fitted to receive it, is reduced to a puddle; this mode is called *mola-battu* (Can.). The third mode is, when the seed is sown thick on a small piece of ground, and when the plant is a foot high, it is transplanted; this is called *nati*. Some account of the manures employed in cultivating rice will be given in another part of this work. The rice-plant would appear, by Mr. Crawfur'd's* account, to be indigenous in the islands forming the Indian Archipelago; that gentleman mentions with his usual accuracy, the different descriptions of this grain reared in those countries; the most singular of which is the species termed by the Malays *pulut*, and by the Javanese *kattan*, and which appears to be the *oryza glutinosa* of Rumphius: it is never used as bread, but commonly prepared as a sweet-meat.

What is called *hill-rice* in Lower India, is that which is raised in upland, arable lands; in short,

* See Crawfur'd's Indian Archipelago, vol. i. p. 358.
such lands, as from their locality cannot be subjected to the process of flooding. These, in Malabar, are manured* with ashes and cow-dung, like other dry grain fields; the hill-rice itself is called in Maleahie modum, and is a smaller and less valuable article than the common rice. The hill-rice does not appear to be known in Bengal: it is much cultivated in the Eastern islands. Rice, in the husk, is termed in Tamul, also in Malay, paddie, in Dukhanie dáhn دهار, in Persian shalie شالي. In Tellingoo the plant is oori, the grain in the husk oodloo, and the rice itself beeum.

The chief distinction, with regard to appearance and taste, betwixt the Bengal and coast rice, would seem to be, that the former is whiter, boils dryer, and is more delicate in flavour; it is commonly, on those accounts, preferred by the people of rank, to eat with curry: and the Patna is deemed the best. But the native Indians of both coasts do not like the rice of the higher provinces; they call it dry and insipid, and say it is apt to bring on constipation.

In a medicinal point of view, rice may be said to be of a less aperient quality than any other grain, and is therefore invariably ordered as the safest and best food in all dysenteric complaints; for which purpose, in the form of gruel, it is excellent. The Vytiens are very particular as to the kind of rice they prescribe, supposing the rices of different crops to have very different effects. The two great crops of rice in Southern India, I mean for flooded rice, are the caar and soombah crops; the last of which is also called the peshānum crop: it is reapt in

* The rice reared on marshy land, or rather, that rice which requires being flooded, is usually manured with leaves and branches of various trees.
the months of February and March. The produce of this crop, Aghastier informs us, in his *Vytia Anyouroo*, is peculiarly strengthening to the body; he adds, that "*the very sight of it induces appetite, in fact it is worthy of being served up to the gods.*" The produce, on the other hand, of the caar crop, which is reapt in October, he considers as of a different quality; this he says, "*will bring on indigestion, flatulence, eruptions on the skin, and other evils;*" he finishes by saying, that "*a person had better beg his bread, than eat the rice of the caar crop.*" The fact is that this rice usually is of an inferior sort, but certainly not at all unwholesome.

In the *Pádiértásindāumanie*, a Tamool sastrum, exclusively written on diet and regimen, I perceive some strong cautions against using rice that had been boiled over night, and allowed to remain in cold water for hours before it was eaten. This, it is said, will "*bring on hypochondriasis, and however pleasant it may be to the taste, is often productive of bad consequences to the body, inducing drowsiness and stupor.*" It would appear by Pliny, that in his day, rice was much used in Italy; "*Italica maxime quidam oryza gaudent, ex qua ptisanam conficiunt, quam reliqui mortales ex hordio*" (Nat. Hist. lib. xviii. cap. vii.). Celsus says of rice, "*oryza imbecillis-simis adnumeri potest, crassiorem pituitam fecit, stomachico idonea est, sorbitionem praestat in phthisi. See book ii. cap. xviii., also book ii. cap. xxiii., book iii. cap. xxii.

In Moon’s Catalogue of Ceylon Plants, we find no less than one hundred and sixty-one varieties of the oryza sativa enumerated, as growing in Ceylon; the common Cyngalese name for this annual is *Ooru-wee.*
CLXXXIII.

RHUBARB. Variātoo kālung भविमीतिन (Tam.) Réwund chiṇi ربوند چینی (Duk.) Rawend راوند (Arab.) Reywand ریوند (Pers.) Rui-barbo (Port.) Rhubarber (Dut.) Rhubarb (Fr.) Ta hoam (Coch. Chin.) Ta-hwang (Chin.) Rey-wun-chinie (Hindooie). Reubharbo (It.)

RHEUM PALMATUM (Lin.)

RHEUM UNDULATUM (Lin.)

Cl. and Ord. Enneandria Trigynia. Nat. Ord. Holoraceæ (Lin.)

It is well known that three varieties of rhubarb are to be met with in the shops, the Russian, Turkey, and the Indian, of Chinese; the last I conceive to be the rheum palmatum, and is what is commonly found in Indian bazars. It is brought from China, where it grows in the province of Shénsee. It is also a native of Tartary, Thibet †, and Bootan; and would appear to be the produce of the hardiest of all the species of this valuable plant. It may be known from other rhubarbs by its strong odour, and somewhat nauseous taste; it breaks smoother, and affords a powder of a redder shade. There is sometimes to be procured on the Malabar coast, an inferior sort of rhubarb, called by the Mahometans rewund esbi, and rewund ḫuttāi; which is, perhaps,

* Loureiro says: "In provinciis Borealibus imperii Chinensis habitat, intra, et extra murum celebrum" (Flora Cochin-Chin. vol. i. p. 255.).
† See Tavernier's Indian Travels, part ii. book ii. chap. xv.
that kind mentioned by D’Herbelot, as the produce of Khorasan; it is coarse and very nauseous.

Rhubarb is not always to be purchased in the interior parts of the Indian Peninsula, and rarely of a good quality; which is strange considering the value of the drug, and that it could be brought with so little trouble from China. The Hakeems (Mahometan doctors) are better acquainted with it than the Hindoo practitioners; which is no doubt owing to the knowledge the former have of Arabic and Persian books, in which they find its good qualities properly appreciated. It is one of those articles first introduced into practice by the Arabians*; and it is a fact, that no mention is made of it by either Pliny or Celsus.†

Dr. Thomson has very properly said, that rhubarb is stomachic, astringent, or purgative, according to the dose; hence its use in dyspepsia, hypochondriasis, and diarrhoeas. In the first mentioned complaint, it is well to combine it with ginger, soda, or bitters, according to circumstances. ΄ή. or 3 ss. of the powder will open the bowels freely; in smaller doses from gr. vi. to gr. x. it is usually given as a stomachic; and is also of the greatest service in those bowel affections of children which are so troublesome during dentition: in these cases gr. vi. of rhubarb, with four of magnesia, given night and morning, for two, three, or four days together, often prevent serious ailments, and avert much irritation in the bowels, till such time as the tooth

* See Histoire de la Medicine, par Le Clerc, p. 771.
† In the days of Avicenna its virtues, however, were fully appreciated: “Dolores internos lenit, singultum sedat, extenuat lienum; diarrhoeae, torminibus, dysenterias, renum, vesicae, uteri doloribus auxiliatur, diuturnis febris opitulatur.” Canon. lib. ii. tract ii.
comes through the gum: the dose of the tincture of rhubarb is from $\frac{3}{4}$ to \(\frac{3}{4}\) i.

We are told by Mr. Barton*, that the root of the convolvulus panduratus, is in its operation somewhat like that of rhubarb; its dose must be a little larger than that of jalap: it is mildly cathartic.

The following are the component parts of the finest kind of Turkey rhubarb:

<table>
<thead>
<tr>
<th>Component</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>8·2</td>
</tr>
<tr>
<td>Gum</td>
<td>31·0</td>
</tr>
<tr>
<td>Resin</td>
<td>10·0</td>
</tr>
<tr>
<td>Extract, tan, and gallic acid</td>
<td>26·0</td>
</tr>
<tr>
<td>Phosphate of lime</td>
<td>2·0</td>
</tr>
<tr>
<td>Malate of lime</td>
<td>6·5</td>
</tr>
<tr>
<td>Woody fibre</td>
<td>16·3</td>
</tr>
</tbody>
</table>

\[\text{Total: } 100·0\]

See Quarterly Journal of Science and the Arts, x. 291.

The species *compactum* and *palmatum* are growing in the botanical garden of Calcutta. I shall conclude what I have to say of rhubarb by observing, that I have found it only essentially useful in dysentery in India, when combined with ipecacuanha, gr. viii. of the first, and gr. vi. of the last, made into pills, and taken in the twenty-four hours; the ipecacuanha appears to act, by exciting a kind of antiperistaltic action, and by exciting diaphoresis.

* See Barton's Materia Medica of the United States (vol. i. p. 252.).
CLXXXIV.

ROSE. Goolābu-poo (Tam.) Goolābka phōol (Duk.) Wūrd (Arab.) Gūl (Pers.) Hoa-houng-tau (Coch. Chin.) Mei-kwe-hwa (Chin.) Māwār (Mal.) Gool-āb (Hind. and Beng.) Rose a cent feuilles (Fr.) Blassen rose (Ger.) Rosa (It.) Rosa Centifolia (Lin.)

Cl. and Ord. Icosandria Polygynia. Nat. Ord. Senticosae (Lin.)

With a little care, roses of a delightful fragrance grow in the lower provinces of India; though not in sufficient quantity to make the distillation of rose water an object. It is, however, I am informed, made in the higher provinces of Hindoostan, but most of what is used in India comes from Persia; it is the Māutwurd ماء الورد of the Arabians, who place it amongst their Cephatics. There are several different kinds of roses to be met with in India, but the rosa centifolia is the most prized; and is, I believe, the true gul فر of Hafiz, who, with Sādy and Jāmy have celebrated it in many of their poems: the first, in speaking of it, says,

قنزوكف درجم اسد داء ازعم بوجود
بنفشه درقدم اونهاد سر بسجود

Thus paraphrased by Mr. Nott:—
When the young rose, in crimson gay,
Expands her beauties to the day,
And foliage fresh her leafless boughs o'erspread;
In homage to her sovereign power,
Bright regent of each subject flower,
Low at her feet the violet bends her head.

But no Eastern poet, I shall be bold to say, has been half so eloquent on the subject of the rose, as the Rev. Mr. E. Smedley*, who, in his "Fables of my Garden," has given us some stanzas on that lovely flower, which are even more beautiful than the flower itself. I quote the two last,—

In spring I watch its opening hue,
Fair promise of a leaf to be;
And long before they burst to view,
Its swelling folds have charms for me.
I count each bud with silent hope,
Which summer ripens into flower;
And when the glowing petals ope,
I treasure them within my bower.

Scarce can the enamour'd nightingale,
More closely woo it for his bride;
The bird which in the eastern tale,
Sits warbling music by its side.
I love it in its earliest blade,
I love it in its richest bloom;
And when its living blushes fade,
I court its memory in perfume!!

The rosa centifolia, which is, according to Dierbacht†, the Ροδον of Hippocrates, and is the Ἰδακτον of the Persians, is that chiefly employed in making both rose water and uttir. Those of the province of Kerman are of a peculiar freshness. Kämpfer

* Author of Prescience.
† See Dierbach's Materia Medica of Hippocrates, chapter iv.
in his *Aenititates Exotica* (p. 374.), speaks highly of those of Shiraz, where, it would appear, that a great quantity of the essential oil, or \( \text{\textit{\textasciitilde{a}}} \), is prepared; nor are the roses and *uttir* of Cashmere held in less estimation in the East, as is particularly noticed by the excellent Monsieur Langlès in his "*Réccherches, sur la Découverte de l'Essence de Rose*" (p. 18.). The same writer informs us, that the *uttir* drawn from the roses of Syria and the provinces of Barbary is of an inferior quality to the Persian. The method of making the perfume so called, he moreover says, was first discovered in 1020 of the Hejira, by the mother of Nour-djihan Beygum. Captain M. Kinneir in his Geographical Memoir of Persia observes, that in the vicinity of Bussora whole fields of roses are cultivated (p. 291.), for the purpose of making rose water.

In India the petals of the *rosa centifolia* are considered as a good laxative for infants, given in the form of a syrup. Rose water is much employed as a perfume, also for softening the flavour of tobacco in smoking, and in preparing collyria. I have seldom met with the *rosa gallica* in India, but it is more common in the higher provinces, and in Persia, where it is called *gul sørk* (งุล สอร์ค). The petals of this species make the best rose confection in Europe; they are also used in making the infusion and honey. For the syrup, the *rosa centifolia* is preferred: this rose in Sanscrit is *tarani*.

The following are the species of roses, natives of India, Bootan, and Nepaul, which were growing in the botanical garden of Calcutta in 1814.:

- It is common at Japan, in the neighbourhood of Dezima (Flor. Japon., p. 214.). Forskahl in his Mat. Med. Kahirina tells us, that it is the *Barniλ* of the modern Greeks.
Indica * (Roxb.); 2. rosa glandulifera (Roxb.), the Bengali name of which is Shewutí; and, 3. the rosa involucrata (Roxb.), a native of Bootan. But three species appear to grow in Ceylon, the rosa Indica (kappe-sewuwandi-mal), rosa semperflorens, and rosa banksiæ.

The powder of the red rose petals in doses of 3i. is purgative. That of the root of the rosa canina†, has been recommended in hydrophobia. The leaves of the species eglandaria, are a good substitute for tea. The uttir of the Levant and Tunis is prepared from the rosa sempervirens. The petals of the rosa damascena are the most purgative. The rosa mollissima is cultivated on account of its large edible fruit.‡ In speaking of the rose, Celsus says, "simul reprimit, refrigerat et discutit" (lib. ii. cap. xxxiii., lib. v. cap. xi.).

The Persians and Arabians place rose seeds amongst their Musuttetat مغتتات (Lithontriptica); red roses كُل سَمَخ gul surkh, they class amongst their carminatives, cephalics, and tonics. The reader is referred to a Persian work, entitled اختبار بديع واعراض الطب Ikhtiari Budia va Aghrazy-āl Tibb, for many particulars regarding the virtues of roses, also to Avicenna. See Canon. Med. lib. ii. tract ii. p. 114.

* A native of Cochin-China, where it is called hoo-houng-coung-gái. Flor. Cochin-Chin. vol. i. p. 323.
† This is the julinśrin جلنسرين of the Arabians, also the nesrin; in Hindoostanie it is sowtée, or werd chinie; it is the joosen of the Japanese, and grows in Dezima (Flor. Japon. p. 214.)
‡ See Mr. Gray's Supplement to the Pharmacopoeia.
CLXXXV.

ROSEMARY.  
*Tay-duong-choi* (Cochin-Chin.)  
*Rommari* (Fr.)  
*Gemeiner rosmarin* (Ger.)  
*Rosmarino* (It.)  
*حصارلبارم* (Arab.)  
*Δευθεόλα βανό* (Mod. Gr.)

Cl. and Ord. Diandria Monogynia. Nat. Ord. Labiatæ (Juss.)

Having learnt from Loureiro’s Flora Cochin-Chinensis, that this plant grows in China and Cochin-China, I have thought proper to give it a place here. It has long been highly prized in Europe, and the Greeks are supposed to have known it under the name of Δαναοτίς, according to Dioscorides; though there may still be doubts if that was the same plant. Pliny simply observes, speaking of libanotis: “the plant is considered when it is one year old, as an excellent stomachic (vide Nat. Hist. lib. xix. cap. xii.) It grows now in Spain, Italy, Greece, and the Northern tracts of Africa; also, by Loiseleur Deslongchamps’ account, on the lower hills of Languedoc and Provence; “it is an erect evergreen, seldom rising higher than five feet, with opposite leaves, which are nearly sessile, about two inches long, and a quarter of an inch broad, dark green above, and greyish underneath; the flowers are placed on axillary, leafy branches, having a corolla, which is ringent, of a pale blue colour, with sometimes white and purple spots and dots.” There is a wild sort of rosemary, with much larger flowers, and of a deeper colour.
Both the leaves and flowers have a very grateful and aromatic odour, with a pungent and slightly bitter taste, depending on an essential oil, Dr. Thomson says, combined with camphor; this corresponds with Kunckel's * opinion: and we know that Proust found 10 parts out of 100 to be camphor in this plant.

Rosemary has had particular virtues ascribed to it, as a stimulant and cephalic; and I believe its good effects in nervous headache, and hysteric affections will not be doubted, given in powder or infusion, the first is the best mode, in doses from gr. x. to 3i.: there is also an oil and spirit prepared with it. With regard to its uses in China, Loureiro merely says, "cephalaica, tonica, nervina." The plant is an ingredient in the famous "Eau de la reine d' Hongrie," which was prepared by the queen herself, and by which she is said to have cured the gout.

Rosemary as a medicine, however, has not of late years been much employed in England. The medical writers on the continent think more highly of it. Allertét says, it is beneficial in the glandular enlargements of children, "et très avantageuse dans la chlorose." The Italians make use of the plant, to give a pleasant aroma to rice; and the German surgeons prescribe it as an external application (in infusion), to improve the growth of the hair, and give it a glossy and healthy appearance; a use I find lately adopted in England with success. To conclude, rosemary grows in abundance in Egypt, near Cairo, where it حصادها لخضر is greatly esteemed as a cephalic.

* See Virey's Histoire Naturelle des Medicaments, p. 175.
CLXXXVI.

RUE, COMMON. Arooda অরুড়া (Tam. Arabs. Pers. and Duk.) Arooda (Cyn. Suddāb (Mal.) Saturee (Hindooie). Sālsā (Mal.) Suddupou akoo (Tel.) Brāhmi ब्राह्मी also Sōmalatā सोमलता (Sans.) Inghoo (Jav.) also Sendib سنديب (Arab.) Rue sauvage (Fr.) Raute (Ger.) Ruta (Russ.) Ruta de derpesado (Span.) Mats-kase-so (Japan.) Ruta (It.)

RUTA GRAVEOLENS (Lin.)

Cl. and Ord. Decandria Monogynia. Nat. Ord. Multisilique (Lin.)

The glaucous, pulpy, dotted, doubly pinnate leaves of the ruta graveolens, are well known to have a peculiar strong odour, and a bitter and nauseous taste; possessing considerable acrimony in their fresh state, but which is a good deal dissipated on drying.

The leaves dried and burnt are used by the natives of India for the purpose of fumigating young children, suffering from catarrh; they are also used fresh bruised, and mixed with arrack, as an external remedy in the first stages of paralytic affections.

The same leaves, dried in the shade, and powdered, the Hindoo doctors prescribe, in conjunction with aromatics, in cases of dyspepsia; and suppose them, when given together with camphor, and the sugar of the palmyra toddy, to be inimical to the fœtus in utero, an opinion which was also entertained by Dioscorides.
The modern Greeks call the plant by the name of 
Πηγανων δυσοδες, and consider it as a valuable me-
dicine in epilepsy. • The Arabians† class rue
amongst their Attenuentia معلقات, and Vesicatoria
مضرات, also amongst their Stimulantia مشرقات.

Rue was held in high estimation by the ancients,
and was a principal ingredient of the celebrated
antidote of Mithridates king of Pontus. Pliny notices
it in several parts of his Natural History, and calls
it one of the best medicinal herbs; but informs us,
at the same time, that the juice of it taken in con-
siderable quantity is a poison, especially that of those
plants which grow near the river Aliacon, and in
Galatia. Boerhaave extolls highly the virtues of
rue, particularly in promoting perspiration. In the
Schola Salerni we have the following lines:

" Ruta facit castum; dat lumen, et ingerit astum,
" Cocta facit ruta, de pulicibus loca tuta."

Amongst many other good qualities, Celsus no-
tices of rue, "urinam movet, sensus excitat, purgat,
mollit; cum allio, recte miscetur ad scorpionis ic-
tum" (See books ii. v.) Hippocrates considered rue
as resolvent and diuretic, and notices it in his chap-
ter on female diseases. European practitioners be-
lieve rue, which old English writers called herb grace,
to be antispasmodic, stimulant, and emmenagogue,
and order it occasionally in hysteria and flatulent
colic: a strong infusion of it exhibited per anum,
relieves the convulsions of infants, arising from

• See Michel's Della Corciresse Flora, p. 52.
† Avicenna, who notices three species, imagined that rue had
powers as an antidote against poisons: "Venus resistet; itaque
qui timet et suspicatur venenum sibi exhibendum, aut mordendum
se a venenatis, seminis drahman cum foliis ex vino bibat." Vide
flatulence. On the continent it is a medicine of more note than with us. Alibert* says of it, "Cette plante a un grande action sur le système nerveux, et particulièrement sur le système utérin. Beaucoup de femmes en prennent dans les menstrues laborieuses.†" The dose of the powdered leaves, from grs. x. to 3iss. or more, twice or thrice daily.‡ The plant is an ever-green, perennial, a native§ of the Southern tracts of Europe, and also of Africa, where it was found by Sweertius, and called ruta Africana maxima (Sweert. Hort. 24.). What of it is met with in India is brought from the Arabian coast, where it is sold under the names of suddab سنجدٌ and sendib سنجدٌ. Thunberg found it in Japan growing near Jedo, and called by the Japanese Mats-kase-so (Flor. Japon. p. 180.).

I conclude this article by the following most singular quotation from a celebrated German author, as cited by Murray (Appar. Med. vol. iii. p. 116.). "In debilitate visus sæpe prodest halitus hominis sani et integri oris, qui rutam masticavit, oculo alterius aperto adsiprandus, in ea praesertim oculorum caligine, que ex lectione assidua originem traxit"!!!

† Roques, however, recommends great caution in the use of rue, particularly when there is any considerable degree of irritation or plethora (See Phytographie Medicale, vol. ii. p. 235.).
‡ The official preparations of it are, an oil, and extract; of the latter, Alibert says, that prepared with water is more abundant than with alcohol, but the last more active and acrid.
§ It is growing in the botanical garden of Calcutta, introduced from Europe and Asia in 1800. It is also growing now on Ceylon. A species of wild rue is a medicine amongst the Moguls, and is called in Arabic السند سنجدٌ alsun, and in Persian اسبند asbund.
SAFFRON. Khoongoomapoo (Tam.) Zafran (Arab. and Duk.) Keysur (Hindoie). Khoonkoomapoochho (Tel.) Abeer (Pers.) Safuron (Mal.) Khooon (Cynig.) Acafrao (Port.) Safran (Fr.) Zafferano (It.) Safran (Ger.) Kāsmīrajanjā (Sans.) also Kunkuma (Sans.) Kgwenos (Gr.)

Crocus Sativus (Lin.)


The saffron of the shops is prepared from the stigmas, with a proportion of the style, of the flowers of the crocus sativus, a plant which thrives well in England, and is a native of the Southern parts of Europe and of Asia. When of good quality, it has a sweetish, penetrating, diffusive odour, its taste is a little bitter, united with a certain degree of warmth and pungency, its colour a deep red.

The Hindoo doctors prescribe saffron in nervous affections, unattended with vertigo, and where there is no disposition to apoplexy; they also believe it to have considerable virtue in melancholia, hysterical depressions, and kistnakh doshum (typhus fever). To women soon after the pains of childbirth, an infusion of saffron is frequently administered by the Tamool midwives, to prevent fever, to support the spirits, and gently to assist in carrying off the lochia. This medicine is besides used by the Indian practitioners,
as an external application in ophthalmia, when mixed
with a small portion of pounded *kadukāt* (Chebulic
myrobolan), and lime-juice, and applied round the
eye and close to it.

The saffron procured from Asiatic countries is of
an inferior quality to what we see in Europe; being
often dry and deficient in odour. It is brought to
India from the sea-ports of the Red Sea*; from Persia†,
and in considerable quantity from Cashmere: hence
its Sanscrit name. The Arabians ‡ place saffron
amongst their *Mosebetāt* (Hypnotica), *Mo-
kewyat-dīl* (Cardiaceae), and *Mufettehat*
(Deobstruentia). The reader will find its
virtues fully discussed in a Persian work, entitled
*Krabidīne Massūmey*, a Treatise on
Medicine, by Massum Ben Ibrahim Shirazy, A.D.
1649.

Few things are more subject to adulteration§ than
saffron, a fact which, I find, was noticed by Pliny, in
whose days it would appear that the best grew in
Cilicia, on a mountain named Carcyrus. The Greeks
called the plant *Kēoxoς*; its English name is evidently

---

* A great quantity of saffron grows in Egypt; the best in the
  vicinity of Cairo: about 1,800,000 pounds used formerly to be
  annually prepared in that country. See Niebhr's Travels in
  Arabia, vol. i. p. 96.
† Captain M. Kinneir, in his valuable Geographical Memoir of
  Persia, informs us, that saffron is a staple export from Herat, a
town in the province of Khorasan. See his work, p. 182.
‡ Avicenna says of saffron, "roborat cor et exhilarat; sed
  cephalalgiam inducit, capitique officit; venerem stimulat, urinam
§ It is often adulterated, Roques informs us, with the flowers of
  the *carthamus tinctorius*; the same intelligent writer says of
  saffron, that when taken in moderation, either in food or as medi-
  cine, it gives tone to the stomach, strengthens the circulation, and
  favours the functions of the skin; but if taken in an overdose, it
  acts as a narcotic poison, and injures the brain and nerves. See
  Phytographie Medicale, vol. i. p. 132.
borrowed from the Arabic. To enumerate all the good qualities, which have been at different times ascribed to saffron, would occupy too much room here; it has been supposed to promote the eruption of the small pox, keep off sea-sickness, relieve palpitation at the heart, induce sleep, &c. Galen*, however, thought less favourably of it, and believed that when too liberally taken, it might destroy the intellect. Celsius† is the only author I am aware of who considered it as having a purgative quality.

European practitioners have considered saffron as stimulant and antispasmodic; but from the experiments of Dr. Alexander, its powers do not appear to be considerable. Boerhaave had some singular notions respecting saffron, and supposed it to have the effect of dissolving the blood when taken to excess; but if properly administered, he conceived it to be a valuable aromatic, pectoral, anodyne, hypnotic and alextropic; adding, that when applied to the forehead it sometimes removed phrenzy. Professor Ungarelli‡ expresses his firm belief in its debilitating quality; and Murray thinks that taken in an overdose, it powerfully excites the uterus. Dr. Thornton informs us, that he has often known the fits of infants removed by the syrup of saffron. Orfila§ in his work on poisons, tells us, that a strong infusion of saffron kills dogs in four or five days; they do not appear to suffer, but gradually sink without pain. The syrup is given in doses of from 3ij. to 3iiij. in cinnamon-water: Dr. Alston used to prescribe 3i. of the substance, 3ss. of the tincture,

† Vide Cels. lib. v. cap. v.
‡ See Alibert's Nouveaux Eléments de Thérapeutique, vol. i. p. 552.
and gr. xii. of the extract. There is but one other species of crocus besides our article, the c. vernus, a native of the Alps, but which was growing in the botanical garden of Calcutta in 1814. The crocus sativus "is a bulbous perennial plant; the flower, which appears before the leaves, is sessile on the bulb, of a violet or lilac colour, and raised on a long, slender, white tube; the leaves are linear, a little revolute, of a deep rich green colour, with a white nerve in the centre."

To the extract of saffron has been given the scientific appellation of polychroite; it is of a deep yellow colour, deliquescent, readily soluble in water and in alcohol, but insoluble in pure sulphuric ether.

CLXXXVIII.

SAGAPENUM. Sugbemij سكبينج (Arab. and Duk.) Kundel (Sans.) Kundel (Hindoie). Sagapenum (Fr.) Sagapengummi (Ger.) Sagapeno (It.) SAGAPENUM.

I have never met with this acrid, bitter, and alliaceous-smelling gum resin in any of the bazars of Lower India; though I find that it has both a Sanscrit and Hindooie name, and also a place in the Ufaz Udwiyeh. Dioscorides tells us (lib. iii. cap. 95.) that it is the juice of a ferula, growing in Media; Dale and Miller say, it is brought to England from Alexandria; Geoffroy would lead us to believe, that it is a product of Persia (ii. cap. 44.). The fact is,

* Introduced by Mr. McMahon, in 1810.
that the plant which actually yields this substance has not been hitherto ascertained, but Willdenow supposes it to be the ferula Persica.

Sagapenum has been considered, by the Arabians*, as lithontriptic and attenuant, and placed accordingly amongst their معلطفات and مملطفات, Musuttetat and Mūlūṭifāt (Attenuantia and Lithontriptica). European practitioners consider this gum resin as antispasmodic and emmenagogue, and, externally, discutient; and order it in cases in which assafetida has been found useful; it is usually given in substance, in doses of from gr. viii. to șij. Virey†, in his “Histoire Naturelle des Medicaments,” expresses an idea, that sagapenum may be the produce of a species of laserpitium; and at the same time informs us, that, according to Pelletier, it consists of “resin 54, gomme 31, huile volatile 12, malate acide, de chaux, debris végétaux, &c.” For the notions of the Persians respecting this gum resin, the reader may consult a work, entitled Tukuim al Advia تقويم الأ دوای, or the Apothecaries’ Vade Mecum.

Sagapenum would appear, by Murray’s account, to be now little used in Germany, except in preparing certain plasters for hastening suppuration (Appar. Med. vol. vi. p. 234.).

* Of all the Arabian writers, Avicenna appears to speak in highest terms of sagapenum: “Paralyticis auxiliatur, valet ad musculorum tendonomque contractionem; cephalalgiam a frigida causa et flatibus excitatam discutit.” Canon. Med. lib. ii. tract. ii.
† See his work, p. 225.
CLXXXIX.

SAGE. Saysselley सय्ज़ुले (Tam.) Simie carpoorum elley (Tam.) Saaohat (Cynzg.) Velætie capoor ka pāt ولايتی کاپور کپیات (Duk.) Shingjin (Chin.) Sauge (Fr.) Salbei (Ger.) Salvia (Span.) Salvia (It.) Salva (Port.) Salbiah سالبيه (Pers.) Sefakuss سفاکس (Arab.)

**SALVIA BENGALENSIS** (Rottler).

Cl. and Ord. Diandria Monogynia. Nat. Ord. Verticillatæ (Lin.)

This species of salvia was first scientifically described by the learned and excellent Dr. Rottler, and subsequently by Dr. Roxburgh. The leaves differ but little, in any respect, from those of the salvia officinalis*, excepting that they have a peculiarly strong smell of camphor, much of which they, no doubt, contain; and hence their Dukhanie and Tāmool names.

Sage is but little employed in medicine by the Hindoos; the Mahometans cultivate it in their gardens, and use it for the same purposes that we do; preparing with the leaves a sort of grateful tea, which they prescribe in certain stages of fever, and as a gentle tonic and stomachic.

The leaves ought to be carefully dried in the shade; they then have an agreeable fragrant odour, with a warm, bitterish, aromatic, and grateful taste;

* It appears by the Flora Japonica, that the s. officinalis is growing in Japan, and called by the Japanese *babinsko*. Flora Japon., p. 12.

A A 4
and are considered as tonic, carminative, and slightly astringent. The infusion alone, or mixed with honey and vinegar, makes an excellent gargle in cases of sore throat. Internally, the powder has been given from gr. x. to 3 ss.; or, of an infusion, made with 3 i. of the dried leaves to 0 j. of boiling water, 3 i j. may be taken every three hours. Virey tells us, in his "Histoire des Médicaments peu connus," that baisonge is the name of an apple gall, or excrescence, found occasionally on the salvia officinalis; and which is eaten by the Turks at Constantinople. Eight species of salvia were growing in the botanical garden at Calcutta, in 1814; but only three of them natives of India, the Bengalensis, brachiata, and parviflora. Three species grow in Ceylon, one of which is the officinalis, or true sage. The Greeks called this Ελεκτροφακος, from the parched colour of the leaves. The well-known verse of the school of Salernum will show in what estimation sage was held in those days:

"Cur moriatur homo, cui salvia crescit in horto."

The species salvia Indica, or clary (sclarea Indica, Miller's Dict.), is much cultivated in India; its leaves, from their fresh and pleasant smell, are bruised and put into country beer to improve its flavour.

Murray, in his Appar. Med. vol. ii. p. 201., speaks favourably of an infusion of sage in debilitating night-sweats, as well as of the juice of the leaves in cases of tertian fever, and the aphthous affections of children.

* See Histoire Naturelle des Médicaments, p. 322.
CXC.

SAGO. *Show árisee சோருந்தெ (Tam.) Sā-
vuké chawal ساورکی چاول (Duk.) Sábudáná (Hind.)
Zowbeeum (Tel.) Sāgu (Mal.) Sekuhme (Chin.)
Sāgu (Jav.) Sāgu (Bali).

*Cycas Cinctinalis* (Lin.)

Dioecia Polyandria. Nat. Ord. Palmæ. Ge-
meine Sagapalme (Nom. Triv. Willd.).

The fact of the pith of different trees being eaten
by the natives of Eastern countries has created no
little confusion respecting what is the real sago tree;
or that which yields the sago of commerce. Dr.
Fleming, in his Catalogue of Indian Medicinal
Plants, makes it the produce of the sagus Rumphii of
Murray (v. 18.). Willdenow believes the common
sago tree to be the cycas circinalis*, which is a
native of the Eastern islands, Friendly Islands, and
the New Hebrides. It is the *toddá panná* of Rheede
(Hort. Mal. iii. p. 9. t. 18. 21.), and the *olus calap-
poides* of Rumphius (Amb. i. p. 86. t. 22, 23.), and
may be seen mentioned in another Part of this work,
under the Canarese name of *moondichil*. Then
again, sago has been said, with much confidence, to
be obtained from the *cycas revoluta* of Thunberg
(Japan. 229.) *tessjo* (Japan.) This Willdenow also
allows to be a sago palm, calling it by the trivial
name of *zuruchgerollte sago palme*, and Mr. Phillips
gives it as the actual sago tree. It is a native of

* And grows in Ceylon, where it is called in Cyngalese madu-
gaka.
Japan and China, is the *tetyee* or *arbor calappoides sinensis* of Rumphius, and is supposed by Miller to be the true libby* tree of the Eastern islands, which is mentioned by Dampier and others, as that affording the sago which is so much eaten by the inhabitants of Tonquin, Ternate, Tidore, Mindaniao, Borneo†, and all the spice islands; and which is exported into other countries in the form of small round grains.‡

Mr. Crawfurd, in his History of the Indian Archipelago, says, that “sago§ is the produce of the metroxylon sago, and that it thrives best in marshy situations. The tree is the *huda* of the Ternatese; at Amboyna it is *lapia*; on Banda *romiho*; in Macassar *rambiya* (and the farina of it *palehu*); on Mindanão it is *labi*. Except the *nipa*, the sago palm is the humblest of the palm tribe, seldom rising higher than thirty feet; and, except the *gomuti*, it is the thickest or largest.” Its different portions have various economical uses: the hard wood of the trunk, called *kūrūring*, is used in ship building, bridges, &c.; the stem of the branch, termed *gábá-gábá*, is used in house building, fortifications, &c.; the leaf is used as thatch; and the bran or refuse of the pith, called *ela*, is employed for feeding hogs.

Dr. Fleming, under the article sago, observes, that sago is procured from the trunks of several other palms besides that mentioned by Murray; such as from the saguerus Rhumphii (Roxb.), which is the

* See Forrest’s Voyage to New Guinea, and the Molucca Islands, pp. 35–40.
† See Leyden’s Sketches of Borneo, in the 7th volume of the Transactions of the Batavian Society.
‡ Loureiro says, under the head of cycas inermis, that in Tonquin good sago is made from the trunk of it. Flora Cochin-Chin. vol. ii. p. 692.
§ See the work, vol. i. p. 383.
gomutus gomuto* of Rumphius (Amb. i. p. 57.). The pith of a tree, called on Ceylon tálaghás, and in Malabar codda-panna (corypha umbraculifera), is also used as sago, as is that of the erimpana (caryota urens).† A substance somewhat similar is likewise prepared from the meal-bearing date tree (phoenix farinifera, Roxb.), the Telinghoo name of which is chittie cita; the Tamool sirroo aetchum. Kirkpatrick, in his Account of Nepaul (p. 79.), informs us, that the pith of a tree, called in that country kakolo, is eaten by the natives; and Thunberg tells us, that the pith of the zamia caffra (zamia lamuginosa, Willd.) may be considered as a sort of sago; indeed, Barrow

* This tree is mentioned by Mr. Crawfurdf (vol. i. p. 397.) under the name of gomuti, and botanical appellation of borassus gomutus; he informs us, that much excellent toddy is obtained from it in the Indian islands; that it is the thickest of all the palms, and may be easily distinguished by its rude aspect. The inhabitants of the Moluccas are in the habit of using in their wars, in the defence of posts, a liquor, afforded by the maceration of the fleshy outer covering of the fruit of the gomuti, which the Dutch call helwater. The interior of the fruit, freed from this noxious covering, is prepared by the Chinese as a sweet meat. A production of great value is obtained from the gomuti tree, resembling black horse-hair, found, in a matted form, betwixt the trunk and the branches; with it the natives prepare a useful cordage. This palm, it would appear, is to be met with in the Eastern Archipelago only. In Malay the tree is anao, and its toddy tevak, and the hair-like material iju. The Javanese call the tree aren, the horse-hair-like produce duk, and the toddy lāgen. At Amboyna the tree is naiva, and the material for cordage maksee. At Ternate the tree is sehó; in the Bali tongue jahaka. The Portuguese, and all other European nations, call the tree sagwires; at Macassar it is monchono, and the toddy juro. Most of the sugar used by the natives of the Eastern islands is made from the toddy; and with this toddy, when fermented into wine, the Chinese prepare arrack. I perceive that the tree is one of the many interesting objects that called the attention of Mr. Philebert, during his voyage in the Indian and Asiatic Seas.

† A most useful tree in the Indian Archipelago, where it is called by the Malays nábung, or nipa. Sugar, toddy, and sago, are all got from it; at the top of the tree, as in the cocoa-nut tree, and several other palms, the germ of the new growth affords a substance which is an excellent substitute for cabbage.
says, that it is used as such by the Kaffres of Southern Africa.

Sago, in India, is more used by the Mahometans than the Hindoos; but, even by the former, it is not nearly so much eaten as by the inhabitants of the Eastern islands, whose principal food it is. Mr. Crawfurd tells us, that "there is but one species of the true sago palm, but four varieties: viz. the cultivated, the wild, one distinguished by the length of the spines on the branches, and one altogether destitute of spines; which last is usually called by the natives the female sago. The first and last afford the best farina; the second a hard medulla, from which the farina is difficultly extracted; and the third, which has a comparatively slender trunk, an inferior sort of farina.

As a diet for the sick, sago is light and bland, and is particularly indicated in bowel affections, and internal inflammations, when it is best given boiled with milk. Brande, in his Manual of Chemistry, vol. iii. p. 35., places sago amongst his starches, making it his third variety.

CXCI.

SAINT JOHN’S BREAD, or FRUIT of the CAROB TREE. Khirnoob nubti خيزوب نبطي (Arab.)

Ceratonia Siliqua (Lin.)

Cl. and Ord. Polygamia Dioecia. Nat. Ord. Lomentaceae (Lin.).

This article, which had formerly a place in the British Materia Medica, was termed by the Greeks kéraka; and has a place in the Ulfax Udwiyeh,
where the pod, called by the Arabians is spoken of as cold, dry, and astringent; the dose three direms. Dr. Alston, in his Materia Medica, informs us, that the husk of the pod has been considered as antacrid, purgative, pectoral, and astringent; and that the Egyptians extracted from it a sort of honey, with which they preserved fruits. Sonnini* tells us, that the carob trees grow in Palestine. Pocock found them flourishing in the island of Scio. We also see by Link’s Travels in Portugal, that the tree is a native of that country; he speaks of it as one of the most beautiful in the world. It is common in the island of Diu, or Standia†, where the luscious pulp, contained in the pod, is eaten by the poor and children, and also made into sherbet; the wood of the tree is delicately marked with dark-red veins. The tree itself “grows to a considerable size, with leaves pinnate, leaflets roundish, entire, thick, and rigid; the legume is four or five inches long, compressed, becoming four-cornered when dry, of a dusky ferruginous colour, smooth, fleshy, many-celled, valueless.” See Gært. Fruct. ii. 310. Bauh. Pin. 402.

* CXCII.

SAL AMMONIAC. Náváchárum بُسُرُوجُة (Tam.) Urmeena ارمننا (Arab.) Nowsháder نوشادر (Pers.) Vayvagarra loonoo (Cyang.) Nuosadur (Sans.) Sel ammoniac (Fr.) Salmiac (Ger.) Sale ammoniaco (It.)

MURIAS AMMONIÆ.

* See his Travels, p. 395.
† See Olivier’s Travels in the Ottoman Empire, p. 233.
Many years ago sal ammoniac was made in Egypt only, and from that country all Europe was supplied with it; it was there prepared by sublimation from the soot of fuel*; within the last sixty years, however, it has been manufactured in various other parts of the world; what of it is used in England is made in some of the Northern counties. Tavernier mentions sal ammoniac amongst the articles, which in his time were brought from Amadabat to Surat (Reisen ii. p. 114.).

This inodorous, bitterish, acrid, and cool-tasting salt, the Tamool practitioners, like us, use in solution, as a repellant in cases of local inflammation and tumour; they also believe it to possess emetic and diuretic virtues, and accordingly administer it in maghödrum (ascites), and neer ambul (anasarca); it is moreover supposed to be a useful remedy in certain female obstructions and uterine enlargements, called vaypoo pāvay (Tam.).

Sal ammoniac † is now seldom given internally by European practitioners. On account of the cold it produces during its solution in water, it is often advantageously employed as a lotion to abate the pain of inflammation, or allay head-ache. It also

* The fuel commonly used was the dung of camels. See Niebbur's Travels in Arabia, vol. i. p. 97. Bartolomeo tells us, in his Travels (p. 82), that sal ammoniac used formerly to be brought to India from Persia and Arabia.

† What was called sal ammoniacus by the ancients was no other than impure common salt, perhaps rock salt; the first distinct traces of sal ammoniac are to be found, I believe, in the writings of the Arabians. In Geber there is a prescription how to purify sal ammoniac by sublimation, and he flourished in the eighth century, and wrote on alchemy. Avicenna, the chemist, who lived, it is supposed, in the year 1122, was the first that told us that sal ammoniac came from Egypt, India, and Forperia. See Beckman's History of Inventions, vol. iv. p. 364. also p. 375.
forms an excellent disinfectant for indolent tumours, gangrene, or psora, when dissolved in the proportion of \( \frac{3}{4} \) of the salt to \( \frac{3}{4} \) of water, with \( \frac{3}{4} \) of alcohol.

In some parts of the world this salt is found native, a product of volcanoes; as in the vicinity of Mooshky, in the province of Mekran in Persia*, close to Basman, where there is a mountain called Koh Noushadir or Sal Ammoniac Mountain. In Europe sal ammoniac is prepared by sublimation from a mixture of common salt and sulphate of ammonia, or what has been called secret sal-ammoniac; by this process sulphate of soda is also formed.

The volatile salt of sal ammoniac, which the Tamools call náváchárá akránám, and in Dukhanie is termed soongna سونگنا, is prepared by the former in the following manner:

Take of náváchárum (sal ammoniac) one polum, simie chúnámbóo (chalk) two pollums; dry the two ingredients carefully, then mix them, and sublime with a strong heat.

The sal volatilis, the native practitioners of India do not appear ever to administer internally, using it merely as a local stimulant to the nose, in fainting fits, languors, and hysteria. European practitioners recommend it in cases requiring diaphoretics, antacids, stimulants, and antispasmodics; in large doses it proves emetic. The common dose is from gr. iij. to gr. xx. in pills, or dissolved in water; to produce vomiting 3ss. may be given for a dose.

By a paper which has lately been published in Brewster’s Philosophical Journal of Science (No. 4.),

* See Macdonald Kinneir’s Geographical Memoir of Persia, p. 224.
it appears, that ammonia has been found to be a complete antidote to the hydrocyanic or prussic acid.

CXCIII.

SALEP. *Salāmisrie ᵇᵃʳᵒⁿᵗᵃʳᵉ (Tam.)
Salībimisri ثعلب مصري (Arab. Hind. and Duk.)
Salep (Fr.)

* Orchis Mascula (Lin.)


Salep used formerly to be imported from Eastern countries, but is now prepared in several parts of Europe; and Mr. Mault of Rochdale has given us the method of drying and curing the orchis root, from which it is obtained. The plant thrives well in England, and Withering has in consequence expressed a hope that we shall no longer be supplied from foreign markets with an article our own country can furnish us with, in almost any quantity.

Salep is considered as a medicine possessing great invigorating virtues by the Egyptians, who call it, according to Forskahl, *khosie tāleb* (Mat. Med. Kahirina). As an article of diet it is light, bland, and nutritious, and is particularly indicated, and recommended by Dr. Percival, in dysentery, dysuria, and internal inflammation; it is to be met with in most of the bazars of Lower Hindoostan, and is an export to that country from the Levant.*

The Arabian physicians prescribe it with great

confidence in consumption; the Indian practitioners believe salep to be a powerful strengthener of the body, and prescribe it in conjunction with mastick, and some other ingredients in cases requiring tonics.\* The French call the male orchis "satyrion," and "testicle de chien;" the last name is from the appearance the two bulbs have that are fixed to the base of the stem, "which is round, smooth, upright, and about a foot high; naked above, but below surrounded with leaves, which are lanceolate, alternate, and broadish: the flowers are numerous, and on a loose spike." Deslongchamps in his "Manuel des Plantes Usuelles Indigènes" (vol. ii. p. 546.), informs us, that judging from the testicle-like appearance of the bulbs, composing the root of this plant, the ancients had a strange idea that it had a powerful influence on the organs of generation of man; and such it was no doubt supposed to have by Theophrastus, Pliny, and Galen. It is about eighty-five years ago, since Geoffroy, the brother of the author of the Materia Medica, first published in the Memoirs of the Academy of Sciences, the mode of making salep from the indigenous orchis of France, of a quality not inferior to that of Eastern countries. Brande † gives salop, obtained from the roots of several species of orchis, as his fifth variety of starch. Of the seventy-eight species of orchis hitherto scientifically noticed, but six appear to be natives of Asiatic countries (see Willd. Spec. Plant.). Three species grow in Ceylon; the viridi flora, the cubitalis and the strateumatica.

\* Salep has the singular quality of depriving salt water of its salt taste, a property which might be turned to good account in long voyages; the mucilage is best used for this purpose.

† See his Manuel of Chemistry, vol. iii. p. 35.
CXCIV.

SALT, COMMON. Ooppoo (Tam.) Némuck (Pers.) Nimmuk (Duk. and Hind.) Loono (Cyng.) Loon (Hindoie). Lavana (Sansk.) Lawanum (Tel.) Garam (Mal.) Uyak (Jav.) Uyak (Bali.) Muriate de soude (Fr.) Salzaures natrum (Ger.) Sal commune (It.) Melh (Arab.) Meet (Mah.) Yen (Chin.) MURIAS SODA.

Besides the common method of procuring culinary salt by evaporating* sea water, which is that adopted in the Sunderbunds, where a quantity is made equal to the consumption of all the Bengal provinces, the native Indians prepare it by percolation, and crystallizing, from certain red soils which contain it; such as that found near Malaya Banaru, in Mysore, in Ayudh, and in the district of Benares.† They also prepare it in inland situations, from salt springs or lakes‡, similar in their nature to those of Luneburg, and the salt lake mentioned by Russel (see his Account of Aleppo); a lake of the same kind we find noticed by Macdonald Kinneir, in his excellent Geographical Memoir of Persia (p. 60.), at

* In Java salt is procured by a similar process. See Crawfurd's History of the Indian Archipelago, vol. i. p. 199.
† See Remarks on the Husbandry of Bengal, p. 181.
‡ There is a singular salt lake, called lake of Loomar, in Berar, in lat. 19° 10' and long. 75° 3' E. The salt of this lake is of a greyish colour, crystallized in cubes; it is used for seasoning food by the Mahometans, and in cleaning the shawls of cashmere. See Edin. Philosophical Journal, pp. 310, 311.
Bagtegan, about ten miles from Shiraz, in the province of Fars. Kirkpatrick, in his Account of Nepaul, tells us (p. 207.), that salt is an import into that country from Thibet; it is a valuable export from Java* to the West coast of Sumatra. In India, that of the finest quality is manufactured in Cuttack, bringing, I understand, an annual revenue of not less than sixteen lacs of rupees; it is there got by evaporating sea water; that which is subsequently purified by boiling is called pangah.

Hindoos, of all descriptions, set a very high value on salt; using the phrase "I eat his salt," to express a sense of gratitude, as much as to say "I am bound to serve him faithfully." They ascribe many ailments to the want of good salt, which, indeed, they often experience at places remote from the sea, where they get an impure, bitter sort, obtained in the preparation of salt-petre, from certain earths which contain it. The Vytians consider salt as we do, to be tonic, anthelmintic, and, externally, stimulant; but do not appear to be aware, that in large doses it has been found to check vomiting of blood; nor that it has a considerable aperient quality† when largely taken. The Brahmins, who eat nothing but vegetable food, believe, that without salt they would die. For an admirable account of the different methods of manufacturing salt, the reader may consult Aikin's Dictionary, art. Muriate of Soda. Analysed by Berzelius, salt was found to consist of 46.55 of muriatic acid, and 53.44 of soda.

* See Sketches Civil and Military of Java, p. 41.
† There is, perhaps, no passage more just and true in all his writings, than those words of Avicenna: "Sal fœcum excretionem ac ciborum descensum promovet; ad putrifactiones et humorum crassitiem valet." Canon. lib. ii. tract. ii.
CXCV.

SALT, ROCK. Indoopoo โสดาบ (Tam.) Lahorie nemuck لاهوری نمک (Duk.) Saxinda loonoo (Cyn.) Nimuki sung نمک سنگ (Pers.) Sindaloon (Hindooie). Saindhava सैन्धव (Sans.)

Rock salt is brought into Hindooostan from Thibet, where, as well as in Bootan and in Nepaul, Turner * tells us, it is used for all domestic purposes; it is also an export from Lahore †, in which country, according to Rennel, in a tract betwixt the Indus and Hyllum rivers, it is found of a quality hard enough to make into vessels. It is a product of Persia, in the province of Mekran; and Mr. Elphinston, in his interesting Account of Cabul ‡, informs us, that near Callabaugh, on the bank of the Indus, there are immense quantities of rock salt, in large blocks, like rocks, in a quarry; and thence exported to India and Khorassan. The rock salt mine of Wiliska, in Poland, we are told by Mr. Coxe, in his Travels (vol. i. p. 197.), is 6695 feet long, and 743 feet deep. Rock salt, in England, is chiefly procured from Cheshire, where there is a stratum, no less than fifty feet thick. In December, 1823, Chaptel made a report in the Academy of Sciences, of Paris, on the rock salt of the mine discovered, in 1820, at Vich, in the department of La Meurthe, in France; there are

* See Turner’s Embassy to the Court of the Tishoo Lama, pp. 406, 407.
† See Pennant’s View of Hindooostan, vol. i. p. 42.
‡ See his work, p. 40. Also found at Bulkh. * See same work, p. 147.
there, it would seem, four sorts; white, half grey, grey, and red; the white is peculiarly fine, and altogether fit for the table. A valuable quality of the rock salt of Vich, is, that it is not deliquescent; the mine occupies about thirty square leagues, and its thickness such, that it may be worked for several thousand years without being exhausted!!

Rock salt is the chloride of sodium of modern chemists, and, according to Brande*, consists of

\[\begin{align*}
1\text{ Proportional of chlorine} & : 33.5 \\
\text{sodium} & : 22 \\
\hline
55.5
\end{align*}\]

having all the properties of common salt.† I shall conclude what I have to say on the subject of rock salt by observing, that the native farriers think it has particular virtues in clearing and softening the coats of horses, by mending their general health.

In Western countries, such as in the great Peruvian Desert, near Huara, there is a rich rock salt mine; in Africa, again, in the desert of Sahara, near Tombuctoo, there is also a rich rock salt mine.

CXCVI.

SALT PETRE. Potti-looppoo قطع (Tam. and Tel.) Shorah شر (Pers. and Duk.) Bâjee (Hindooie). Sandawa سانداوا (Mal.)

† For an account of the bit-laban, or caia nemez, which is a preparation made with the muriate of soda, and fruit of the phyllanthus emblica, see the second volume of this work, article Bit-laban.
also *Mesiu mentah* (Mal.) *Ubkir* (Arab.) *Yavaka-kshara* (Sansk.) *Wedie loonoo* (Cyg.) *Nitrate de potasse* (Fr.) *Salpeter saures kali* (Ger.) *Salpeter* (Dut.) *Nitro* (It.)

*Nitrae Potassœ* (Edin.)

It is well known that this article, has, for many years past, been procured in great quantities from the earth containing it in several provinces of Hindoostan, but especially in those lying west of *Bihar*, where the hot winds are more prevalent, than in the tracts extending farther east; and it is observed, that the production of nitre is greatest during the period when the hot winds blow: from Bengal it is brought to England in an impure state. Salt petre appears to be obtained artificially in various ways in different countries; in Podalia, in Poland, it is got from the tumuli or hillocks, which are the remains of former habitations. In Cabul it is made almost every where from the common soil; in Spain from the land after a crop of corn; in Hanover by collecting the rakings of the streets; and in India, in some parts, from the earth of old walls, scrapings of roads, cow-pens, and other places frequented by cattle.

There is little salt petre manufactured in the lower provinces of India; in the *Coimbatore country* it is made at considerable expense, and of an inferior quality to that which comes from *Bihar*. Salt petre is a product of the soil in the *Burmah dominions*, in *Siam* (in the province of Corie), also in *Mekran*, and amongst the mountains behind *Tehraun*.* in

Persia. On Java* it is prepared by boiling the soil of caves, frequented by bats and birds, chiefly swallows.

The native doctors prescribe salt petre † for nearly the same purposes that we do; to cool the body when preternaturally heated, and in cases of neercutto and kull-addypoo (ischuria and gravel). They are also in the habit of cooling water with it, (which it does by generating cold while dissolving), for the purpose of throwing over the head in cases of phrenitis. Given in repeated small doses, not exceeding ten or twelve grains, it abates heat and thirst, and lowers arterial action. Dr. Thomson says it is contraindicated in typhus fever and hectic affections; and that a small portion of it, allowed to dissolve in the mouth, has been found to remove incipient inflammatory sore throat. Mr. Brande informs us, that nitre consists of one proportional of acid = 50·5 + one proportional of potassa = 45. ‡

CXCVII.

SALT GLAUBER. Sulphate de soude (Fr.)

Sulphas Sodœ.

† Native salt petre Cronstedt was not acquainted with; such as it is, often seen as well in Portugal, Spain, and America, as in the East Indies, chiefly as an efflorescence on certain damp and ruinous walls; it is the earthy salt petre, and to be distinguished from the cubical salt petre of Professor John Bohn; incrustations on walls are not always, however, salt petre; they are not rarely soda combined with more or less calcareous earth. The name nitrum appears to have been indiscriminately applied to both incrustations. See Beckman’s History of Inventions, vol. iv. pp. 529, 530.
I perceive by Dr. F. Hamilton’s Account (MSS.) of the district of Purniya, that he there found a coarse kind of Glauber salt brought from Patna, and called in Hindoostanie *khari numuk* also *khara noon.*

**CXCVIII.**

**SANDAL WOOD.** *Chandanum* सन्दलम् also *Shändáná-cuttay* (Tam.) *Sundel* صندل (Duk.) *Sandoon* (Cyn.) *Sundel abies* صندل ابیس (Arab.) *Sundal suffeed* (Pers.) *Chundan* (Hindooie). *Sandalo* (It.) *Sandale* (Fr.) *Chandana* (Hind. and Beng.) *Sri gūnda* (Can.) *Tsjéndaná* (Mal.) *Chendanum* (Tel.) *Chandana* चन्दन also *Malayaja मलयज* (Sans.) *Aikamenil* (Timur). *Ayasru* (Amboynese). also *Katchkandān* (Hind.) *Cayhuyndan* (Coch. Chin.) *Tan-muh* (Chin.)

**SANTALUM ALBUM** (Lin.) **SIRIUM MYRTIFOLIUM** (Roxb.)

Cl. and Ord. *Tetrandria Monogynia.* Nat. Ord. *Onagraceae* (Juss.)

Sandal wood in powder is prescribed by the *Vytians* in *tava jorum* (ardent remittent fever), from its supposed sedative and cooling qualities; they also look upon it as a valuable medicine in gonorrhoea, given in cow’s milk; a virtue we see by Rumphius,

*It is to be presumed that it is a very impure sort; Dr. Hamilton does not know whether it is prepared at Patna or found native, which it often is, in combination with oxide of iron, and muriate and carbonate of soda, and sometimes effloresced on the surface of the soil, as in Hungary.*
that it is considered to possess at Amboyna (Rumph. Amb. tom. ii. p. 42.). In cases of morbid thirst it is recommended to be taken in cocoa-nut water; and in hot weather, after bathing, the powder is rubbed over the body, equally to cool it, and check too copious a perspiration. The Mahometans are in the habit of preparing with the most yellow and finer parts of the wood, an oil which they highly value as a perfume. The sandal wood tree grows in great abundance in Travancore, in the Coorg and Wynade districts, and in Mysore. The same tree yields the white and yellow sandal wood, the last is the inner part of the tree, and is of great hardness and fragrance, particularly near the root of the tree; the white is the exterior part of the tree, is less firm and has but a faint odour.

The tree which grows in Ceylon and is there called *rat-kihiri* has “somewhat the appearance of a myrtle, with stiff, brachiate branches, everywhere jointed; leaves opposite on short petioles, spreading, lanceolate, entire, waved, shining, about two inches long, and three quarters of an inch broad; the flowers are small, red, in a terminating compound, small, erect, thyrse-like raceme; the fruit a small berry, by which the tree is propagated.” The santalum album is common in the Indian islands, particularly in Sumatra* and Timor; at Siam and Malacca it grows with luxuriance. Mr. Crawfurd however informs us, that the sandal wood of the Eastern islands is inferior to that of Malabar. From the first mentioned of these countries it is imported into Java, and brings there about from 8 to 13 Spanish dollars per picul.

* See Marsden’s Sumatra, p. 129.
What is called aghilkuttay in Tamool, and aghirkagore by the Mahometans, is a reddish-coloured resinous-fragrant bitter wood, sometimes added in powder to powdered sandal wood, to increase its fragrance. I am not altogether certain what it is, but am inclined to believe it to be an inferior sort of aloes wood, called by the names of aghallahum, and calambour (aquilaria ovata). The tree is a native, Turpin says, of Siam, it is also to be met with on Cambogia, Timore, Cochin-China *, Borneo †, and the Sooloo Islands.

It would seem that much uncertainty had arisen from the two trees aquildria ovata and excocaria agallocha, having been confounded together (and the English terms of aloes wood and eagle wood indiscriminately applied to both), but they are very different; the first being of the class and order Decandria Monogynia, and the latter of those of Dioecia Triandria. Mr. Martyn seems to have no doubt, but that the perfume we allude to is from the aquilaria ovata, which is the aloexylum agallochum of Loureiro, and agallochum (Rumph. Amb. ii. t. 10.). He says, the wood itself is naturally inodorous; and that when it has aroma, it is a disease, caused by oleaginous particles stagnating in the inner parts of the trunk and branches into a resin, till at length the tree dies; and when split, the valuable resin is taken out: he adds, “that all the true lignum aloes ‡ proceed from this tree, even the most valuable, commonly called calumbac.” Perfumes from this wood, Loureiro says, are highly esteemed by Eastern

* See Borris’s Account of Cochin-China.
† See Lokyer’s Account of the Trade of India, p. 129.
‡ See further particulars on this subject, under the head of Wood Aloes, in this volume and chapter.
nations; being useful remedies, they suppose, in vertigo, palsy, and in restraining vomiting and fluxes.

The Arabians place sandal wood amongst their Mokewyat-dil (Cardiaca); the dose half a miscal. The tree is fully described by Loureiro, who also notices the virtues of the wood: "Resolvens, diaphoretica, cardiaca," &c. Vide Flor. Cochin-Chin. vol. i. p. 87.

CXCIX.

SANDARACH. Sundroos سندروس (Arab.)

JUNIPERUS * COMMUNIS (Lin.)


This resinous substance is commonly met with in loose granules, a little larger than a pea, of a whitish yellow colour, brittle and inflammable, of a resinous smell, and acrid aromatic taste; it exudes, we are

* I have given juniperus communis as the plant from which gum sandarach exudes in warm climates, from the authority of Dr. Thomson (Lond. Dispens. 3d edition) and Dr. Hooper; but I find, that Virey, in his "Histoire Naturelle des Medicaments," says, it is obtained from the thuya articulata of Desfontaines (p. 318.); and Nicholson, in his Dictionary of Chemistry applied to the Arts, mentions the same thing, which he does on the authority of a Danish traveller, Schousboe, who is of opinion, that the juniperus communis does not grow in Africa, whence the sandarach comes; and we know that Broussonet affirms, that the resin called sandarach flows from the thuya articulata, in the kingdom of Morocco. How all this is, I cannot pretend to say; had there been any similarity betwixt the two plants, I could have imagined a mistake, but the juniper is of the class and order Dioecia Monadelphia, and the thuya articulata of the class and order Monocoea Monadelphia; the first has leaves narrow and awl-shaped, the last has no leaves at all, but scales at the top of the joints. Then, on the other hand, we find, that the Italian name of sandarach is gomma de ginepro!
told, from cracks and incisions in the stem of the juniper bush, which the Greeks knew by the name of Ἀρκευδος, and which, by Jackson's account, is common at Morocco, and is there called thuya, and arar; the roofs of the houses and ceilings are made of the wood of it (See his Travels in Morocco, p. 78.).

Sandarach is seldom seen in India; the Arabians, as a medicine, consider it as drying, and order it in the quantity of half a miscal, in cases of diarrhoea and hemorrhage. I cannot learn that they use it as a varnish, the purpose to which it is applied in Europe, dissolved in spirits of wine. See article Varnishing, in Imison's work on Science and Art, vol. ii. pp. 343, 344.

The juniperus communis is a native of Japan, called by the Japanese जकसि. Flor. Japon. p. 264.

CC.

SARCOCOLLA. Unzeroot انزروت (Arab.) Kun-
judgeh کنند (Pers.)

PENAEAA MUCRONATA (Lin.)

Cl. and Ord. Tetrandria Monogynia.

This subviscid, sweetish, and somewhat nauseous gum resin, is but rarely met with in India; and what is found, is brought from Persia or Arabia; it is seen in small grains of a pale yellow colour. It is an article of the Mogul Materia Medica, and is well known to the Arabians, who suppose it to have virtues, applied externally, in agglutinating wounds (hence its Greek name σαγξ κολλα); and a ordinarily place it amongst their Yabisaut kerouh يابسات
Materia Indica.

(Eplulotica). Some of the more ancient Arab writers, such as Mesue, seem to have considered it as, in a certain degree, cathartic; he says of it, "purget pituitam crudam, et alios humores crassos;" though it does not appear to have been in much repute. Of an ounce of sarcocolla, Newman found three drachms soluble by alcohol, and five drachms by water.

The shrub which yields the sarcocolla, by spontaneous exudation, is a native of Æthiopia; having leaves accumulate and smooth, with red terminating flowers. For an account of the plant, the reader is referred to Dr. Duncan, junior’s, excellent Edinburgh Dispensatory, p. 302.

CCI.

SARSAPARILLA, substitute for. Nunnarivayr (Tam.) Muckwy Ýoshba (Arab.) Mugraboo (Hindoosie). Shārivā (Sans.) Soogundapāla (Tel.) Erramas-soomool (Cyg.) also Irimusu (Cyg.)

Periploca Indica (Lin.)


What is commonly called by the English in India, country sarsaparilla, is not the root of the Smilax sarsaparilla, which is, however, occasionally brought

* Avicenna, speaking of it, says, "vim habet sini mordacitate glutinandi; et carnem gignit; inflammationes omnes mitigat, more emplastri imposita." Vide Canon. Med. lib. ii. tract ii. p. 36.

† The Smilax perfoliata (Lin.) is a native of Cochin-China, where it is called ti-giai, and is supposed to have similar virtues to sarsaparilla.
to the Coromandel coast from America; but that of the *periploca Indica*, a common Indian plant, and which is the *periploca foliis angustis acutis glabris* of Burman (Burm. Zeyl. 187. t. 83. f. 1.). The two roots very much resemble each other in appearance and natural qualities; both being inodorous, mucilaginous, and, in a slight degree, bitter. The nunnarivayar is recommended, by the Tamool doctors, in cases of gravel and strangury, given in powder, mixed with cow's milk; they also give it in decoction, in conjunction with cummin seeds, to purify the blood, and correct the acrimony of the bile. The *perip. emetica* is a native of India, and grows on the Coromandel coast. The p. esculenta is described by Roxburgh (Cor. Plant. i. t. 11.)

On the Malabar coast, the root of the *cari vilandi* (*smilax aspera*) is used for the same purposes that the root of the periploca Indica is on the Coromandel coast; it is the *Σμιλαγγα* of the modern Greeks, who use it to purify the blood. The *cari vilandi*, I doubt not, is the plant we find mentioned by Bartolemeo†, under the name of the *red flowered velladamba*, and which is, he says, used for sarsaparilla on the Malabar coast.

The decoction of the root of the periploca Indica is prescribed by European practitioners in India in cutaneous diseases, scrofula, and venereal affections, to the quantity of 3ij. or 3iv., three times in the day. In America it would seem that various plants have, at different times, been used for purify-

* See Hort. Malab. vol. vii. p. 78. See also Virey's Histoire Naturelle des Medicamens, p. 151.
† See his History of the East Indies, p. 417. Michelle, in his *Della Corciresse Flora* (p. 128.), informs us, that the modern Greeks call the *smilax aspera* Λεσμιλαγγα, and that the root possesses virtues similar to those of sarsaparilla.
ing the blood. Ruiz\textsuperscript{*}, in his Flora Peruviana, particularly mentions the following: viz. lapageria rosea, luzuriaga radicans, and herreria stellata.

The periploca Indica, or country sarsaparilla\textsuperscript{†} plant, "has a twining, round, ash-coloured stem; a pair of leaves from each joint, almost sessile, bright green above, and pale underneath, with many flowers, which sit close." It is a native of Lower India and Ceylon, though I do not see that it is noticed by Mr. Moon, in his Catalogue of Ceylon Plants. I have already noticed the powerful alterative qualities which the China root (smilax China) is said to possess; it is the Too-fuh of the Chinese.

CCII.

SASSAFRAS. Cay-vang-dee (Cochin-China).

ساسفارس (Arab.) Sassafras (Fr.) Sassafrasso (It.) Sassafras lobbeer (Ger.)

Laurus Sassafras (Lin.)

Enneandria Monogynia. Nat. Ord. Lauri (Juss.)

This plant has a place here from its being a native of an Eastern country (Cochin-China), as well as North America. Loureiro\textsuperscript{‡} describes it fully:


\textsuperscript{†} It would appear by the Gazette de Sante, that M. Galileo Poliotta, an Italian physician, has recently discovered an active principle in sarsaparilla, which he calls parigline; it is white, pulverulent, light, unalterable on exposure to the atmosphere, of a bitter taste, and slightly astringent; it unites with all the acids, forming various salts; in its medical qualities it is sedative and diaphoretic.

\textsuperscript{‡} See Flora Cochin-Chin. vol. i. p. 254.
"Arbor magna, trunco erecto, ramis in vertice patentibus, ligno levi, cinerio, odorato," &c. It is for this last property in the wood, that the tree is cultivated; it generally rises to the height of twenty or thirty feet, with a trunk about twelve inches in diameter, covered with a furrowed bark, which, like the wood, has an agreeable fragrant odour, and a sweetish aromatic taste; the wood is of a brownish-white colour, and the bark, as Dr. Thomson well describes it, is ferruginous within, spongy, and in divisible layers. In Cochin-China, where the tree grows in the woods towards Borea and Tunkin, the wood and bark are considered, as in Europe, diaphoretic, sudorific, and diuretic; and are taken in infusion in cases of rheumatism, and wandering pains. The character which this medicine once had, as a powerful antisyphilitic, is now somewhat doubtful; and more is, perhaps, justly to be ascribed to the guaiac, with which it is usually combined. Alibert* holds out a caution in prescribing the essential oil of sassafras, but he does not say why; of the bark and wood he speaks in the highest praise, and cites a case of obstinate rheumatism in which the infusion was used with the happiest effect, when many other medicines had failed. The sassafras met with in Egypt, Forskahl tells us, in his Mat. Med. Khairina, p. 148, was brought from the Archipelago in his days, and used by the Arabians in venereal complaints.

CCIII.

SAUNDERS, RED. Ségápoo shándánum शंदनम् (Tam.) Lāl chundend (Duk.) Sundal ahmer (Arab.) Ruckut chundun (Hind.) Sundul soorkh (Pers.) Kuchandana कुचन्दन also Tilaparni तिलपर्णी also Ramjana राजन and Rakta-chandana रक्तचन्दन (Sans.) Ruct handoon (Cyngh.) Honnay (Can.) Kuchandanum (Tel.) Rackta chandana (Beng.) Santale rouge (Fr.) Sandalholz (Ger.) Sandalo roso (It.) Undum (Hindoie). Buckum بُكم (Pers.) Undum عندم (Arab.) Sandel-hout (Dan.)

PTEROCARPUS SANTALINUS (Køen.)

Cl. and Ord. Diadelphia Decandria. Nat. Ord. Papilionaceæ (Lin.)

This heavy, insipid, and nearly inodorous colouring wood, is little used by the Indian medical practitioners, though they sometimes recommend it in powder, in conjunction with certain herbs, and mixed with gingilie oil, as an external application and purifier of the skin after bathing.

The pterocarpus santalinus is a useful timber tree, and grows on Ceylon*, on the island of Timor, on the Malabar coast, and in Mysore; in which last mentioned country it is termed whonmay; the bark of it contains much colouring juice. The tree itself, which was first scientifically described by Køenig, "is

* Mr. Moon notices another species as growing on that island, the bilobus (ganmala).
lofty, with alternate branches; leaves petiolated and
ternate, ovate, blunt, and entire; the flowers are in
axillary spikes; the corolla papilionaceous and of a
red colour." Mr. Brande tells us, that the deep red
colouring matter of this tree is insoluble in water,
but readily so in alcohol. We learn from Virey*,
that Pelletier prepared with the reddish coloured
resin, obtained from the tree, a valuable red-colouring
extract, which he termed santaline. Red saunders
does not appear to possess any medicinal properties.
It may be found noticed by Avicenna† (p. 241.),
under the Arabic name sundul ﺳَﯿْدٌ. Five species
of pterocarpus were growing in the botanical garden
of Calcutta in 1814, all Eastern plants, except the
draco, a native of America, introduced in 1812, by
Captain Young.

The pterocarpus santalinus, and another species,
which the Cyngalese call gan-malu (pterocarpus bilo-
bus), grow in Ceylon. See Moon’s Catalogue of
Ceylon Plants.

CCIV.

SCAMMONY. Sukmoonia (Arab.) Meh-
moodék (Hindooie). Scammonée (Fr.) Scammonium
von Aleppo (Ger.) Scammonea (It.) Sukmoonia
سکمونیا (Duk.)

Convolvulus Scammonia (Willd.)

* See his Histoire des Medicamens, p. 286.
† Avicenna mentions three kinds, luteum, rubrum, and palli-
dum. "Afluxum humorum coer cet, maxime rubrum, calidos
tumores discutit, imponiturque erysipaliti." Vide Canon. lib. ii.
tract ii. p. 250. Loureiro informs us (Flor. Cochin-Chin. vol. ii.
p. 432.), that a decoction of the root of the pterocarpus flavus, is
an excellent and permanent yellow dye.
This gum resin, which is obtained by incision from the root of the plant, does not appear to be at all known to the Hindoos. The Mahometan practitioners are acquainted with it; but, I presume, seldom prescribe it. The Dukhanie name of this article, as we learn from Secunder*, is a Syrian word; and we also learn from the same author, that the Arabians sometimes bestow on it the appellation of mahumooda, and hence, no doubt, the Hindooie name.

I find that scammony is mentioned† amongst the medicines which might be sent to Europe from India; it is otherwise, as we see by the Ulfaz Ud-wiyeh, brought to India from Antioch of a good quality, which it is, when light, glossy, of the colour of raw silk, and easily friable, with a peculiar heavy odour, and a bitterish, slightly acrid taste. The plant is a native of Syria and Cochin-China‡; and is, Russel informs us, found in abundance between Aleppo and Latachea. The gum resin is procured in the form of a milky juice from the root, which is perennial, often more than four feet long, and three or four inches broad; the plant itself, which is of the class and order Pentandria Monogynia, and nat. order Campanacea (Lin.), "rises commonly to the height of sixteen or eighteen feet, sending up many twining stems, with arrow-shaped green leaves on

* See his work, entitled مغزورات سكندري, Mafurdatie Secunder, on the Materia Medica. It was originally written in Syrian, by Yahiaakoorb, and translated into Persian by Secunder.
† See Remarks on the Husbandry and Commerce of Bengal, p. 205.
‡ It grows wild in the woods of Cochin-China, and is called by the inhabitants khoai-ca-hoa-vang. Vide Flor. Cochin-Chin. vol. i. p. 106.
long foot stalks; flowers in pairs, having a funnel-shaped, pale yellow corolla." Scammony is a very powerful cathartic, operating quickly, and is particularly indicated in cases of dropsy, torpor of the intestines, hypochondriasis, and mania; as well as in worm cases, and in that slimy state of the bowels to which children are subject (See Thomson's London Dispensatory.).

It has been by some authors considered as an irritating and unsafe medicine; this, however, Dr. Thomson appears to think it only is, in an inflamed state of the bowels. Dioscorides takes no notice of the dangerous qualities of this powerful cathartic; but Aitus, Mesue*, and some other Arabian writers, scruple not to say, that it ought never† to be used. The more modern Arabians and Moguls place scammony amongst their Mooshilat-suffra‡ مسفلات صفر (Chologoga). The usual dose is from gr. v. to gr. xv.

The inferior sort of scammony exported from Smyrna, called Smyrna scammony, and which is black, heavy, and splintery, Dr. Thomson seems to think is obtained from the same plant that the better kind is; but is, he says, mixed by the Jew merchants with impurities. Mr. Gray, however, in his "Supplement to the Pharmacopeias," tells us, that it is procured from a different plant, periploca scamonium (See his work, p. 62.).

Celsius recommends scammony in cases of lum-

* Vide Mesue, Simp. lib. ii. cap. i. fol. 47. B.
† I perceive, however, that Rhazes allows it to be taken cautiously: "Scammonia bilem rubeam vehementer expellit." Vide Oper. de Re Med. lib. viii. p. 206.
‡ See Noureddeen Mohammed Abdullah Shirazy's work on the Materia Medica, article سمونية.
breees (lib. iv. cap. xvii.). The French * and Germans are in the habit of tempering its acrimony, by means of a preparation they term diagrydium rosatum. The preparations of scammony are the confection, dose from a scruple to a drachm; the compound powder, dose from gr. x. to ἑι.; extract colocynth. comp. from gr. v. to 355.; pulv. senna comp. from ἑι. to ʒi. Twenty-one species of convolvulus grow in Ceylon,

CCV.

SENA. Nilaverei also Nilavaghēi नीलावरे (Tam.) Soonā mukki سوونا مکی (Hind. and Duk.) Sana pāt (Beng.) Sunā سنا (Arab.) Nay-la tungādoon (Tel.) Nilāvēriē (Cyg.) Amshūn-āttydivādvā also Bootallapotaka (Sans.) also Nela ponna (Tel.) Séné (Fr.) Sennablätter (Ger.) Sena (It.)

CASSIA Senna (Lin.)


This is reckoned one of the best and safest purgatives that is to be met with in India, where the plant grows in great abundance. The natives are, however, in the habit of quickening its operation, with the addition of a little castor oil, which would not be necessary were it the pointed-leaved senna (foliis acutis); but it is the blunt-leaved senna (senna

* Of this medicine Duroques says, "Les personnes qui ont la fibre molle, la sensibilité obtuse se trouvent fort bien de ce purgatif, mais on doit en user sobrement dans les climats chauds." See Roques Phytographie Medicale, vol. i. p. 262.
Italica) (foliis obtusis), and by no means so powerful as what is called the Alexandrine senna, on the continent of Europe; and which Niebhur informs us, grows in the territory of Abuarish, and is brought by the Arabs to Mecca and Jeddah; neither is it nearly so strong as the pointed-leaved variety which is usually carried for sale to Eastern countries, and which grows in Arabia Felix in the neighbourhood of Mocho.

Most of the senna used in England is the produce of Egypt, the best sort called in Nubia, guebelly, where it grows wild. The leaves when carefully dried (in the sun), have a faint, rather sickly odour, and a slightly bitter, sweetish, and nauseous taste. It would seem that they are sometimes adulterated with the leaves of the coronilla emerus, and periploca Gæca, which last increase their purgative quality; these may be detected by being larger and more pointed (Delille, Egypt.).

The usual and best form of giving senna is in infusion, the dose from about fœij. to fœiv. prepared according to the London Dispensatory, where it is recommended that the leaves should be infused in boiling hot water for one hour; but it has been ascertained, I have reason to believe by Dr. Gillies of Bath, that the infusion becomes infinitely more powerful, if the leaves are permitted to infuse for the whole night: 3ij. prepared in this mode, with as much manna, is an effectual dose for an adult.*

I was surprised to see on reading "Waddington's

* Roques, in his Phytographie Medicale, vol. ii. p. 255., gives us quite an eulogium on senna, as a purge, in cases of head-ache, vertigo, pulmonary catarrh, rheumatism, &c., but cautions us against its use: "Lorsque l'embarras des intestins est accompagné d'une irritation vive, que le langue est rouge, seche, et l'abdomen sensible."
Journey to Ethiopia" (p. 227), that in the district of Darmahass senna is only used as a dye, and not known at all as a medicine. Mr. G. Hughes of Palamcotah, a few years ago, succeeded perfectly in cultivating the true senna of Arabia, in the Southern part of the Indian peninsula; it is sincerely to be hoped, that it may soon become general throughout our Asiatic territories. The Arabians place senna amongst their Mooshilat sowda مسلات سودا (Melanogoga), and sometimes give it the name of hejjasie حيذسي, prescribing the infusion in doses of 6 or 7 direms. Thirty-four species of Cassia were growing in the botanical garden of Calcutta in 1814., twenty-four of which were oriental plants: fourteen species grow in Ceylon.

Loiseleur Deslongchamps, in his "Manuel des Plantes Usuelles Indigenes" (p. 30. of the 2d. Memoir, vol. ii.), gives us no fewer than six different plants which might be substituted for senna; viz. globularia alypum (Lin.), anagyris fætida (Lin.), three species of daphne, and the cneorum tricoccon (Lin.), the best of which seems to us the first; three drachms of the leaves, in decoction, produced ten evacuations. In America and the West Indies, the two species, cassia emarginata, and c. marylandica, are both occasionally used as senna.

Senna leaves, according to Legrange (Annales de Chemie xxvi.), would seem to be characterized by a peculiar extractive matter, which, on being boiled for a long time, passes into a resinous substance by absorbing oxygen; they at the same time contain a resin, which resists the action of water, but is soluble in alcohol.* The officinal preparations of senna,

are, *extract. cassiae sennæ, infus. sennæ*, already mentioned; *infus. sennæ composit.* dose from ʒiij. to ʒiv.; *pulv. sennæ composit.* from ʃi. to ʒi.; *tinct. sennæ* from ʒiij. to ʒi.; *syrup. sennæ* from ʒi. to ʒiij.∗; and *conf. sennæ* from ʒi. to ʒv.

The Cassia senna "seldom rises higher than two feet and a half; the leaves are pinnate, and placed in alternate order; the leaflets, of which each leaf has five or six pairs, are sessile, oval, pointed, and of a yellowish-green colour; the flowers yellow; and the fruit an ovate membraneous leafy compressed legume."

I perceive, Dr. Paris, in his Pharmalogia, p. 518, informs us, that senna leaves are adulterated with those of the chynanchum oleafolium (arguel), and those of the colutea arborescens.

**CCVI.**

**SNIPE.** *Woodán* वुड़ॅन (Tam.) *Toongha kodu* (Tel.) *Punkookrie* झुँझुँकूळी (Duk.) *Punkoul* (Hind.) *Becassine* (Fr.) झुँझुँकौल (Mal.) *Beccaccino* (It.) *Sha-chuy* (Chin.)

*Scolopax Gallinago* (Lath.)

The snipe is a common bird all over India, and is considered as one of the greatest delicacies by the European inhabitants. The Mahometans consider the flesh of the snipe as possessing tonic and stimulating qualities. The Jack snipe (*scolopax gallinula*)

∗*Lassaigne* and *Feneulle* seem to be of opinion, that the activity of senna depends upon the presence of a peculiar vegetable principle, which they have termed *cathantine*. See *Annales de Chemie et Physique*, tome xvi. p. 16.
is not near so common as the other species, and is a much smaller bird. What is termed the painted snipe by the English in India is a most beautiful bird, with a lovely variegated plumage. It is, I believe, the s. capensis of Latham; it is a larger bird than either of the species just mentioned; and its flight more resembles that of the woodcock, than the snipe; it has, however, the cry of the snipe on rising, but of a deeper tone. The Tamools name it segapoo mookoolan, in Tellinghoo it is kussoo kodie. The Hindoos recommend the flesh of the snipe in incontinence of urine!

In a manuscript volume* in the India house, composed chiefly, I believe, by Dr. F. Hamilton, I find no less than nine species of scolopax described as Indian birds. Dr. Horsfield has given us with his usual accuracy two species as Javanese birds; the s. saturati (Horsf.) which is the tekker (Jav.), and the s. gallinago, the burchet (Jav.)

CCVII.

SOAP, INDIAN. \textit{Nāt sowcarum} \textit{gǐṟṟ ē} (Tam.) \textit{Saboon} سابون (Arab. and Duk.) \textit{Saxon} (Fr.) \textit{Seife} (Ger.) \textit{Sapone} (It.) \textit{Sujah} ضيجع (Mal.) \textit{Saboon} سابون (Mal.)

This inferior kind† of soap, and which is com-

* I hope to be excused for now expressing a regret, that the valuable contents of this volume have not been given to the public.
† In the days of Pliny, soap seems to have been made with goat's tallow, and the ashes of the beech tree: \textit{"Optimus fagino et caprino, &c."} Pliny, xviii. sect. 51. p. 475. Avicenna was well acquainted with its aperient qualities: \textit{"Crudum humorem dejectit per alvium."} Canon. lib. ii. tract ii. p. 251.
monly called by the English in India country soap, is employed by the Vytians as a medicine; and is prescribed by them in cōmmē vāivoo (typanites), in which disease they suppose it to have particular virtues. The different articles employed in the preparation of it are, overmunnoo (Tam.) (an impure carbonate of soda), poonheer* (Tam.), a light coloured earth containing a great proportion of carbonate of soda), pottle ooppoo (salt petre), and chunamboo (quick lime). Proper proportions of each of these having been selected, they are all bruised together, and to the whole is added a certain quantity of fresh water; then the mixture is well agitated for many hours, and allowed to stand for three days: the feculent matter having fallen to the bottom, the clear part is strained off, and boiled to form the sowcarum, a sufficient quantity of gingilie oil (sesamum Orientale) having been previously added when it began first to boil. It will easily be seen how coarse and imperfect this soap must be, when compared with the sapo durus (Lond.), which is manufactured in Spain. The best soaps in Europe are made with olive oil and soda. Soft soap is a compound of potassa and some of the common oils, even fish oil is often used for this purpose. Pelletier made 100 parts of new soap, to consist of 60·94 oil, 8·56 alkali, and 30·50 water.

* Resembling, in its nature, that species of impure fossil alkali, called trona, at Tripoli, which is found near the surface of the earth, in the province of Mendrab, and which the Africans of Morocco use in the process of dyeing leather red. See Lucas's Travels in the Interior of Africa.
CCVIII.

SOLE FISH. Naak meen செறும்பிட்டை (Tam.) Kowlie mutchie کوارلی میچی (Duk.) Ecan lêda (Mal.) Sole (Fr.) Sogliola (It.) also Caddil naakmeen (Tam.) also Irîminâth meen (Tam.) also Byns ke jéb بیسی کی جیب (Duk.) Mandel meen (Malealie).

PLEURONECTES SOLEA.

The sole in India is reckoned amongst the best of all the fish kind, being at once light, extremely nutritive, delicate, and one of those that may with the greatest safety be given to people of weak digestions. Soles are common both on the Coromandel and Malabar coasts; in the last mentioned country they are particularly large, and are called Mandell meen by the Tamoools. The genus pleuronectes is distinguished by pectoral fins, and both eyes on the same side of the head; it contains no less than forty species, and derives its name from πλευρος latus, and νεκτος nataror. The sole fish is highly esteemed by the Chinese, who call it ta-sha.

CCIX.

SODA, IMPURE CARBONATE OF. Kārum கரம் (Tam.) also Pooneher kārum (Tam.) Kārک (Hind.) also Sédgie mittie (Hind.) also Sagilon, also Chinkâlōon (Hind.) Sújá cārā (Can.) Booniroo (Tel.) Chārum (Mal.) Sarjica सर्जिका
also \textit{Sarjikāshāra} सर्जिकाशार (Sans.) \textit{Savitie-munnoo ooppoo} (Tel.) \textit{Júmed chénee} جعو مد ين (Arab.) \textit{Carbonate de soude} (Fr.) \textit{Kohlensaures natrum} (Ger.) \textit{Carbonato di soda} (It.)

\textit{Carbonas Sode Impura}.

Some of the more enlightened \textit{Vyrians} know well how to prepare carbonate of soda from the earths which contain it, (and which abound in many parts of Lower India,) such as \textit{overmunnoo}, and \textit{poonheer}.

The soda prepared from the first mentioned earth, is called in Dukhanie \textit{chowr ké muttīaka nemuck}; that from the second \textit{chowr ké pool ka némuck}, the most common name of which is \textit{valéel ooppoo}, so named from the circumstance of its being employed in the manufacture of glass bracelets. In Tellingoo it is \textit{gaz ooppoo}, and in Sanscrit \textit{kāchil lávánun}; as it is found in the bazar, it is in regular whitish cakes about the third part of an inch thick, and appears to contain much muriate of soda.

The native practitioners of India suppose it to have virtues in dropsy, particularly in \textit{maghodrum} (ascites); it is also used in glass and soap making (see article \textit{Karum} in another part of this work). The subcarbonate of soda is not of so acrid a nature as the subcarbonate of potass, and is antacid and

\* Called in Hindooostanie \textit{réh mittie}, in Canarese \textit{soula munnu}, in Tellingboo \textit{savitie munnoo}, and in Sanscrit \textit{ossara}.

\+ A very light, white coloured, earthy matter, containing a great proportion of carbonate of soda.

\† We learn from the Transactions of the Bombay Literary Society, vol. iii. p. 53., that carbonate of soda was found by Captain J. Stewart, on the ground, on the banks of the \textit{Chumbul} river, near the village of \textit{Peeplouda}, just where the \textit{Chaumlee} and \textit{Chumbul} join.
deobstruent; it is in consequence much employed in
dyspepsia, acidities of the stomach, and scrophulous
affections. With regard to its good effects in hooping
cough, which disease it has been thought to have
the power of checking, I cannot speak with much
confidence; the mode of giving it in that complaint,
recommended by Dr. Thomson, is first in combina-
tion with ipecacuanha and opium, and afterwards
with myrrh and cinchona. The dose of this salt is
from gr. x. to $\frac{3}{ij}$. or more, twice or thrice daily.

I have hitherto only mentioned the carbonate of
soda that is obtained from certain earths in India, in
the same way as we also know it to be in Egypt,
where it is termed trōna by the natives. Most of
this salt, however, used in Europe, is of a vegetable
origin, chiefly procured from the ashes of various
algae, especially from those of the salsola soda, a
plant cultivated on the shores of the Mediterranean
Sea; what of it is thus* got, is the barilla of
commerce. What is made in England by burning
the sea-wrack (mostly the fucus vesiculossus) is
called kelp.

Oomarie chārum is the name given on the Ma-
labar coast, to the ashes of a burnt sea plant, bearing
a yellow flower, and which, on examining, I found
to be the salsola Indica. These ashes are used by the
inhabitants in the process of dyeing and bleaching
cloth; and no doubt act by means of the soda they
contain. The plant does not differ materially from
the salsola soda, already mentioned; and which, by

* In the days of Pliny, a mineral alkali, appears to have been
prepared in Egypt from the ashes of certain plants; and Strabo, as
cited by Beckman, mentions an alkaline water in Armenia, used
the way grows at the Cape of Good Hope*, and is there called by the Hottentots *canna.*

There are other plants in India used for the purpose of burning, to procure ashes containing soda; their names are *narie oomarie* (Tam.) (salsola nudi-
flora), *oomarie márum* (Tam.) (salsola elata (Rottler),
and *pághará, poondoo* (Tam.), *salicornia Indica,*
which differs but little from the two glassworts, *sal-
cornia perennans,* and *sal. fruticosa,* which are burnt
in Europe to procure soda for making soap and
glass.

I shall conclude this article by observing, that the
aqua supercarbonatis sodae, in doses of a pint or
more, twice daily, is an excellent medicine in cases
of acidity in the stomach, and calculous complaints;
half a pint of it poured over two table spoonsful of
lemon juice, sweetened with a little sugar, forms a
pleasant effervescing draught.

**CCX.**

**SORREL, Sookan keeray चक्का कीये (Tam.) Chukka ჯჯ (Duk.) Kōtoo tumpala (Cyg.)
Chukrikā चुकरिका Satvēḍhi शत्वेधी (Sans.) Chooka
palung (Beng.) Chewka (Hindooie). Turshēh toISOString
(Pers.) Soori (Cyg.) Acetosa (It.) Oseille (Fr.)
Rumex Vescarius (Lin.)

* Where, according to Burchell’s account (Travels in Southern
Africa), the ashes of the salsola aphylla are used by the
Dutch colonists as an alkali in soap making (see his work, vol. i.
p. 419).*

The rumex vesicarius has obtained the name of sorrel in India, owing to its resemblance to the rumex acetosa, in taste and other qualities; it is an article of diet, and is considered by the natives as cooling and aperient, and to a certain extent diuretic. It is, I am inclined to think, the same species that is common in Arabia, where it is a favorite medicine, and called by the names of hubuck khorasânee حبوب خراساني and humax حمğun. It is also a native of Egypt, and termed by the Arabs there حمبهجط humbejeet.

The use of sorrel was known to the ancients; Pliny was of opinion that it rendered animal food lighter of digestion. Boerhaave extolled its virtues for hot putrid constitutions. On the continent of Europe, such as in Switzerland, an essential salt *, called salt of sorrel, is prepared from the r. acetosa. Savary in his "Desertatio Inauguralis de Sale Essent. acetosæ, Argentor 1773," says, that fifty pounds of sorrel produce only two ounces and a half of pure salt. What is termed oxalic acid in England is found in great quantity in the juice of the oxalis acetoelza or wood sorrel, also in some fruits and rhubarbs. Mr. Brande tells us, that it is most readily procured by the action of nitric acid upon sugar, and has hence been named acid of sugar †; procured in this way, it is in the form of four-sided prisms, transparent, and extremely acid, and composed, according to Brezelius, of real acid 52, and water 48 parts. The difference betwixt the common sorrel (rumex acetosa) and our

† A name, I am sorry to say, which often leads to fatal consequences.
article is, that the first has flowers hermaphrodite, gemenite, with leaves undivided; the last, flowers dioecous, leaves oblong, sagittate. The Peruvians, according to the Flora Peruviana, give an infusion of sorrel in cases of depraved habit of body; the natives call it acelgas. In Chili it is called gualtata.

CCXI.

SOUTHERNWOOD, INDIAN. Mārikól índoo (Tam.) Downah (Duk.) Dāwanum (Tel.) Kysoom (Arab.) Birunjasif بِرَنَجَاسِف (Pers.) Gundmar (Hind.) Dávánákáhā (Sansk.)

ARTEMISIA AUSTRIACA (Lin.)


This species of wormwood has, improperly, got the name of Indian southernwood, by the European inhabitants on the Coromandel coast, from its resemblance to the artemisia abrotanum.* The Tamools sometimes mix the fine powder of the leaves with gingilie oil, and anoint themselves with it after bathing; the Mahometans prize it for its fragrance as a flower; it is one of those sweet-smelling herbs that are strewed before the Hindoo gods at religious ceremonies.

But two species of artemisia grow in Ceylon; the a. Indica (wäl-kolondu), and a. maderaspatana (wäl-kolondu).

* Which is, however, I perceive, a native of Cochin-China (with five other species), and there called thank-kao. Flor. Cochin-Chin. vol. ii. p. 490. It also grows in the island of Nipón, Flor. Japon. p. 309.
SPONGE. *Isfenj* (Arab.) *Abermoordeh* (Pers.) *Mooabadul* (Hind.) *Uniwatta* (Japan.) *Eponge* (Fr.) *Meerschwamm* (Ger.) *Spunga* (It.)

Spongia.

Sponge is sometimes, though rarely, exposed for sale in the bazars of Lower India; brought from the Red Sea. It was Mr. Ellis who first established the fact, that it actually was an animal *sui generis* (Philosop. Transac. iv. p. 234.); though Blumen-bauch, in his "Manuel d'Histoire Naturelle" (tom.ii. p. 87.), says, he doubts much whether sponge is really of the animal kingdom, as has been supposed. The spongia officinalis is found by the divers chiefly in the Mediterranean and Red Seas; generally attached to the bottom of the rocks. When properly prepared, it is very porous, light, soft, and of a brownish yellow colour.

The antacid properties of burnt sponge are sufficiently well ascertained, and its tonic and deobstruent qualities have been much vaunted; it has been recommended in scrophulous affections, bronchocele, and herpetic eruptions; and Dr. Thomson tells us, that he himself has witnessed its efficacy in schirrous testicle, in combination with the cinchona bark; the dose from ʒi. to ʒiij., in the form of an electuary. The ancients used sponge much in surgery: "Si vero tumores dolent, levat spongia imposita, quae subinde ex oleo, et aceto, vel aqua frigida exprimitur" (Celsus, lib. iv. cap. xxiv.). Avicenna says of it:

CCXIII.

SQUILL, substitute for. Nurri vung'um नर्री वुंग्गुम् (Tam.) Junglie pias جنگلی پیاز (Duk.) Unsool عنسول (Arab.) also Iskeel استقل (Arab.) Kanda (Hind.) Peyāz-ideshtee پیاز ذشتی (Pers.) Nurrialal (Cyg.) Addivitella guddalo (Tel.)

ERYTHRIONIUM INDICUM (Rottler).


The bulbous root of the erythronium Indicum (Rottler), has got the name of squill in India, from its resemblance to the root of the scilla maritima in appearance and natural qualities; it does not grow so large as the squill, and is rounder in shape; but is formed in a similar manner, with fleshy scales, and is of a bitterish, nauseous, and acrid taste. This species of erythronium, would seem to have been first scientifically described by the excellent Dr. Rottler, of Madras; and appears to differ from the erythronium dens canis, in having longer and narrower leaves, with larger flowers of a paler colour. The true squill, or Σκίττα of the Greeks, has been said to grow in Ceylon; though Dr. White, of Bombay, was of opinion, that this was not the case; but that the amaryllis* zeylanica had been mistaken for the scilla maritima.

Our article is chiefly employed by the farriers for

* Which is the goda-manel of the Cyngalese.
horses, in cases of strangury and fever; it grows in abundance on waste sandy lands, in Lower India, especially in situations near the sea.

The Arabians and Persians place squills amongst their Discutientia, مَعْلَات and Attenuantia, مُعَذْبُتَات.*

Of the true squill, to produce expectorant and diuretic effects, the substance is the best form; gr. i. in a pill morning and evening, gradually increasing the dose to gr. v. or gr. vi., until nausea is brought on, or its expectorant or diuretic operation is obtained. The dose of the acetum scille, to excite vomiting, is from half a drachm to one drachm and a half; that of the oxymel from half a drachm to $\frac{3}{4}$j.

The bulbous root of the scilla maritima contains, according to Vogel†, a bitter principle, to which he has given the name of scillitin, united with a gum, and much tannin.

Both Alibert and Roques speak of the occasional poisonous effects of squills, on animals; occasioning nausea, vomitings, vertigo, and violent convulsions if over-dosed. The latter observes, that, as a medicine, squills had great fame amongst the Egyptians; and was supposed, by Pythagoras, to have the power of prolonging life. Roques‡ thinks it more indicated in dropsy than any other malady.


† See Annales de Chimie, lxxxiv.

‡ See his admirable work, entitled Phytographie Medicale, vol. i. p. 102.
CCXIV.

STARCH. \textit{Abgoon} (Arab.) \textit{Neshasté} (Pers.) \textit{Goshoonkaheer} (Hindoostan).

\textit{Amylum}.

The Mahometans know well how to prepare starch from wheat as we do; they also sometimes make it from the large edible roots, such as from that of the \textit{kood} (Tam.), curcuma angustifolia, &c. The Arabian place starch amongst their Anodynes (\textit{Mosuckenát owjá} \textit{Maskeenat i'wanaj}), their Styptics, and their Astringents, \textit{Kabizát} قابضات. Starch is chiefly used by European practitioners in the form of enema, for sheathing the rectum, in cases of abrasion, and inflammation of the gut; and for allaying the irritating effects of acrid bile. The conversion of starch into sugar is a curious fact, first discovered by Mr. \textit{Kirchoff}, and subsequently confirmed by \textit{M. M. de la Rive}, \textit{Saussure}, and others. Perhaps the best analysis of starch is that by Berzelius:

\begin{align*}
\text{Carbon} & \quad - \\ 
\text{Oxygen} & \quad - \\ 
\text{Hydrogen} & \quad - \\
\hline & \quad 43.481 \\
& \quad 48.455 \\
& \quad 7.064 \\
\hline & \quad 100.000
\end{align*}

CCXV.

STORAX, BALSAM. Usteruk (Arab.)
Storax (Fr.) Storax (Ger.) Storace (It.)
Styrax Officinale (Lin.)

Bicornes.

Storax is seldom found in any of the Indian bazars, and appears to be only known to the Mahometan practitioners. Isteruk is, properly speaking, the Arabic name of the pure or tear storax; the red kind is in the same tongue called salajet سلاحجت; the liquid storax* they term silurus سليروس; another Arabic name for storax is meaht مبعث: they place it amongst their Stimulantia, Mudorrät مدرات, and Mosebetät مسبات, Hypnotica.†

The styrax officinale grows in the Levant, seldom rising higher than twenty feet; with numerous branches, and covered with a grey bark, from which, by incisions, the storax issues. Storax is too well known to require being particularly described here; it has an agreeable odour, and a pleasant, subacidulous, aromatic, yet slightly pungent taste; it has been considered as stimulant and expectorant, but

* The liquid storax, or what the French call liquidambar, also copalme, Virey informs us, exudes, by incision, from the liquidambar styraciflua, a North American tree; but more likely, I think, from another, indeed, the only other species, I. imberbe, an oriental plant.

† Avicenna says of this substance, “Calidus est gradu tertio, siccus primo; calefacit, concouquit, emollit valde; tenui vate et intercepte voci prodest.” Vide Canon. Med. lib. ii. tract ii. p. 41.
is now but little used in practice; the dose from gr. viii. to ३५०.

The physicians on the continent of Europe* consider storax as resembling the balsam of Peru in its nature, and think that it might be substituted for it. But this last mentioned substance possesses virtues, when applied externally, in arresting the progress of phagedenic ulcers and mortification, which are altogether peculiar to itself. Many are the lives I have saved by its use, in India, by having fortunately discovered that it had the specific quality of putting an immediate check to sphacelous affections, in cases in which every thing else had failed. I used it in this way; lint, drenched in the balsam, was applied morning and evening to the face of the sore, for three days together: sometimes by the end of the second day the face of the sore was clean.

CCXVI.

SUET, MUTTON. Aatoor kobāpoor కొబ్బపూరు (Tam.) Vaynta-kooov (Tel.) Lemāk (Mal.) Buckrékéchirbie بكر اي قيربي (Duk.) El-loo muss tail (Cyg.) Adāja vuppa (Sans.)

SEVUM OVILLUM.

The native doctors employ this, as we do, in the preparation of ointments; they also administer it internally, in conjunction with the fruit of the sūngū mārum (monetia barlerioides), nutmeg, and cubebs, in cases of hemoptysis, and in certain stages of phthisis pulmonalis.

CCXVII.

SUGAR. *Sakkara* (Tam.) *Sarkara* (Sansk.) *Sucre* (Fr.) *Zucker* (Ger.) *Azucar* (Span.) *Shukkir* (Pers. and Duk.) *Chénee* (Hindooie). *Goola* (Mal.) *Panchadara* (Tel.) *Sukhir* (Arab.) *Kussib sukhir* (Sugar cane, Arab.) *Saker* (Mah.) *Assucar* (Port.) *Zucchero* (It.)

*Saccharum Officinarum* (Lin.)

Cl. and Ord. Triandria Digynia.

The author of the Remarks on the Husbandry and Internal Commerce of Bengal (p. 126), seems to be of opinion, that the sugar-cane grew luxuriantly throughout Bengal, in the most remote ages (p. 126); and that from India* it was introduced into Europe and Africa; and it is a fact, that from the Sanscrit word for manufactured sugar (sakkara), are derived the Persian, Greek, Latin, and modern European names of the sugar-cane, and its produce: the same excellent author expresses a doubt, if the sugar-cane was indigenous in America†, as historical facts seem to contradict it. From Benares to Rengpur, from the borders of Assam to those of Catac, there is scarcely a district in Bengal, in which the sugar-cane

---

* In Japan it was found by Thunberg, there called by the natives kānśia, also saò dake. *Fior. Jap.* p. 42. Loureiro says of it, "habitat, in omnibus provinciis Cochin-Chinensis." *Vide Fior. Cochin-Chin.* vol. i. p. 52.

† The enlightened Humboldt tells us, that the Spaniards first imported the sugar-cane from the Canary Islands to St. Domingo; and that Peter D'Atienza planted the first sugar-canews, in 1520, at Conception de la Vega. See his Account of New Spain, vol. iii. p. 8., English translation.

D D 4
does not flourish. The growth of sugar for home consumption in India is vast, and it only needs encouragement to equal the demand of Europe; but how far encouragement to this extent would be politic, having in view our West India Islands, is another question, and foreign to my pursuit.

The sugar-cane is also cultivated for the manufacture of sugar, in many parts of the territories belonging to the Madras establishment, as well as at Bombay; it is a product of various other Eastern countries; for instance, according to Crawfurd, three varieties are indigenous in the Indian Archipelago. Much sugar is made in Siam. On Java it was manufactured to a great extent by the Dutch, so much so, that in the province of Jaccatra* alone, in 1768, no less than thirteen millions of pounds were produced. The sugar of Lahore is of an excellent quality; it may be procured in any quantity in the Philippine Islands, but little of it is exported by the Spaniards. In Persia, in the province of Kuzistan, it is successfully cultivated.†

The Hindoos value sugar very highly: in its unrefined state it is offered at the shrines of their gods; it is presented by inferiors to superiors as a mark of respect; and is considered by the Vytians as extremely nutritious, pectoral, and anthelmintic. The Arabians reckon it detergent and emollient‡, in doses of twenty diREMs. Dr. Cullen classes it with

* See Sketches Civil and Military of Java, p. 40.
† In the days of Pliny, sugar appears to have been brought to Rome from Arabia and India (Nat. Hist. lib. xii. cap. viii.). The Arabians, in the days of Avicenna, had some singular notions regarding it: "Utile est ventriculo, qui bilis non ferax, huic enim nocet, quod videlicet facile in bilem facessat." Vide Canon. Med. lib. ii. tract ii.
‡ See Materia Medica, by Nouredddeen Mahammed Abdulla Shirazy, article 1015.
his Attenuantia. Bergius states it to be “saponacea, edulcucolorans, relaxans, pectoralis, vulneraria, anti-
septica, et nutriens;” of the two last there is no
doubt, and that it is pectoral, we trust will as readily
be allowed. It has, besides, been supposed to have
virtues in calculous complaints.

The species of saccharum from which the Chinese
procure their sugar, is the s. sinense (Roxb.), and the
تبو of the Malays; it yields sugar of a much richer
quality than the Indian cane, and continues to pro-
duce even to the third year, while the other must be
renewed yearly (see Flora Indica, pp. 244, 245.).
This species (s. sinense) seems to differ from the
s. officinarum chiefly in having the flat leaves
with hispid margins, and a corol of two valves on
the same side; the other has a one-valved corol.
The Sanscrit name of the s. officinarum is ikshoo,
it is ook (Beng.), and chérükoo bodi (Tel.). Ten
species of saccharum were growing in the botanical
garden of Calcutta in 1814, all of which are oriental
plants. Besides the sugar procured from the com-
mon sugar-cane, this useful article is obtained in
India from other sources; such as from the toddy of
the cocoa-nut. This kind of sugar is called ténne
vélum (Tam.); naril ka goor ناريلا كاگور (Duk.);
tenkaibélum (Tel.). The sugar got from the toddy
of the caryota urens is called in Tamool koondél
pánei vellum. Then again, that sugar prepared from
the toddy of the palmyra tree (borassus flabelliform-
is) is termed in Tamool pannay vélum; in Duk-
hanie tár ka goor تارَا کاگور; and in Tellingoo tátie
bellum. All these sugars are common in the bazars
of India; they are altogether unrefined, and known
by the English under the general name of jaggéries,
which is also applied to common coarse sugar.
Sugar, as analysed by Thénard, consists of

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>42.47</td>
</tr>
<tr>
<td>Oxygen</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>50.63</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6.90</td>
</tr>
</tbody>
</table>

100.0

According to Berzelius:

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>44.5</td>
</tr>
<tr>
<td>Oxygen</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>49.4</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6.1</td>
</tr>
</tbody>
</table>

100.0

I shall conclude this article by observing, that in Bengal there are three varieties of the sugar-cane cultivated*: the poori, the kajooli, and the kullooa. The second of these, or purple cane, produces the sweetest sugar; the first, or yellow cane, yields the next best; the last, or light-coloured cane, yields a sugar which is of inferior quality. In Mysore two kinds of sugar cane are chiefly cultivated, the restali and puttaputti, both yield bella or jaggery. The restali will not survive for a second crop; but the puttaputti may be followed by a second reaping. The jaggery of the sugar-cane is called in Tamool nulla vellum, from being the best; that of Palmyra toddy is termed karapootie (Tam.)

For an account of the different modes of cultivating the sugar-cane, and manufacturing sugar in

* In Ceylon five species of saccharum grow: the s. officinarum is there called in Cyngalese uk-gas; there are three varieties, the common, white, and purple. See Moon's Catalogue of Cyngalese Plants, p. 7.
the East and West Indies, the reader may consult the Asiatic Journal for April, 1823, p. 336.

CCXVIII.

SULPHUR. *Gendagum* கெண்டாகம் (Tam.) *Ghendagum* (Tel.) *Gunduck* كوندک (Duk.) *Kābrit* كبرت (Arab.) *Gowgird* خوگرد (Pers.) *Gundhuc* (Hindooie). *Blerong* (Mal.) *Gūndākā* (Cyn.) *Gandhaka* (Sans.) *Soufre* (Fr.) *Schwefel* (Ger.) *Zolfō* (It.) *Gunduk* (Mah.) *Lew* (Chin.)

SULPHUR.

This would appear to be a very uncommon production in India; we are told that about thirty miles North of *Oudipoor* in Upper Hindoostan it is met with, but of a quality inferior to that which is brought from the gulph of Cutch and Persia. In Travancore it has, I understand, been discovered by Captain Arthur, in combination with iron (in the form of pyrites). In *Colioti*, in Canara too, I am informed that it is to be found. Dr. Heyne tells us, in his *Tracts Historical and Statistical of India* (p. 186, 187), that he met with sulphur in small heaps, and in tolerable abundance, at the Northern extremity of a lake which is near a small village called *Sura-sany-yanam*, about twelve miles East from *Ammalapore*, and not far from *Maddepolam*; it was in a loose, soft form, or in semi-indurated nodules of a greyish yellow colour. The greater part of the sulphur, however, which is exposed for sale in the

* See Asiatic Journal for Dec. 1824.
Indian provinces, is brought from Muscat, from Sumatra*, or from the Banda Island, called Gonongapi, where it is a volcanic production. In China, Dr. Abel had some most beautiful and splendid native sulphur brought to him, from the crater of Gunong Karang. Sonnerat informs us, that it is common at Pegu†, and we know that it is a product of the Philippine Islands‡, particularly in the island of Leyte, whence the gunpowder works of Manilla are supplied. Most of the sulphur we get in Hindoostan contains a considerable portion of orpiment, being much less pure than either that which is dug out of the solfatara, near Naples, or that imported from Sicily; which last, Dr. Thomson says, contains seldom more of impurity than about three per cent. of a simple earth. A bright-shining yellow sulphur is sold in the bazars of Lower India, under the name of nellikāi ghéndágám (Tam.). By Dr. F. Hamilton’s excellent Account of Nepaul (p. 78.), it appears that sulphur mines are there numerous; this useful article is also found in Persia, in mountains behind Tehrān and in the same country, in mountains South of Kelāt in the province of Mekran.§ It is met with in Cabul in the district of Bulkh ||, it is also a product of Armenia¶, of Moultaan**, of China, and Thibet††; also, according to Morier‡‡, at Bahouba in Persia, in the district of Kaleat. With regard to

* See Elmore’s Guide to the Indian Trade, p. 57.
‡ See De Comyn’s State of the Philippine Islands, p. 37.
§ See Macdonald Kinneir’s Geographical Memoir of Persia, pp. 40 and 224.
|| See Elphinston’s Account of Cabul, p. 146.
¶ See Geographical Memoir of Persia, p. 319.
** See Pennant’s View of Hindoostan, vol. i. p. 37.
†† See Kirkpatrick’s Account of Nepaul, p. 206.
‡‡ See Morier’s First Journey through Persia, p. 284.
the Indian Islands, Mr. Crawfurd, in his History of the Indian Archipelago, says (vol. i. pp. 201, 202.) that sulphur is found in all the pseudo volcanoes of these islands in great purity, but that the manufacture of gun-powder amongst the Malays is very imperfect; this they call ubat-badel. Mr. Hughes, in his valuable Travels in Sicily, Greece, and Albania, informs us, that in the first-mentioned country, the stone sulphur is dug out of a mountain near Palma, on the road to Alicata, about twenty-two miles South of Girgenti (see work, vol. i. p. 14.).

Sulphur is much used by the Hindoo doctors, as well as by the Mahometan practitioners, in cases of itch, and other cutaneous affections, mixed commonly with the powdered seeds of the cărin siragum (nigella sativa), and gingilie oil; they also prescribe it internally for the koostum (lepra Arabum), for the kirandi (venereal herpes), and for that contracted state of the limbs, they call shoolay kuttoo. By European medical men, this well-known substance is employed as a laxative medicine and stimulating diaphoretic; and would appear to be particularly indicated as an aperient in hæmorrhoidal affections from the gentleness of its operation: dose from 伣j. to 3ǐj. made into an electuary with syrup, or it may be taken in milk. Physicians on the European continent, such as Sæmmering, consider sulphur as possessing virtues in diseases of the absorbents. Barthez on the other hand supposed it to be peculiarly useful in the gout. Dr. Thomson cautions us against the exhaustion it is so apt to induce; and therefore, when employed in conjunction with squills in drop-sical cases, recommends that its use should be followed by a course of tonics. Of this medicine Celsus
says, "Conquit et movet pus; aperit vulnera, purgat, exedit corpus."

Sulphur is too well known to require a particular description. Its specific gravity is 1.990; by friction it becomes negatively electrical; it is principally a mineral product, and occurs crystallized. It is met with in masses; in which state it is chiefly brought from Sicily. In rolls or sticks (as obtained in England from roasting pyrites), if grasped by a warm hand it crackles. In the form of powder it is called flowers of sulphur or sublimed sulphur; what is termed milk of sulphur, is when it has been precipitated for pharmaceutical purposes, from alcaline solutions, by an acid, and subsequently washed and dried. Sulphur if pure, when heating gradually on a piece of platinum leaf will totally evaporate, and is perfectly soluble in boiling oil of turpentine (see Brande's Manual of Chemistry, vol. i. pp. 386, 387). Sulphur is spoken of by Hippocrates under the name of Θείον *; and was prescribed by him and his followers in asthma and cutaneous complaints.

CCXIX.

SUMACH, ELM LEAVED. Sumak سماق (Pers.) Tumtum تتم (Arab.)

Rhus Coriaria (Lin.)


* See an account of Dierbach's Materia Medica of Hippocrates, in that most valuable publication, the Edinburgh Medical and Surgical Journal, for July 1825, p. 158.
The rhus coriaria does not grow in India; but I perceive that the plant has a place in the Ulfaz Ud-wiyeh, and is therefore known in the higher tracts of Hindoostan. It is a native of Persia, Syria, Palestine, as well as of Spain, France and Portugal. The Syrians employ the leaf and seeds in medicine; considering them as useful styptics and astringents. The Tripoli merchants sell them at Aleppo, where they are taken internally by the inhabitants, with a view of provoking an appetite. In Spain, Portugal, and especially in France (about Montpelier, where the plant is called redouf) it is cultivated with great care, its shoots being employed for the purpose of tanning leather. Sumach is no longer an article of our Materia Medica. We are informed by Virey in his "Histoire Naturelle des Médicaments" (p. 288), that this plant, which the French curriers term roure, is considered as antiseptic; and that it is useful in dysentery and scorbutic complaints. The fruit is acid and astringent, and at one time was much employed in dysentery, in France, in doses, of the substance, of gr. xxiv., also in decoction. The bark of the stem is a yellow dye, that of the root a brown.*

The rhus coriaria has a strong woody stem, with many irregular branches; the leaves are composed of seven or eight pairs of leaflets, terminated by an odd one. The leaflets are about two inches long, and of a yellowish-green colour. The flowers grow on loose panicles, at the end of the branches; and are of a whitish herbaceous colour.

Of all astringents sumach* bears the greatest resemblance to galls. Alone it gives a fawn-colour to

* See Deslongchamp's Manuel des Plantes Usuelles Indigènes, vol. i. p. 163.
green; but cotton stuffs which have been impregnated with printers’ mordant (that is acetate of alumine), take with it a pretty good and durable yellow. It is with the branches of this plant that Turkey leather is tanned. The leaves and seeds of the coriaria myrtifolia may be employed like sumach in tanning and dyeing. The Arabians place the seeds and leaves of sumach amongst their Kabizat قصبات Astringentia, and Tonics متقويات معدة. Of the styptic virtues of the leaves of the sumach amongst the ancients, the reader will find some account in Dioscorides (Mat. Med. lib. i. cap. 147.) The species toxicodendron or poison oak, is an article of the British Materia Medica.†

CCXX.

SWALLOW-WORT, GIGANTIC. See article Xercum vayr, and its use in leprous affections in this part of the work.

CCXXI.

SWEET FLAG, ROOT OF. Vassamboo வாசம்பூ (Tam.) Butch ب (Duk.) Vudge (Pers.)

* The shoots are cut down every year quite to the root, carefully dried, and reduced to powder by a mill, and thus prepared for the purpose of dyeing and tanning. The rhus vernix, which yields, on being wounded, the real Japan varnish, grows in Japan, in the province of Itaikoka and Figo (Flor. Japon. p. 121.). The species Javanicum is the xiong tsat of the Chinese, who extract an oil from its berry, which they use as a varnish. Vide Flor. Cochin-Chin. vol. i. p. 183.

† The powder of the leaves is given in palsy, in the quantity of from gr. iss. to gr. iv. In the Medical and Surgical Journal, for July 1825, p. 82, a case is detailed, of the good effects of the tincture in palsy; a drop night and morning, increasing the dose to ten drops.
CHAP. I. MATERIA INDICA.

Bach (Hindooie). Vachā वचा (Sans.) also Haimāvati हैमावती (Sans.) Shwet bouch (Beng.) Vudza (Tel.) also Gōlōmi (Sans.) Wadda kaha (Cyang.) Bagy (Can.) Kawa sob (Japan.) Dringo (Port.) Vaymboo (Malealie). also Vaesambu, also Wada-kaha (Cyang.) Acorus odorant (Fr.) Kalmus Wurtzil (Ger.) Calamo aromatico (It.) Kusseb béwa قصب بو (Hind.) also I gir Thach-xuog-bo قصت الدرب (Coch. Chin.) Kusset alderireh قصت الدريره (Egypt. Arab.)

ACORUS CALAMUS (Lin.)


This root, as it appears in the Indian bazars, differs in nothing from what is met with in the shops in Europe; it has, in its dried state, a wrinkled cuticle of a pale brown colour, with numerous white elevated circles on the under side, whence the radical fibres issued; it breaks short, and its rind is of a buff colour, and softish texture; the smell is pleasant and aromatic; the taste bitterish, warm, and, to a certain degree, pungent and aromatic. It is a very favourite medicine of the Indian practitioners, and is reckoned so valuable in the indigestions, stomach-aches, and bowel affections of children, that there is a penalty incurred by any druggist who will not open his door in the middle of the night and sell it if demanded. It grows in abundance in many parts of India. Rheede† tells us, that on the Malabar coast it is called vaembu, and that a bath made of an in-

* This properly speaking is the white variety.
fusion of the root, is there considered as an efficacious remedy for epilepsy in children. The plant *igir* is an export from Mocha, and is much prized by the modern Arabians and Persians, who place the root amongst their Aphrodisiacs and Carminatives, and *مغشبات ميهبات*. Shroder (p. 526) informs us, that it possesses virtues in obstructions of the menses, spleen, and liver. On Java it is known by the name of *deringo*. The Egyptians, who call it *cassabel bamira* كاسبل باميرا, hold it in high estimation as an aromatic and stomachic. The Turks candy the roots, and regard them as a preventative against contagion. The variety of the acorus calamus, in America, appears to differ but little from the Europe or Asiatic plant. Dr. Barton, in his Vegetable Materia Medica of the United States, says, that the root is there considered as a valuable carminative and stomachic; the same excellent author tells us, that Beckstein observes, that the leaves are noxious to insects, and that no kind of cattle will eat any part of the plant. Bautroth has used the whole plant for tanning leather, and Bohmer is of opinion, that the French snuff receives its peculiar flavour from the root of it.†

European practitioners have considered the root of the sweet flag as tonic and aromatic; and occasionally prescribe it in cases of intermittent fever‡ and dyspepsia, in doses of from ⅓i. to 3i. of the substance; or, in infusion, to the extent of a cupfull

* I find this article noticed by Avicenna under the name of كاسيللا لد ساربرا, he says of it, "menses urinasque provocat; tussi suffitum medetur tam per se, tam etiam cum resina terebinthinia, ore nimimum hausto per fistulam fumo." Vide Canon. Med. lib. ii. tract ii. p. 255.
‡ See Barton's Vegetable Materia Medica of the United States, vol. ii. p. 69. 71. 73.
† Withering gives a faithful account of the plant.
twice daily (3vi. of the bruised root to 3xii. of boiling water).

The acorus calamus, which appears to grow in many different parts of the world, "has leaves which spring from the root, they are sword-shaped, about three feet in length; the flowers are small, and are produced on a close tessellated conical spike about four inches long, they have no calyx, the petals are six in number, and of a pale-green colour." Thunberg found the plant growing near Nagasaki, in Japan, also near the temple of Meosus (Flor. Japon. p. 144.). Loureiro says, it grows in mountainous tracts of Cochin-China; of it, he observes, "vocem, auditum, et visum acuit, contra melancholiam, et vertiginem prodest." Flor. Cochin-Chin. vol. i. p. 208.

CCXXII.

TABASHEER. *Moonghil ooppoo* മൂങ്ങിൽ ഒപ്പൂ (Tam.) *Ṭabā-sheer* طبا شهر (Arab. and Duk.) *Ṭabāsheer* طبا شهر (Pers.) *Védūroo ooppoo* (Tel.) *Bansk* (Beng.) *Twak-kshīrā त्वाक्षीरा (Sans.) *Oonamakoo* (Cyn.) also *Una-lee.* *Chuh-hwang* (Chin.)

*BAMBUSÆ ARUNDINACEÆ* (Schreb.)


Tabasheer is very scarce in many parts of Hindoostan, and appears to be only found in the female bamboos growing in certain tracts; it is a blueish white, concrete, light substance, which sticks to the tongue, and is of a very singular nature, considering its vegetable origin, as it resists acids, is undestructible by fire, and forms, on being fused with alkalies,
fusion of the root, is there considered. It is much
 cusious remedy for epilepsy in children, particularly
 ˌim ˌikr is an export from Mocha, among Circars, who
 by the modern Arabians and Persians and to have great
 root amongst their Aphrodisiacs, the Persians prize it
 and
 ˌmıbəsı̇
 ərı̇ng qualities, and, ac-
that it possesses virtues in abundance, have it brought
 spleen, and liver. On Jeudhat, and other parts of
 ˌĎeringo. The Egyptians is also employed by the
 ˌbəmı̇ra
 ˌkələspəl ˌbəmı̇rə
 the Arabians, who call the
 aromatic and stone ˌnısıs̄b, and the tabasheer
 and regard them ˌmıbəsı̇, or honey of the bamboo;
The variety of which is, in their ˌKabı̇zat ˌqaqı̇mat ˌtaqı̇matı̇
 (Astrin-pears to differ ˌguqı̇ret ˌDI), ˌmuqüvı̇mat ˌDL (Cardiaca).
 plant. Dr. R. had seem to have been first brought
 of the Indians to Europeans by Dr. Patrick Russel;
sidered, and made it the subject of a paper for the
 the session of the Royal Society for 1819.† From ob-
served by Mr. Macie (now Smithson), it would
 that the first liquid, and gradually to become
 ˌbı̇stər in which state, strange to say, it is
 ˌbaqı̇r with common silicious earth. Humboldt
 ˌbı̇bı̇s, in the bamboos of ˌPinchiŋcha, and a
 ˌbı̇bı̇s what he brought home with him from
 1804, when examined by Vauquelin,
 of seventy parts of silex, and thirty of
 ˌRoxburgh, in his ˌoɾı̇nˌməndəl ˌPlants,”
 that much tabasheer, of a saline crystalliza-
 obtained from the bambusa baccifera (Roxb.)
 ˌkı̇rısı̇ plı̇nt), and is called by the natives
 ˌbaqı̇r lime. This species of bamboo is the ˌbeesha

† Avicenna, p. 225, also Historia rei Herbariae, vol. i.

‡ Which paper he describes the peculiar optical properties
 obtained from it.
MATERIA INDICA.

Wort. Mal. vol. v. p. 119.), and is called *andulla*. Seven species of bambusa, botanical garden of Calcutta in plants, except the *nana*, introduced 1794.

Three of bambusa grow in Ceylon: viz. the *pinosa*, *stridula*, and *arundinacea* there are three va-

Six grow in Cochin-China, amongst which are the *urus* and *rudentem*. (Flor. Cochin-Chin. vol. i. p. 209.)

CCXXIII.

TALC. *Appracum* அப்பரகூடி (Tam.) *Ab-

raka* अभ्रक (Sans.) *Appracum* (Tel.) *Tulk* طالق

(Pers. and Duk.) *Ubruk* (Hindoie). *Kokubu-

terz* كوكب الأرض *Minirum* (Cyn.)

TALCUM.

The Hindoos, and Mahometans of Lower India, like Cronstedt, and some others, confound talc and mica together. Dr. Kirwan, and subsequently Mr. Murray, have classed the first under the magnesian earths, and the latter under the silicious. The last mentioned celebrated chemist distinguishing the talc by its unctuous feel, and by its plates being flexible, but not elastic; Jameson says, that it is also to be distinguished by its inferior hardness.

A kind of apple-green coloured talc, called by the Tamools *mungil appracum*, and in Dukhanie *péela tulk* يبِلَ طلَف, may, by inaccurate observers, be mistaken for the golden-coloured orpiment. Its beau-
ful translucent flakes are used by the native Indians for ornamenting many of the baubles employed in their ceremonies; they also, like the Chinese, consider it as possessing medicinal qualities: the former suppose it to have virtues taken, internally, in pulmonic affections; the latter imagine it to have the power of prolonging life.

Several varieties of talc and mica are found in India and Ceylon: of the first, Kirkpatrick tells us, there is abundance in Nepal (see work, p. 109.), particularly in the beds of streams which spring from the South face of the Koomrah mountains; the most esteemed by the natives is a dark-coloured sort, koushno abruk. The common grey mica (glimmer of Werner) is in Tamool called vullay appracum, and in Hindoostanie suffiad tulik; this, and another darker species of mica, termed by the Tamools kistnah appracum, are prescribed by the Vytiants, in small doses, in flux cases! they are also employed for ornamenting fans, pictures, &c. On Ceylon the Cyngalese call them mirinam, and decorate their umbrellas (tālpāts) with them. The white and yellow micas, in powder, are used for sanding writing while wet; by the names of gold and silver sand.

In Europe, talc enters into the composition of the cosmetic, called rouge. The Romans prepared with it a beautiful blue, by combining it with the colouring fluid of particular kinds of testaceous animals. Talc is found in plenty in Behar, and other parts of India, also in Persia, and in China; in which last mentioned country ornaments are made of it, tinged with different colours. Most of the mica of commerce in Europe is brought from Siberia, where it is regularly mined: the chief mines are those on the banks of the rivers Witten and Oldan. By Brande's
analysis of talc, it consists of nearly equal parts of silica and magnesia, with not more than six per cent. of lime. Mica, the same distinguished chemist says, consists principally of alumina and silica, with a little magnesia and oxide of iron.

CCXXIV.

TALLOW. Maat kóhúpoo (Tam.) Húrrük tail (Cyang.) Beyl ké chirbie (Duk.) Shahím (Arab.) Peeh (Pers.) Chirbee (Hind.) Lemakchair (Mal.) Pássárum kowoo (Tel.) Góvapá (Sans.) Sevo (It.) Suif (Fr.)

ADEPS JUVENCI.

Candles are seldom made of tallow in India; indeed, unless by Europeans, it seems to be little employed for any purpose, the bullock being a sacred animal. We are told by Sir Stamford Raffles, in his excellent History of Java, that the natives of that island procure a kind of vegetable tallow from the nut of the kawian (Malay), or niátu tree (Jav.). Of this Mr. Crawfurd also speaks, and tells us that the tree is tall and straight, having a smooth ash-coloured bark, and leaves resembling those of the kánari; the nut also resembles that of the kánari, but has not a hard shell; under its soft covering is a firm medullary matter, of a harsh, bitter, and unpleasant taste. This nut, by boiling, yields the tallow. Mr. Crawfurd (Hist. of Ind. Archip., vol. i. p. 456.) thinks, that in a more advanced state of the arts in Eastern
countries, this material, which is cheap and abundant, will become much prized; particularly in a country where there is a natural deficiency of animal fats, and oils. Mr. Crawfurd supposes the *kawan* tree to be a bassia; and we know, thanks to Dr. Roxburgh* and Mr. Gott, that the bassia butyracea (Roxb.) yield seeds, from which by expression and subsequent exposure to heat, a rich oily substance is procured; which the natives of some mountainous parts of the Circars use as a ghee or butter. The tree is the *fukwa* of the Almora hills (see article Tyre), and I think it more than probable that it is no other than the *kawan* of the Malays; and in the “Quarterly Journal of Science, Literature, and the Arts,” for July, 1825, is an admirable paper by Dr. B. Babington, jun., on a peculiar vegetable product, possessing the properties of tallow. It is obtained by boiling the fruit of the *peynie marum* (vateria† Indica, Lin.), when it comes to the top. It would appear by Dr. Babington’s analysis to be of a nature betwixt wax and oil; it is a concrete inflammable substance, and is used medicinally by the natives of the Malabar coast, as an external application for bruises and pains. The Doctor prepared most excellent candles with it, which burnt like those made of tallow. On cooling, this singular oil forms a solid cake, generally white, but sometimes yellow; it is greasy to the touch, with a degree of waxiness, and has rather an agreeable odour.

Dr. Abel, in his Journey into the Interior of China (p. 18.), found, that the *tallow-tree*, properly so called, is there quite common. It is a large beautiful tree

* See Asiatic Researches, vol. viii. p. 499. et seq.
† The same tree which yields the famous *peynie* varnish, to be noticed in Part III. of this work.
(croton sebiferum *), named by the Chinese ya-ricou†, from the circumstance of the crows being fond of the seed; it is from this seed that the vegetable tallow is made, by first boiling, and then pressing. Du Halde and Grosier have both mentioned this tree, the latter observes, that the oily matter, which has at first the consistence of common tallow, may, by boiling, be rendered as hard as bees’ wax. See article Wax in this Chapter.

From the experiments of Braconnot and Chevreul‡ we learn, that the different kinds of animal oils or fats contain two substances, to which they have given the names of stearine and elaine, the first of which is solid, the last liquid, at common temperatures; the proportions of these in our present article is about 24 of elaine, and 76 of stearine.

CCXXV.

TAMARIND. Poollie मेंग्रो (Tam.) Umblie ابلي (Arab. Hind. and Duk.) Mahasi-ambala (Cyg.) Neghka انگكا (Mal.) Tumiri hindee تهمسدي (Pers.) Assam Java (Mal.) Amlükā अम्लिका (Sans.) Umblee (Hindooie). also Tintili तिन्तिला (Sans.) Tintiri (Hind.) Chinta punddo (Tel.) Kámāl (Jav.) Támálatki (Band.) Tamerins (Fr.) Tamarinden (Ger.) Tamarindo (It.) Cay-me (Cochin-Chin.)

TAMARINDUS INDICA (Lin.)

* Or stillingia sebifera (Lin.).
† See Dr. Abel’s Journey into the Interior of China, p. 177.
‡ See Annales de Chimie, tom. xciii. xciv.

The tamarind tree, the *balam pulli* of Rheede, and the *tetul* of Upper Hindoostan, is common in almost every part of India, and is, without doubt, one of the most beautiful and useful in the world. The natives, like us, consider the pulp of the fruit, which is certainly the safest of all vegetable acids, as cooling and laxative; and prepare with it a kind of sherbet, of which they drink freely in hot weather. The *Vytians* use the pulp as an ingredient in their laxative electuaries (laygiums); a decoction of the acid leaves of the tree they frequently employ externally, in cases requiring repellant fomentations; the leaves are, moreover, used for preparing collyria: internally, they are supposed, in conjunction with some other medicines, to possess virtues in what the Tamool doctors call *cāmālay* (jaundice).

The natives of India are impressed with a notion, that it is dangerous to sleep under the tamarind tree, especially during the night; and it is a certain fact, that grass, or herbs of any kind, are seldom seen growing in such situations, and never with luxuriance; the consequence, it is to be presumed, of the acid damp from the tree. We are told by Rumphius, that the inhabitants of Amboyna* consider tamarinds as injurious in cases of weak digestion, or obstructions of the spleen, unless when in conjunction with aromatics.

The tamarind tree grows most luxuriantly in all the Eastern islands. The soil of Java† appears to bring the fruit to the greatest perfection; and the

* See Rumph. Amb. vol. ii. p. 93.
† Hence its Javanese name *assam-Java*, also Malay, which signifies Java acid.
tamarinds of the depending island of Madura, are reputed the best; they are of a dark colour, with a large proportion of pulp to the seed. Mr. Crawfurd tells us, that those exported from one part of the Archipelago to another, are merely dried in the sun; but those sent to Europe are cured with salt. In the Sunda the tree is called chāmpāhu.

Dr. Thornton informs us, that he found the pulp of the tamarind of the highest use in sore throat, as a powerful cleanser; dose of the pulp from 3ss. to 3i. Of the officinal preparation, the infus. tamarindicum sennæ, the dose is from 3ij. to 3iv. Tamarinds are an ingredient in the electuar. sennæ comp. It would seem, by Dr. Thomson's analysis, that 3xvi. of the prepared pulp of the tamarind contained 3iss. of citric acid, but only 3ij. of the tartaric acid, 3ss. of supertartrate of potash, and 3ss. of malic acid.

Of the tree, which will be mentioned in several other parts of this work, I shall simply state, that it is lofty and spreading, with leaves abruptly pinnate, and which are composed of sixteen or eighteen pairs of sessile leaflets, half an inch only in length, and very narrow, of a lively green, oblong, and obtuse; the flowers are of a straw-colour, and are in loose bunches of five or six coming out from the sides of the branches; the pods are seven or eight inches long, and contain five seeds, or more, which are shining, angular, and flat, and covered with a dark acid pulp. These seeds or stones, in times of scarcity, are eaten by the poor in India: they are first toasted, and then soaked for a few hours in water, when the dark skin comes easily off, leaving the seed below white and soft; they in taste somewhat resemble a common field bean, and are boiled or fried before they are eaten.
The tamarind tree is the *cay-me* of the Cochin-Chinese. It appears, by Loureiro's account, to be only cultivated in gardens in Cochin-China. Vide Flor. Cochin-Chin. vol. ii. p. 403. The natives of many parts of Africa employ the fruit of the *adonsonia digitata* for the same purposes that tamarinds are used in India.

**CCXXVI.**

**TAPIOCA.**

*Jatropha Manihot* (Lin.)

Cl. and Ord. Monoecea Monadelphia.

Having found that the jatropha manihot grew in great abundance and luxuriance in many parts of Lower India, I, some months before leaving that country, in 1814, attempted to make tapioca from the root, and perfectly succeeded; the first, I believe, that ever was made in our Indian dominions. An account of the method of preparing it was published in the Madras Courier, under date 13th of March, 1815. An amyllum, or starch, is first to be obtained from the fresh root, which starch, to form it into tapioca, must be sprinkled with a little water; and then boiled in steam; it is in this way converted into viscid irregular masses, which are to be dried in the sun till they have become quite hard, and then may be broken into small grains for use. Tapioca is an admirable diet for the sick, being at once light, extremely pleasant to the taste, and nourishing; it may be either simply boiled in water, like sago, and sweetened with sugar, or it may be boiled in milk.

The tapioca plant is called in Tamool *mārāvullie*, and, from the circumstance of its having no Sanscrit,
Arabic, or Persian name, I am led to think, that it is not a native of Hindoostan, but was probably brought hither, many years ago, by the Portuguese; it would seem to be the variety called in the West Indies sweet cassada. Browne says of it, in his History of Jamaica (p. 350.): "Foliis palmatis, lobis incertis, radice oblonga funiculó valido per centrum ducto carne nivea." The root of this sort is considered as the most safe to eat, indeed, it may be taken raw, or roasted like a potatoe, without the least danger; it is called by the Tamools mārāvillie-kalung, and is much prized by them. The jatropha manihot, I find, grows also in Ceylon; and the late Dr. White, of the Bombay establishment, informed me, that dried, it is exported as an article of trade from the Mosambique to the ports of Goa, and Damaun: to Ceylon, it was first brought from the Isle of France, in 1786 or 1787, by Governor Van de Graaf.* Southey, in his "History of Brazil," tells us, that with the root of the mandioc, as he calls it, is prepared by fermentation an intoxicating liquor (pp. 232, 233, 234.). The excellent Baron de Humboldt says, that in New Spain a sauce and soy are made from the bitter cassava, juca amarga, the juice rendered innocent by boiling. The jatropha manihot is the juca of the Mexicans, in whose country it has been cultivated from the most remote antiquity; they distinguish the two kinds carefully, and separate them in their fields, calling the bitter juca amarga, and the other juca dolce: the first kind they render innocent by means of fire. Browne observes, in his History of Jamaica, that the variety of the plant which yields the bitter root, has "foliis palmatis

* See Asiatic Annual Register, for 1805, vol. vii. p. 87.
pendadactylibus, radice conico oblonga, carne sub-
lacteae” (p. 349.). It is said to contain the deadly
poison termed *manipuer* *a*, which is the fresh juice of
it, and is, therefore, always carefully squeezed out,
after which the root is as safe to eat as that of the
other variety. Before concluding all I have to say
regarding this valuable article, I must observe, that
the flour or meal of the sweet cassava root makes
good biscuit and bread; to prepare which the root
is to be first well soaked in fresh water, and subse-
quently dried in the sun, and then pounded into
flour for use. Bread so made, Baron de Humboldt
observes, is considered by the inhabitants of New
Spain as particularly nutritious.*

Four species of jatropha were growing in the
botanical garden of Calcutta in 1814: *manihot, mul-
tisida, curcas*, and *grandiflora*. Three species grow
on Ceylon, where our article is called *mangyokka*
(Cyng.).

CCXXVII.

TAR. See article Turpentine.

CCXXVIII.

TEA. *Théah*, also *Théh* (Chin.) *Tsüā* (Japan.)
*Cha *(Arab. Pers. and Duk.)

**Thea Viridis** (Lin.)

On no subject has there been more written than
on that of tea; and yet strange, however, as it may

* See Baron de Humboldt's Political Essay on New Spain,
be to say, there are still many doubts respecting the
tree or trees which yield the black and green teas. 
One of the latest scientific travellers into that country,
Dr. Abel, expresses in one part of his work an uncertain-
ty, whether there is more than one variety of the 
tea plant, from which both teas are prepared; but 
soon after adds, that he is more inclined to believe, 
that there are two; and that from all he could learn, 
either of these would yield both the black and green 
teas, according to the mode of preparation adopted. 
In some provinces*, such as that of Keangnan†, most 
attention is paid to the cultivation of green tea; 
while in others, such as Fokien‡, the natives attend 
more to the black. "I think there is little doubt 
but that the principal difference betwixt the black 
and green tea is the age of the leaf; the latter being 
prepared from it when in its less mature state, and 
while it contains a quantity of viscid, and to a cer-
tain degree narcotic § juice, which gives the peculiar 
character to the hyson teas. ||" Something is also to 
be ascribed to the manner of drying¶; as Dr. Abel 
justly remarks, leaves slowly dried will naturally re-
tain more of the green colour, than those that are 
dried rapidly. The same gentleman informs us, that 
the strongest tea he saw in China barely coloured

* The green tea district in the province of Keangnan is em-
braced betwixt the 29th and 31st degrees of Northern latitude; 
the black tea district in the province of Fokien is contained within 
the 27th and 28th degrees of Northern latitude.
† Particularly to the West of the city of Wechufu.
‡ Especially in the valleys of Bu-ye.
§ See Sir George Staunton's valuable account of an Embassy 
|| See Dalrymple's Indian Repertory, vol. ii. p. 285., in which he 
gives this as the opinion of Chow-qua, who had been eight times 
into the Bohea country.
¶ The green tea is carefully dried by exposure to the open air 
in the shade; the black by means of artificial heat, in shallow 
panns over a charcoal fire.
the water; and on examining the leaves after infusion, he perceived that they were those of the scarcely expanded buds.* Mr. Philips, in his Treatise on Cultivated Vegetables, has brought forward much curious and interesting information on tea; and to that work (vol. ii. p. 285.) I refer my reader. The green teas commonly met with in India are the *gun-powder*, which is very strong, and is the leaf rolled quite round; the *hyson†*, an admirable tea; it is a small leaf, closely curled, and of a blueish green. Of the *bloom‡* tea, and *Singlo* teas, (also green teas), I can say little from my own experience; the first is of a light green colour, and has a loose leaf: the other is named after the place where it is cultivated.

Of the black or bohea teas, five or six different sorts have been mentioned by different writers; I shall only notice three. First, the *pauchong*, as it is called in India and in Europe, and which is, I believe, what is also sometimes named *padré sutchong*; it is peculiarly delicate in flavour, and is frequently brought from China carefully packed up in papers, each containing about a pound. I have rarely met with it in Europe; but hesitate not to say, that it is the best and most delicious of all teas. Second, the common *sutchong*, too well known to require any description; it is that black-tea which is most drank in England, selling commonly at from eight to ten shillings or more per pound. Lastly the common black or bohea tea, which the Chinese call *wooe-cha*; and the best of which they term *tao-kyonn*: this they prize much for their own domestic use.

* See Abel's Journey into the Interior of Africa, pp. 222 and 223.
† Hyson tea, generally speaking, the Chinese call *he-chun-cha*, they export it.
‡ The bloom tint is given by means of the fumes of indigo while burning.
Tea is a produce of Japan*, Tonquin, of the island of Formosa, whence it is exported as a medicine, and of Cochin-China, as well as of China; but that of the last-mentioned country alone is fit for exportation. As an article of diet, the Japanese cultivate it in a very careless manner. The teas of Tonquin and Cochin-China are still coarser. Green tea, it would seem, is chiefly prepared for sending out of the country; the Chinese themselves, and the inhabitants of the Indian islands, consume only the black.† Tea was first used in England during the Commonwealth, and now not less than 22,000,000 pounds are consumed annually in this country. In the rest of Europe besides, it is supposed, that more than 5,000,000 pounds are annually sold, and about as much in America.

Volumes have been written for and against tea; while some authors, namely, Mr. Hanway, Mr. Adair, in his Essay on Diet and Regimen, &c., have ascribed to it many pernicious qualities, such as having the effect of inducing nervous tremours, weak digestion, low spirits, typhus fever, and dropsy: others, again, such as Dr. Aiken, Huet, Bishop of Avranches,†, Raynal, Bontequoe, and others, have been as lavish in its praises. But none more than Dr. Clarke in his Travels (vol. ii. p. 538.), who says, "the exhausted traveller, reduced by continual fever,

* Kampher, in his Amoenit. Exotic (fasc. iii. p. 625.), says of tea, "optimus est qui unius anni ætatem habet;" as a drink for the healthy, he praises it highly, but adds, "omnis hæc potus supprimit medicamentorum efficacem; in colica hocet, et maxime vitanda est."


† He wrote a Latin poem on it, in which he says, it deserves the name of brusher to the understanding, for the good effects it has on the brain.
and worn by incessant toil, experiences in this infusion the most cooling and balsamic virtues; the heat of his blood abates, his spirits revive, his parched skin relaxes, and his strength is renovated.” In this eulogium I most cordially join from my own personal experience; that the use of tea may be abused like anything else, no one will dispute; and that green tea drank in any considerable quantity, brings on watchfulness, and nervous agitation, I am ready to allow; but I must at the same time maintain, that the better kinds of black teas, so far from being prejudicial, have positive virtues in cheering the spirits, strengthening and comforting the stomach; and giving after great fatigue, a new life and tone to the whole frame. To the sedentary and literary, tea is certainly a great blessing; as it enlivens without heating, nay, I should almost be inclined to go a little further, and partly ascribe to its prudent use, something of that brilliancy of imagination and fineness of fancy, which so peculiarly distinguish the poets* and novel writers of our happy country! where so much is drank.

Of late years there has been much counterfeit tea exposed for sale; a crime which can scarcely be too severely punished. Mr. Phillips observes, “that the counterfeit black tea produces a deeper colour by infusion than the real tea, and that a little copperas put into it, will turn it to a light blue, which otherwise ought to be of a deep blue inclining to black.

* This notion may, by some, be reckoned a little fanciful; I shall, therefore, bring in support of it the opinion of an enlightened and valuable writer, belonging to France, a country where tea has not been supposed to be much prized. Chevalier Roques says, in speaking of Bohea tea, “pris avec moderation, il reveille l'esprit, lui donne un agitation douce, et plus d'un erivain lui a du un trait piquant, une pensée heureuse.” See Roques Phytographie Medicale, vol. ii. p. 203.
If green tea be adulterated, put a bit of gall into the liquor, which will turn it to a deep-blueish colour; this it will not do, unless there be either vitriol or copperas in it, as galls do not tincture the proper tea."

W ilddenow, following the notion that had been adopted by Linnaeus, makes the black and green tea two distinct species; describing the first as having six-petalled flowers, and the last nine. But Dr. Lettsom, in his excellent History of the Tea Tree, assures us, after an examination of many hundred flowers, both from the Bohea and green tea countries, that their botanical characters always appeared to him uniform. The tree, or rather shrub, seldom rising higher than six or seven feet; having leaves alternate, elliptical, bluntly serrate, except near the base; with a white corolla, varying in the number and size of the petals. Loureiro gives a somewhat different account, making the leaves to be lanceolate and acutely serrate. This author concludes by observing, that, upon the whole, he believes that of the common and proper tea there is but one species, the apparent differences proceeding from soil, culture, and preparation: he, however, gives us two other species of thea, viz. *thea Cochín-Chinensis*, having a five-petalled corolla, and which is used in that country as a sudorific; and the *thea Oleosa*, a native of China, from the seed of which an oil is obtained fit both for the table and burning, and the fruit of which is rather a berry than a capsule; this last is now ranked under the genus camellia, and is denominated the *camellia oleifera*. The leaves of another species of this genus, the c.

* The *chean-nam* (Cochin-Chinese).
† The *che-deau* (Chinese). Vide Flora Cochín-Chin. vol. i. p. 338.
sasanqua, and which the Chinese call by the name of cha wha *, bear so close a resemblance to those of the real tea plant, both in appearance and natural qualities, that the Chinese mix them together with a lavish hand: they have a sweet smell. It is said to be with the small, white, pleasant-scented flowers of the olea fragrans (quai-fa), that the Chinese give a peculiar flavour to their best teas; the plant is a native of Japan, China, and Cochin-China. Numerous are the leaves which have at different times been used as substitutes for tea. In New Holland those of the correia alba are employed, in the Kurele islanda those of the pedicularis lanata, in New Jersey those of the ceanothus Americanus are resorted to. Mr. Gray says, that the leaves of the rosa eglaneria are sometimes prepared for the same purpose. Southey, in his History of Brazil, mentions the maté or herb of Paraguay, as being as universally used for tea in that part of South America as the real tea is in England, and taken with milk and sugar. The herb Paraguay, is obtained from a tree which the Guaranies call caa; the foliage of which resembles that of the orange tree, and has white flowers disposed in small cymes, in the axiles of the leaves. The tree would appear to have a very extensive range, being found both in Paraguay and Brazil. The reader may find some account of it in the "Histoire des Plantes les plus Rémarkables du Brasil et du Paraguay," (tom. i. p. 41. of the Introduction,) par M. Auguste de St. Hilaire; we are there informed, that the tree is called by the Spanish Americans Parvore de mate ou da congonha; and that there is a great difference betwixt that which grows in Paraguay and Brazil.

The gentleman just mentioned, seems inclined to name it \textit{ilex mate} ; but Doctors Spix and Martius, in their Travels, notice it under that of \textit{ilex congonha}. It is described and figured under the scientific appellation of \textit{ilex Paraguensis}, in an Appendix to the second volume of Mr. Lambert's work on the Genus Pinus; and I have been informed, that that distinguished botanist has actually the plant growing in his garden, at Boyton House in Wilts. Other leaves *, which have been used as tea, are those of the \textit{psoralea glandulosa} in Mexico and Guatimala; those of the \textit{symplocos alstonia} of Humboldt and Bonpland, in New Grenada, which is said to yield a tea little inferior in virtues to the China article; and still farther North, very wholesome teas are said to be prepared with the leaves of the \textit{gaultheria procumbens} and \textit{ledum latifolium}; which last plant, however, we are told by Krocker, according to Miller, has an inebriating quality, and is used by the Dutch in tanning leather. I perceive by the "\textit{Voyage en Tourcomanie et à Khiva}" of M. Mouravir (p. 375.), that tea is a favorite drink of the Khiviens; and by notes at the end of the work by Klaproth, it appears that that which they prize, is called by the French \textit{thé en briques}; the Russians term it \textit{kirpichnoi}, and the Chinese \textit{tchowan}. It is common amongst the \textit{Mongols} and \textit{Bouriates}, and is prepared, he says, "dans la Chine septentrionale, des feuilles d'un arbuste sauvage, qui ressemblent à celles du méri-sier." He adds, that poor people who cannot get

---

* In the Flora Peruviana and Chilensis, tom. ii., I find a plant mentioned under the name of \textit{zuarezia bifora}, Icon. cxxiii., and called in Spanish \textit{the del Peru}; which was, some forty or fifty years ago, so much in repute, that the China tea was at that time little sought after in Peru.
it, supply its place, with the leaves of the following plants.

<table>
<thead>
<tr>
<th>Plant</th>
<th>Mongols</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saxifraga crassifolia</td>
<td>Badan,</td>
</tr>
<tr>
<td>Tamarix Germanica</td>
<td>Balgou,</td>
</tr>
<tr>
<td>Potentilla rupestris</td>
<td>Khaltalsa,</td>
</tr>
<tr>
<td>Glicyrrhiza hirsuta</td>
<td>Nakhalsa,</td>
</tr>
<tr>
<td>Polypodium fragrans</td>
<td>Serlik,</td>
</tr>
</tbody>
</table>

and also occasionally with the leaves of a species of *sanguisorba*, called in Mongols *chudou*.

It appears that the French are likely to succeed in cultivating a new sort of tea (zenopoma thea sinensis) in the South of France, which is scarcely known to us; it was brought into France about four years ago, by a Russian, and having been examined by the academicians of Paris, was reported to have qualities sudorific and stomachic. (See Phillip on Cultivated Vegetables, vol. i. p. 296.)

By Dr. Lettsom's experiments on tea, it appears, that the infusion is antiseptic and astringent; and it is no doubt, by that happy combination, added to its known efficacy in enlivening the spirits, that it is at once gently tonic, soothing, and refreshing! From experiments made on teas, black and green, and which may be seen in the Journal of Science (for January, Number xxiv. p. 201.), it appears that from one hundred parts of good black tea, there was lost on infusing, by weight, thirty-five per cent.; the infusion thus obtained, on being evaporated, yielded a dark brown transparent extract. The leaves on being again dried and infused in alcohol, lost twelve per cent.; the extract thus obtained was of a more resinous nature and agreeable smell. So that in all, of soluble matter, forty-seven parts were procured from one hun-
dred. By similar experiments made with green tea, fifty-one parts of soluble matter were procured from one hundred. In the last experiment, the extract obtained from evaporating the alcohol infusion, was a highly fragrant, olive-coloured, resinous substance, scarcely acted on by cold water.

With regard to situations not in China or Japan, where tea might be cultivated with a chance of success, the reader is referred to an excellent paper, by Mr. W. Huttman, in the Asiatic Journal for December, 1822. It may be further remarked, that some of the most likely are, the Cape of Good Hope, as suggested by Charpentier Cossigny (see Barrow's South. Africa, p. 18.), and confirmed by Dr. Abel, in his Journey into the Interior of China (p. 224.); St. Helena, where the plant grows in great vigour in the governor's garden; amongst the Srinagar mountains; in Ceylon*; in some parts of the Travancore country; and we know that Senhor Gomez has contrived, with the assistance of a few Chinese gardeners, to cultivate the tea plant at Rio Janeiro in Brasil. The excellent Dr. Wallich has expressed a belief, that both the tea shrub and the Nepaul camellia (kissi), will, before long, be introduced into such parts of Northern Hindoostan as may appear best calculated for their cultivation. The camellia was discovered by Mr. Gardener on the mountains of Sheopore and Chandragheree, having leaves of peculiar fragrance.

Such Europeans in India, as find that the common tea does not agree with them, have a most pleasant and delightful substitute in the leaves of the andro-

* Where, we are told by Mr. Moon, in his Catalogue of Ceylon Plants, the thea Bohea is called by the Cyngalese rata-tekola.
pogon schoenanthus, or lemon grass; also in the
dried leaves of the ocimum album (Lin.), which is
canjam koray (Tam.), sufiyd toolsie (Duk.), kooka
tolasie (Tel.), badrooj abeez (Arab.), but
is commonly known on the Coromandel coast by the
name of toolsie tea.

Dr. A. T. Thomson, the correctness of whose
judgment and admirable discrimination on every
subject connected with medical science, the British
public have justly appreciated, seems disposed to make
the thea viridis and thea Bohea distinct species;
and has been so kind as to transmit to me the follow-
ing descriptions:

Thea Bohea, "leaves alternate, on very short
petioles, elliptico-oblong; in length about two inches,
in breadth three-fourths of an inch; apex slightly
acuminate; disk equal on both sides of the mid-rib:
upper surface olivaceous green, shining, obscurely
granulated; under, pale: margin obsoletey serrated."

Thea viridis, "leaves alternate, on very short pe-
tioles, oblong, in length about three inches, in breadth
scarcely one inch, pointed at the apex, and tapering
towards the base; the disk unequal, the right half
(looking at the under surface of the leaf,) being
narrower than the left, and more tapering towards
the base; upper surface smooth, shining, of an
emerald-green colour; the under, veined, the mid-
rib very prominent, pale; margin denticulated."
CCXXIX.

TEAL, GREY. Killoovey (Tam.) Moorgabie مرگابی (Pers. and Duk.) Shérawie goova (Tel.) Sarcelle (Fr.) بیلبیک Bilibik (Mal.) Farchetola (It.) Fulsi (Beng.) Farchetola (It.) Anas Crecca (Var.)

The grey teal is very common in India, and is perhaps the most delicate of all the Anas family, being less apt to have a strong and fishy taste. The natives have many ingenious modes of catching teal, and can imitate their call in a very surprizing manner. Of the Anas crecca, there are several varieties to be met with. What is usually called the red or whistling teal, is not near so much prized; while on the wing it makes a peculiar kind of piping noise. It is the sheng-kiloovay of the Tamools. Widgeons, of various plumage, are also common in Lower India; that most frequently seen, appears to be a variety of the anas Penelope (Lin.), and is called by the Tamools singhetikan.

General Hardwicke, who has done much for the Natural History of India*, noticed and painted no less than nineteen different species of anas; and has now the drawings in his possession. I perceive the ruddy goose amongst his anas; it is the anas casarea of Latham, and the chucua of the Bengalese. The anas Indica is the hans of the Musselmans, and the anas hina is the toolsee of the Bengalese.

* In a manuscript volume at the India House there is fully described no fewer than twenty species of anas.
CCXXX.

THORN APPLE, PURPLE. Karoo oomatay (Tam.) Kālā dahtoora (Duk.) Dhētoora (Hind.) Jowx māssēl• جوز مسیله (Arab.) Goozgiah (Pers.) also Būnjdeshee بنج دخیل (Pers.) Rotecubung, also Kechubung (Mal.) Hummatoo (Hort. Mal.) Nūl-la oomatie (Tel.) Kāla dhatoora (Hindoòie and Beng.) Kaloo attana, also antenna (Cyng.) Dutro (Port.) Krishna dhattūra कृष्ण धत्तर (Sans.) Umāna (Malealie). Kechu-booh (Egypt. Arab.)

DATURA FASTUOSA (Willd.)


This species of datura (both the double and single), as well as the datura metel, grows wild in many parts of India, generally on waste lands. The d. stramonium, I am inclined to believe, with Dr. Fleming, is not to be found in Hindoostan; it is the species which has a place in the London Dispensatory, and is the stramonium maniacum (Col. Phytob. 47.). The datura fastuosa is the datura rubra of Rhumphius, and the solanum foetidum of Bauchin; and is distinguished from the d. metel by having dark-coloured flowers, while those of the metel are white:

This is more properly, according to Avicenna (156.), the Arabic name of the dat. metel.
a more substantial difference is, that the d. fastuosa has
"pericarps tubercled, nodding, globular, leaves ovate,
angular;" while the metel has "pericarps thorny, nodding,
globular, and leaves cordate, almost entire,
pubescent." The datura metel, we are informed by
Forskahl, in his "Flora Arabiae Felicis," has no less
than three names in Arabia, مَكوكَنِنجين, and
Rumphius calls it datura alba, and Rheede hum-
matu; it is the vullay oomatia of the Tamools, and
the ca-duoc of the Cochin-Chinese.\* The kāroo
oomatia (d. fast.), which is the most common species
in India, grows to the height of about four or five
feet; "the flowers long and narrowish, bell-shaped,
and straw-coloured; the leaves long, dark, and of
an irregular angular shape." The d. metel seldom
reaches beyond a foot and a half in height; "flower
bell-shaped, and long; leaf about six inches in
length, and pointed." The smell of both plants is
peculiarly fetid, and both have a somewhat bitterish
and nauseous taste. The datura stramonium is not†
a native of India, but it grows in the botanical garden
of Calcutta, introduced there from America by W.
Hamilton, Esq. Thunberg found it in Japan‡, and
we learn from the same author, that it is a native of
Java.§ It is the Στευχχος γανικος of Dioscorides,
and was, therefore, received into our Materia Me-

\* Vide Flor. Cochin-Chin. vol. i. p. 110.
† Since writing the above I perceive, that a variety of the
datura stramonium, var. canescens (Wallich), is quite common in
Nepaul and the Northern tracts of Hindoostan, known by the
name of parbutteuya; the whole plant pubescent, glaucous,
pale; flower always single, and of a yellowish white colour. See
§ See his Travels (vol. iv. p. 147.). See also a paper on the
poison tree of Java, by Dr. Horsfield, in the seventh volume of
the Transactions of the Batavian Society.
The intoxicating and narcotic qualities of the daturas seem to be well known in Eastern countries, and are particularly mentioned by Colonel Hardwicke in his Journey to Sirinagur. Captain Turner saw the thorn apple at Bootan, where he was told that it was considered as a medicine.

I was at much pains to inquire amongst the Vytians of Southern India, whether the root, dried capsule and seeds of either of the daturas, I have mentioned as Indian products, were ever recommended by them to be smoked in cases of spasmodic asthma, in the manner administered with success on Ceylon, and in the more Northern tracts of Hindoostan; but they appeared to be totally unacquainted with their virtues in this disease, indeed, they would seem to prescribe the oomaties very cautiously on any occasion. In those violent and deep-seated head-aches which often precede epilepsy and mania, the Mahometan doctors sometimes order the root of the datura fastuosa, in powder, in very small doses, not exceeding from a quarter of a grain to three grains. Dr. Barton, of America, I find also prescribed the thorn apple with great success in similar cases; he gave the leaves in powder, beginning with a quarter of a grain, and gradually increasing the dose to fifteen or twenty. In large doses the datura produces vertigo, and has the effect of dilating, in a singular manner, the pupil of the eye. Bergius and Stoerck ordered the inspissated juice of the leaves of

* I am informed by my friend Dr. Sherwood, who was long stationed at Chittore, that the native doctors there, and in the neighbourhood, are in the habit of employing the karu oomatie (datura fastuosa) in asthma; all parts of the plant, except the leaves, being cut into small pieces and dried, and smoked night and morning for three days together; the vulley oomatie is not used for this purpose.
the datura stramonium in epilepsy. And with regard to the opinion entertained by the *Vytians* of the use of the datura fastuosa in mania, it is, in all probability, on the same principle as that which causes it to be prescribed, according to Rumphius (Amb. tom. v. p. 244.), for producing sleep: his words are, "'Radicips drachma in vino adsumpta profundum adfert somnum." And Rheede has these words in speaking of the same medicine: "Semina largius sumpta, saporem inducant ac periculosa est eorum sumptio necem adferens." (Hort. Mal. part ii. p. 50.)

The Mahometan practitioners in India (borrowing, in all probability, from Moomina, in his *Mysurdatie Mümna* مغزرات مومنا, where the d. fast. is fully treated of under the name of بنه دنشتي), order it in epileptic cases. The Hindoo doctors employ the succulent leaves and fruit of the plant in preparing (in conjunction with warm cow-dung) a poultice, used for repelling* certain tumours, called *kundamallie* (scrophulous) and *moolie poottoo* (cancer), and also for relieving the pain which accompanies the piles; they likewise suppose, that the seeds made into pills or lozenges, and laid upon a decayed tooth, deaden the pain of the tooth-ache; a fact I was pleased to perceive noticed in the second volume, p. 361., of Lockman’s Travels of the Jesuits. Dr. Horsfield, in his Account of Java Medicinal Plants, places datura ferox, *kootshoobung* (Jav.), and datura fastuosa, *kassian* (Jav.), amongst the Narcotic Stimulants of the Javanese; the last, he tells us, they consider as an-

* On the continent of Europe the fresh leaves have been applied to the mammae, for the purpose of checking the secretion of milk. See *Fränk. Anmerkungen*, i. p. 424.
thelmintic, and use externally in herpetic diseases. The first, *kootshoobung* (dat. ferox), Mr. Crawfurd informs us, is given by the Malays to produce the most complete stupor; and is a powerful engine in the hands of the Chinese for effecting various artifices and tricks in trade. Orphila places the daturas, stramonium†, metel, and ferox, amongst his Poisons; the seeds of the last of which, according to Gmelin, produce delirium. The Arabians rank the thorn apple amongst their *Mokederrat* (Narcotics). The d. stram., according to Wedenberg, contains gum and resin, a volatile matter (which Dr. Thomson found to be carbonate of ammonia), and a narcotic principle, ascertained by Mr. Brandes to be an alkaline salt.

Roques notices the datura fastuosa in Phytographie Medicale, vol. i. p. 228. It is classed, he observes, amongst the Poisons, and has got, by some writers, the familiar name of trompette du jugement. Four species of datura grow in Ceylon.

* See his History of the Indian Archipelago, vol. i. p. 466.
† See Traité des Poisons, vol. ii. part i. p. 244.
‡ Roques gives several frightful accounts of the effects of the seeds of stramonium, when taken internally, in producing mania, &c. Hüfeland recommends a tincture prepared with the seeds, twenty drops of which produced a better effect in spasmodic affections than opium. In France the datura stramonium is vulgarly termed "herbe aux sorciers." "On a obtenu, des semences un alcali vegetal composé nommé daturin." See Phytographie Medicale.
§ See Materia Medica, by Noureddeen Mohammed Abdullah Shirazy.
CCXXXI.

TOBACCO. *Poghéi elley* (Tam.) *Tumbérci* (Hind. and Duk.) *Bujiherbang* (Arab.) *Tabaco* (Japan.) *Doonkola* (Cyng.) *Poghâko* (Tel.) *Dhūmrāpatra* (Sans.) *Tambrācōo* (Mal.) *Tambroco* (Jav. also Bali.) *Tabac* (Fr.) *Taback* (Ger.) *Tabacco* (It.) *Tamer* (Tart.) *Quauryett* (Mexican). *Youly* (Caraub.) *Sang-yen* (Chin.)

**Nicotiana Tabaccum** (Lin.)


The tobacco plant is now cultivated in almost every part of India, Lower as well as Upper. By a proclamation of Jahangir, and mentioned in his own Memoirs, it would appear, that it was introduced into India either in his, or the preceding reign; and the truth of this, the author of the “Remarks on the Husbandry* of Bengal” justly observes, is not impeached by the circumstance of the Hindoos having names for the plant evidently corrupted from European denominations of it. We are informed by B. Humboldt, in his Personal Narrative, “that this plant was first discovered in the Mexican provinces of Yucatán, in 1520, and that it was there called *petum;* it was afterwards transported to the West Indies and North America, and brought to Europe

* See work, p. 121.
by Hernandes de Toledo, who came from Florida to Portugal, in the beginning of the sixteenth century. The seeds were sent from Portugal to Catherine de Medicis by Jean Nicot, an agent of Francis II., after whom it received its generic name Nicotiana; the specific appellation being taken from tabac*, the name of an instrument used by the natives of America in the preparation of the herb: "by the way, it is a singular enough fact, that the Korean word for tobacco, Captain Hall† found the same as ours, or nearly so. As far as I have been able to learn, tobacco was first brought to India from Brazil, about the year 1617; some time later than it was cultivated in England, which was, according to Label, in 1570.

There are various species of the plant, and great differences in the qualities, according to the soil and climate. The finest kinds in India, and perhaps in the world, grow near the village of Woodānum, in the Northern Circars, and in some of those low sandy islands formed at the mouth of the river Krishna (from which is made the famous Masulippa-tam snuff); also in the Delta of the Godavery, where the soil is peculiarly rich and fertile.

Tobacco is universally cultivated in the Eastern islands; but in Mindano, Luconia, and Java alone, in such quantities as to admit of its being exported. In the last mentioned island, in the rich valleys of Kadu and Ladok, it is of a superior quality! It is a common produce of Siam.

* Another account is, that the specific name is taken from the word Tobasco, a province of Yucatan, where it was first discovered by the Spaniards, and brought to England by Sir Walter Raleigh, about the year 1585.

† See Captain Basil Hall’s very interesting Voyage to Corea and the Island of Loo-choo, last edition, p. 76.
The leaves of this plant taken internally prove emetic, cathartic, and narcotic; their properties as an errhine and sternutatory are well known; distilled in a retort, without addition, they yield an acrid empyreumatic* oil, found, from repeated trials, to be poisonous to sundry animals: see Barrow's Travels in Africa (p. 268.), where may be found an account of a snake killed instantaneously by a little of it having been put into its mouth. Newman analysed three different sorts of tobacco, the American canister, the Dutch leaf, and dried leaves of our own growth; an ounce of the first gave four drachms, thirty-five grains of extract; the same quantity of the Dutch, four drachms; of our own, four drachms and fifty grains. Dr. Fowler tells us, that an infusion made with the leaves in water, in the proportion of an ounce of the former to a pint of the latter, is useful in cases of dropsy and dysuria, in doses of sixty, seventy, or eighty drops to adults, twice daily; as a hydragogue, tobacco is, however, not equal to either squills or digitalis, but it is allowed by Dr. Pearson to be a valuable medicine in dysuria, in which disease its antispasmodic virtues are of advantage.

The native practitioners use tobacco to excite vomiting; and in cases of obstinate constipation, they apply the leaves warmed to the orifice of the anus with never-failing success, but sometimes at the expence of vomiting. They are also ordered by them for the purpose of fumigating such persons

* Roques informs us, that a single drop of this oil put on the tongue of a dog, or injected with a little water into its rectum, kills it in a few minutes; nay, sometimes, it has been found, that a single full pinch of strong snuff has produced apoplexy, adding, "c'est avec raison qu'on a rangé le tabac dans la classe des Poisons narcotiques acres." For Vauquelin's analysis of the leaves, see Phytographie Medicale, vol. i.
as have suffered much from venereal complaints of long standing, and protracted courses of mercury. European practitioners in India occasionally prepare with tobacco certain unguents for destroying cutaneous insects, and for cleansing foul ulcers. Injections of the smoke by the anus I have known resorted to with success, in cases of obstinate constipation. In an interesting work lately published, entitled *Colombia* (pp. 608, 609.), the author, in treating of tobacco, observes, that the *Otomacs* produce a peculiar kind of intoxication by means of a powder made from the long pods of the *acacia niopo*, which they call the *niopo*, or *cúrûpa tobacco*; this abominable powder, he adds, intoxicates by the nostrils.

In speaking of the tobacco of Eastern countries, I ought sooner to have mentioned, perhaps, that of *Darabjerd**, in the province of Fars, in Persia, which is sent all over the East, so much is it esteemed; but Niebhir seems to be of opinion, that that of Manilla† is the finest in the world.

Seven species of Nicotiana were growing in the botanical garden of Calcutta in 1814, all originally introduced from America.

Dr. Paris informs us, that the great superiority of the Macuba snuff is owing to the fermentation it undergoes, by being mixed with the best cane juice (Pharmacologia, p. 537.).

---

* See M. Kinneir's Geographical Memoir of Persia, p. 76.
† See Niebhir's Travels.
CCXXXII.

TODDY. Khūlloo குழல் (Tam.) Khūlloo (Tel.) Sūrā सूर तारी or Tādi ताड़ि (Sans.) سيندي Saindee (Duk.)

Toddy is the general name given by the English to those sweet, delicious, and refreshing liquors, which are procured in India by wounding the spatha of certain palms, when it exudes, dropping into earthen pots which are attached to the superior part of the stem of the tree for receiving them. The best of all these is that obtained from the cocoa-nut tree (cocos nucifera*), and which is called in Tamool tennang khulloo, in Dukhanie narillie ناريلي in Arabic nargilie نارجيلي, and in Tellinghoo tenkāia khuloo.

Taken fresh from the tree, early in the morning before the sun is up, it is certainly a luscious and most pleasant drink, cooling, refreshing, and nourishing; it is, besides, employed for making the best kind of Indian arrack, and yields a great deal of sugar, called in Tamool tenné véllum, in Dukhanie naril ka ghere ناريل كا كور, and in Tellinghoo tenkāia bellum. Europeans, especially delicate females, in India, who are apt to suffer much from constipation, find a cupfull of this toddy, drank every morning at five o'clock, one of the simplest and best remedies they can employ. The Vytians prescribe it in consumptive cases. When the heat of the day has

* Cay-dua (Cochin-Chin.), vide Flor. Cechin-Chin., vol. ii. pp. 566, 567., where the many properties of this plant are fully stated.
commenced, however, it is not so safe, as it then undergoes a degree of fermentation, and is apt to intoxicate and occasionally bring on cholera and bowel complaints. The different toddies to be met with in India are: 1st. The cocoa-nut toddy just mentioned. 2d. The *Palmyra toddy* (or toddy of the borassus flabelliformis*); it is also sweet and pleasant tasted, but inferior to that of the cocoa-nut; it is *pannang khulloo* (Tam.), *tarie ताइर्स* (Duk.), and *tāṭie khiloo* (Tel.); from it too sugar and arrack are made. 3d. The *koondel panēi† toddy* (or toddy of the caryota urens); it is not equal to either of the other two, and is chiefly used on the Malabar coast, where this palm is termed *erimpana*; sugar is also prepared from this palm. In the Eastern islands the tree is called *nibuṅg*, and is the true mountain cabbage tree; the top of it (the germ of the future foliage) is, like that of all or most of the palms, edible, but much more delicate than the others; some of the coarser parts of this top taste like a tender cabbage-stock, while others are so delicate as more to resemble a filbert.† *Nibuṅg* is, properly, the Malay name; it is *andudu* in Bali, *palum* at Amboyna, and *ramisa* at Macassar. 4th. *Todd[y of the wild date tree* (or elate silvestris), called in Tamool *eetchim khūlloo*, in Dukhanie *sayndie سيندي* in *Tellinghoo einta khūlloo*, and in Sanscrit *kharjūra खर्जुरा* (Sans.); this is a pleasant tasted toddy,

---

† The pith of this tree is a kind of sago, and is eaten by the natives; the tree is common on Ceylon, and is noticed by Rumphius (Amb. i. tab. xiv.).
much used in Mysore, and from which also a jaggarie, or sugar, is made.

I have been informed, that from healthy young margosa trees (melia azadirachta) a sort of toddy may be obtained, which the Hindoo doctors prescribe as a stomachic; and that from another species of the same genus, viz. mel. sempervivens, toddy also may be obtained. This last (bead tree) is the bacăin of the Hindoos of Upper India; its Sanscrit name is mahā-nimbā महानिम्ब.

In the islands of the Eastern Archipelago a kind of wine or toddy is drawn from the nipa palm (cocos nypa); this tree is employed for many useful purposes in those countries; its leaves being used for making mats, the pulpy kernels for making sweetmeats, &c. In Ternate this palm is termed boho, and in Amboyna parena, also bulāin.

Besides the purposes of drinking, making sugar and arrack, to which the toddies in India are applied, they are also used for making vinegar, by the bakers as a leaven for bread, &c. That of the Palmyra tree (already mentioned) is in high repute in the Eastern islands, and is there principally employed for making sugar, and it was upon the leaves of this palm that the Indians chiefly wrote, before the use of paper became common. In Java the borassus flabelliformis is called suwalén; in Timur koli; in Celebes tala, which is also the Hindoo name; the Malays call both the tree and leaf lōntār. Avicenna (206.) speaks of this palm under the name of ḡā doom, as does Forskahl, in his “Flora Egyptiaco, Arabica” (126.). See “Historia rei Herbariae” (vol. i. p. 271.).
CCXXXIII.

TURMERIC. Munjila முண்டிலா (Tam.) Timmer تمر (Egypt. Arab.) Huldie هلدي (Duk.) Zirsood زرسود (Arab.) Zirchoobeh زرچوبه (Pers.) Huldie هيولدي (Hindooe). Kurkum (Hebrew). Arsina (Can.) Passapoo also Pampi (Tel.) Mangellacua (Hort. Mal.) Haradul (Guz.) Haridra हरिद्रा (Sans.) Hubud (Mah.) Turtumaglio (It.) Keang whang (Chin.)

Cúrgúma Longa (Lin.)

Cl. and Ord. Monandria Monogynia. Nat. Ord. Scitamineæ (Lin.)

This root the native Indians consider as cordial and stomachic; it is a constant ingredient in their curries, and is prescribed by the Tamool doctors in those watery diarrhoeas, which are often so troublesome and difficult to subdue in weak habits. Bontius tells us, that in Java the same medicine is celebrated for its supposed virtues in facilitating child-birth, in myenteric obstructions, and certain complaints of the urinary passages! The greater part of the turmeric used in India as a dye, medicine, or seasoner, is either the produce of Bengal, or is brought from Java. There is a wild sort which grows in Mysore, and there called cūd arsina (Can.). Turmeric has now no longer a place in the London Dispensatory; it has, however, been celebrated in its day, in cases of hepatitis, jaundice, and dropsy, in doses of from a scruple to half a drachm. The native practitioners consider turmeric as an excellent application, in powder, for cleaning foul ulcers.
Turmeric is a common produce of the Eastern islands, where it is indigenous. Rumphius enumerates three varieties; a wild, and two better sorts. In Javanese, Bali, and Malay, it is termed kānijīt; in Ambonese unin; and in Ternatese gorāchi, which, Mr. Crawfurd tells us, means golden. Turmeric has been analysed by Vogel and Pelletier. Mr. Brande notices the great quantity of colouring matter it yields on being digested in water or alcohol, regretting that it cannot be rendered permanent as a dye. No less than seventeen species of curcuma, as determined by Roxburgh, were growing in the botanical garden of Calcutta in 1814, all oriental plants, and most of them Indian. Our present article, curcuma longa, like the others of its genus, has no stem; it may be distinguished from the c. rotunda by its leaves being simply lanceolate, and lateral nerves very numerous. Koenig's description of the plant by Retzius is, in Roxburgh's opinion, quite exact. Flor. Ind. vol. i. p. 22. The root is too well known to require a particular description here; in its fresh state it has a rather unpleasant smell, somewhat resembling cerate, which goes off a good deal on drying; the colour is that of saffron, and the taste bitterish.

Seven species of curcuma grow in Ceylon, where the curcuma longa is called in Ceynalese ḫaran-kaha. The curcuma longa grows wild in Cochin-China, and is there called kuang kuynk. Loureiro gives us a long list of its medicinal virtues in lepra, jaundice, and other disorders. Vide Flor. Cochin-Chin. vol. i. p. 9.
CCXXXIV.

TURNIP. Suljumi شلغم (Arab.) Shulgun شلغم (Pers.) Navet (Fr.) Kabu (Japan.)

Brassica Rapa (Lin.)


Turnips in India, as in Jamaica, are reared by means of seed from Europe, though what is brought from the Cape of Good Hope is often found to answer as well, at least on the Coromandel coast. Of all the European vegetables they are the seldomest found good in our Asiatic dominions, being, for the most part, what is called stringy, unless they are cultivated with much skill and care. The native Indians know them but by name, nor should they have been mentioned here, but that they are placed amongst the medicines of the Arabians and Persians, who consider them as diaphoretic. The seeds, which are commonly known in the Arabian bazars under the name of busirulluṭ بسیراللوط, are considered as hot and moist, and are administered in doses of two direms. The ancients, as we see by Celsus (lib. v. cap. xxviii.), used a fomentation prepared with turnips in those cases when the feet had become ulcerous from extreme cold: "In primis multa calida aqua fovendum est, in qua rapa decocta." When of a good quality, they are, in my opinion, one of our best vegetables, being delicious in taste, cooling, and gently aperient, though they have, perhaps unjustly, been deemed by some as difficult of digestion. One thousand parts of common turnips give about thirty-four of sugar,
and seven of mucilage, according to Brande. The varieties of turnip, as stated by Miller, are five, without including the Swedish turnip, now so much cultivated by our farmers in England and Scotland. The long-rooted turnip (the rapa sativa oblonga of Bauhin), he is inclined to believe, is a distinct species.

CCXXXV.

TURPENTINE, COMMON. Kota (Nepaul.) Ratinge roomie راتنجوم (Arab.) Zungbarie زنجباري (Pers.) Terebinthe (Fr.) Gemeiner terabenthin (Ger.) Trententina (It.)

PINUS SILVESTRIS (Lin.)


As a produce of an Eastern country, I have never met with common turpentine in India. Sonnerat informs us, that pitch is common at Pegu; nay, Symes* tells us, that the name of the pine tree there, is toenyo; and that the natives obtain turpentine from it. Kirkpatrick, in his Account of Nepaul (p. 109.) says, that the turpentine of the sulla pine, is sold in the bazars of that country, at the rate of ten seers for one rupee, and that its name is kota. The pinus silvestris grows commonly amongst the mountains of Japan, and is called by the Japanese igo. It is also a native of Cochin-China, and is there termed cay-thoung (Flor. Cochin-China, vol. ii. p. 579.).

* See his Embassy to Ava, vol. ii. p. 373.
Turpentines are little used by the medical practitioners of India; but they, with their essential oil, are well known in Europe to be anthelmintic, stimulant, cathartic*, and diuretic. For expelling the tænia, the oil has lately been given in doses of from 3 ss. to 3 ij. with success, repeated every eight or ten hours, till the worm is expelled. It† has also obtained celebrity in chronic rheumatism, hæmorrhages, and epilepsy; topically it is employed with advantage, in cases of obstinate costiveness, and ascarides; and as a useful primary application to burns.

Turpentines‡ are administered in doses of from grs. viii. to 3 i. best diffused in water by means of mucilage, or the yolk of an egg. The oil of turpentine, in doses of from grs. xii. to 3 i. is diu-

* Dr. Latham has long considered it as a valuable medicine in epilepsy; in this case, it must operate chiefly by unloading the bowels. A certain affection of the head, approaching to intoxication, is apt to succeed to a large dose. See Paris's Pharmacologia, p. 541.

† See a most valuable paper by Dr. Copland on terebinthinous medicines, in the Medical and Physical Journal, vol. xlvii. p. 186—206.

‡ Turpentine, commonly so called, is a resinous juice which exudes from the wild pine (pinus silvestris), or Scotch fir; incisions having been previously made in the inner smooth bark, near the foot of the tree. Oil of turpentine is made by distilling this substance in a common still, when the oil will be found in the receiver. Common resin, or yellow resin, is the residue of the distillation of turpentine; when the distillation is performed without addition it is called common resin, or colophony, but when agitated with about one-eighth of fresh water, while yet fluid, it is named yellow resin. Tar is got by the application of heat, in a certain way, to billets of the branches of the tree (pinus silvestris). Venice turpentine is obtained from the larch tree (pinus larix). The Canada balsam, or fine turpentine, is collected from the pinus balsamea. The Chio turpentine is got from the pistacia terebinthus. Burgundy pitch, and the thus or resin of the London Pharmacopæia, are both obtained from the pinus abies, or Norway spruce fir, a native both of China and Japan. See Flor. Japon. p. 275., also Flor. Cochin-Chin. vol. ii. p. 579. The last exudes spontaneously; the first by means of incisions through the bark, deep enough to lay the wood bare. See Thomson's Lond. Disp.
retic: in larger doses its effects are more general on the system; and it is then best administered, combined with aromatics and spices, and rubbed up with mucilage or honey.*

Of the use of resins, I have said a little under the head of Resin. Tar I have found in India to be a useful application to foul ulcers, but very inferior to the balsam of Peru, which, applied externally on lint, has most positive and peculiar virtues in arresting mortification, and the dangerous progress of phagedenic ulcer; an effect, which I fully explained, as already noticed, in a paper addressed to the Honorable the Court of Directors, from India, in 1810, and which afterwards appeared in the Asiatic Journal for January, 1816. Of the use of tar in consumptive complaints (I mean inhaling the vapour of boiling tar), I have no experience. It has found a much abler advocate in Dr. Paris (Pharmacologia, p. 478.). Sir Alexander Crichton's Practical Observations on the subject, are extremely interesting; and merit from the public, that attention which is ever due to such distinguished authority. This much I can say, and which may bear a little on his plan, that previous to leaving India, I had been in the habit of recommending in phthisical cases, and often with evident advantage, that the patient should inhale the vapour arising from burning balsam of Peru, which had been previously mixed with a sufficient quantity of balsam copaiba, to render it less stimulating.

Eight species of pinus were growing in the botanical garden of Calcutta in 1814, three of which were oriental plants.

*Dr. Magee of Dublin is of opinion, that this medicine has not received due attention; he found it a safe and efficacious purgative. In obstinate constipation without a rival, and in enteritis, peritonitis, and colic almost a specific. See London Medical Repository, Feb. 1826. p. 178.
CCXXXVI.

TYRE.

Under the head of Milk, at p. 220, I mentioned this article, and merely again notice it here, as by later accounts from India, I learn that it has been found most useful as a diet in the low stages of typhus fever. At page 225, I have spoken of the milk tree of South America; the milk of which was tasted by Baron Humboldt, and found to have a balmy smell, and to be free from all acrimony. I have since learnt, by turning to the fourth volume of his "Synopsis Plantarum Equinoctialium," p. 198, that he has bestowed on the tree, the generic name of *galactodendron*; he, however, still has some doubts regarding its proper place, as he asks the question, "an *brosimi* species?" adding *habitus ficus*. The specimen Mr. R. Brown saw, was too imperfect to enable that justly distinguished botanist to speak with certainty respecting it. At pp. 221 and 226 of this work, in notes, I have mentioned, that the seeds of two bassias, *longifolia* (Lin.), and *butyracea* (Roxb.), yield oily substances which are used as ghee or butter. The latter is the *futwah* of the Almorah mountains; it has "a large trunk, alternate leaves, which are obovate-cuneate, obtuse-pointed; the flowers are long, numerous, large, pale yellow, drooping; berry long, generally pointed, fleshy, containing one, two, or three large seeds, the rest not ripened." Dr. Roxburgh, who describes the tree in vol. viii. p. 489, of the Asiatic Researches, says, that it much resembles the bassia latifolia, so much so as to be scarcely distinguished from it, except
by the corol. and stamina. Mr. Gott, in speaking of the b. butyracea, has observed (same vol. and page), that the people of the Almorah mountains eat even the dregs, after the finer parts have been extracted; consequently there can be little doubt of the wholesomeness of the purer butter, prepared from the kernels of the seeds (which look like blanched almonds), first by expression, and subsequently by exposure to moderate heat. It is of the consistence of hog’s lard, is white in colour, so far not resembling the oily produce of the b. longifolia, which is of a greenish-yellow colour; the produce of the b. butyracea is, besides, a medicine of some note as an external application in rheumatism. The description of the b. longifolia, and its further uses, will be noticed in another part of this work. Roxburgh seemed to be of opinion, that the shea, or butter tree of Africa, mentioned by Park, in his Travels (p. 26.), can be no other than a bassia.

CCXXXVII.

VINEGAR. Kādi کیدی(Tam.) Cirka خر (Pers. and Duk.) Kadidia (Cyg.) Khull خ (Arab.) Chooka چوکا (Malay.) Poulla neeloo (Tel.) Canchica (Sans.) Vinaigre (Fr.) Essig (Ger.) Aceto (It.) Tsoo (Chin.)

Acetum (Lond. Disp.)

The native Indians use vinegar as we do, externally as a repellant, and in composing certain discutient fomentations; they are also in the habit of mixing it with gingilie oil, to make a cooling em-
brocation for the head, in cases of cephalgia. It is usually prepared from the toddy of the palmyra tree (see article toddy); and is coloured with a little burnt paddy (rice in the husk). Some of the more enlightened Vytians, know how to render vinegar stronger by distillation. The Edin. Pharmacopoeia directs us to distil eight pounds of acetous acid in glass vessels, with a gentle heat; the two pounds which come first over are watery, and to be rejected; the four following, will be the distilled acetous acid; the residue is a stronger acid, but too much burnt. The native Indians are not acquainted with the mode of preparing the strong acetic acid; which is done by rubbing together a pound of dried sulphate of iron and ten ounces of the superacetate of lead; after which they are to be put into a retort, and distilled in a sand bath with a moderate heat, as long as any acid comes over. The acetic acid is well known to be stimulant and rubifacient; but is chiefly employed as a scent, and applied to the nostrils in syncope, asphyxia, and nervous head-aches. According to Berzelius, its ultimate components are:

<table>
<thead>
<tr>
<th>Element</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>46.83</td>
</tr>
<tr>
<td>Oxygen</td>
<td>46.82</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>6.35</td>
</tr>
</tbody>
</table>

100.00

Common vinegar, used internally, is not only a refrigerant, but (especially when taken in some warm gruel) a powerful diaphoretic. The Arabians, as a medicine, place it amongst their Attuquantia ملطات, and consider a mixture of it, with sal ammoo-
niacin and common salt, as one of their best 

Yabisat-kérough (Epulotics). This mixture 

they term سرك و ناماد و نيمك seerkeh wu nowshadar, 

wu némik.

What is called in Mysore sénágalú vinegar is 
much prized both by the Mahometans and Hindoos 
as a cooling drink, and is also employed as a com-
mmon menstruum for medical purposes. It is ob-
tained in the following manner:—The dews of night 
falling on cloths, spread over what is called in India 
Bengal horse gram (cicer arietinum) whilst growing, 
are thereby rendered slightly acid; and it is the 
liquor wrung out of these cloths in the morning, 
that is termed sénágalú vinegar. In Tamool it is, 
cıldığı poolipooneer; boot ká cirka (Duk.); 
Sánighé pooloosu neeloo (Tel.)

Several of the writers of antiquity, say much on 
the subject of vinegar. Avicenna was fully aware 
of its virtues as an external application. "Lanae 
aceto imbutæ ac vulneribus adplicatæ repellunt in-
flammationes" (Canon. lib. ii. tract. ii.).

CCXXXVIII.

WALNUT. Akiroot (Arab. Hindooie and 
Duk.) Jowz (Arab.) Charmughz (Pers.) 
also Geerdigán (Pers.) also Jouziroomie 
جوزومي (Pers.) also Khusif (Arab.) Noix 
(Fr.)

JUGLANDS REGIA (Lin.)

Amentaceæ.
Walnuts, we are informed by Captain Turner, in his Embassy to the Court of the Tishoo Lama, grow in great abundance in Bootan. Those of the province of Kusistan, in Persia*, are much esteemed, and are sent in great quantities to India. They are common in Armenia.† Kirkpatrick found them growing in Nepaul‡ and Thibet. Those of the last mentioned country are the best; in Nepaul they are termed okher. In Georgia they abound, and of a fine quality. The tree grows, Loureiro says, in the Northern tracts of China, and is there called ho-lao (Flor. Cochin-Chin. vol. i. p. 573.).

The French writers§ consider the leaves of the tree as anthelmintic. From the nuts may be obtained, without fire, an oil which can be used at table: that which is procured by means of heat is supposed, by Virey, in his "Histoire Naturelle-des Medicamens," to possess vermifuge properties; it is, besides, employed for varnishing, and burning in lamps. The French apothecaries prepare from nuts, "distillés dans trois etats differens," what they call "eau de trois noix," which they consider as hydragogue, in doses of from four to six ounces. The ancients supposed walnuts to be elexipharmic: the famous antidote of Mithridates was composed of two walnuts, two figs, and twenty leaves of rue, rubbed together with a grain of salt. By Virey's∥ work, quoted above, it appears, that the bark of the

* See Macdonald Kinneir's Geographical Memoir of Persia, p. 115.
† See the same, p. 319.
‡ See his Account of Nepaul, p. 81.
§ See Manuel de Plantes Usuelles Indigenes, par Loiseleur Deslongchamps, p. 554.
∥ See p. 295 of his Histoire Naturelle des Medicamens.
juglans cinerea, which is a native of Canada, is anthelmintic, and an extract made with it, purgative.

Two species of juglans grow in the botanical garden of Calcutta; our article and the juglans pterococca (Roxb.), which abounds in the Garrow hills, and has got the Bengalie name of bolus.

The Arabians, in the days of Avicenna, that is about the beginning of the eleventh century, had some singular notions regarding walnuts; not the least remarkable was, that, in conjunction with figs and rue, they had the power of resisting poisons. Vide Canon. Med. lib. ii. tract ii. p. 90.

CCXXXIX.

WATER. Tanneer தனீர் (Tam.) Pānie पानी (Duk. and Hind.) Neeloo (Tel.) Māh Ṣā (Arab.) also Owzir اوژیر (Arab.) Watoora (Cyng.) Ayer (Malay). Āb آب (Pers.) Āpa आप, Ila इल, Ambha अम्ब, also Pāṇīya पाणीय &c. (Sans.) Panee and jul (Mah.) Acqua (It.)

AQUA.

The Hindoos are extremely particular about water, and ascribe many diseases to it when impure. By the Padāriha-sindhu-mani, a Medical Sastrum by Ag-hastier, on the qualities of ingesta, it would appear, that that celebrated Tamool writer considered the water of wells, or natural springs in the sandy beds of rivers, as the most wholesome; the next best, he
informs us, is river water, and then comes that of a fountain at the foot of a high land. The water of brooks or streamlets from a mountain-side, he tells us, is heating to the body, and that of tanks and reservoirs become stagnant, the worst of all, and apt to produce indigestions, obstructions, and lethargy, and to predispose to fever.

Generally speaking, the water of Hindoostan may be considered as good; that of rivers, of course, cannot be said to be so soon after heavy rains. The water of wells is sometimes brackish from an admixture of common salt, or muriate of lime.* That of tanks or reservoirs, being rain water, is usually soft.

Water, from its great solvent powers, is rarely found in a state entirely pure, but usually contains certain portions of earthy, saline, or metallic particles, according to the substances over which it passes. Dr. Heyne, in his "Tracts Historical and Statistical of India" (p. 4.), informs us, that springs, issuing from the surface, are almost as uncommon as mineral waters in Lower India, indeed, that they only occur on the tops of high mountains; the water of these is, for the most part, excellent. The same gentleman adds, that mineral waters, as far as he knows, do not occur on the Coromandel† coast; and that he had

* Dr. Heyne says, that these are the only mineral substances that he has found, by analysis, in different waters in India.
† Dr. Heyne, at the time he wrote the work above mentioned, could not have known of the chalybeate spring discovered at Bangalore, by Major W. Garrard, of the Engineer Corps, and so laudably brought to the notice of Government and the public by that gentleman. The virtues of this mineral water have been reported on by different medical officers, particularly by the late much lamented Dr. Greig, of his Majesty's service, who considered it as a valuable tonic and bracer in such cases as required medicines of this nature; as he did not examine the water on the spot, he could not ascertain the quantity of carbonic acid gas it contains; but Major Garrard writes me, that it is considerable,
heard but of one hot spring in the lower part of the peninsula, situated in the middle of the Godavery, near Bradamuellum, about one hundred miles West of Rajahmundry.

The drinking water of Fort St. George is from a spring; it is, perhaps, the purest in the world, not even excepting that of Malvern, and it has this peculiar advantage, that it keeps at sea even better than that of the Thames; it has neither colour nor smell, and is altogether without taste; it is extremely light and fluid, wets easily, mixes with great facility with soap and alcohol, and makes admirable tea; nor is it rendered turbid by adding to it a solution of gold in aqua regia, or a solution of silver, or of lead, or of mercury in nitric acid; it exhibits the presence of fixed air, with the smallest proportion of earthy matter.

"The distinction of water into hard and soft (says Mr. Brande) has reference to its less or greater purity." Hard waters are unfit for washing in consequence of containing sulphate of lime, and curdling in place of dissolving soap, and this can at once be detected by adding to it a little of the alcohol solution of soap, when the water will imme-

and that he has often drawn the water in a state of effervescence. The other parts, according to Dr. P. Scott's analysis, are the following:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Quantity</th>
<th>gr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbonate of iron</td>
<td></td>
<td>50</td>
</tr>
<tr>
<td>Alumina</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Muriate of soda</td>
<td></td>
<td>75</td>
</tr>
<tr>
<td>lime</td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>magnesia</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Silicea</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>90</strong></td>
</tr>
</tbody>
</table>

$H H 2$
diately become turbid. I need scarcely add, that hard water does not make good tea.*

The composition of water was a great step, as Mr. Brande has termed it, in the march of chemical science; what is due to Mr. Cavendish for this discovery, every man, with any pretensions to science, well knows; he it was who first found that a stream of pure hydrogen, burnt either in air or oxygen, produced a vapour condensible into pure water †; an experiment subsequently verified by the analytical researches of Lavoisier. The composition of water has been beautifully evinced by the experiments of Dr. Pearson, by means of the electric spark. Water has also been decomposed by the influence of the galvanic pile. With regard to the proportions of hydrogen and oxygen which go to compose water, Mr. Brande observes, that "100 parts of water consist of 88·24 oxygen, and 11·76 hydrogen.

Snow water was long supposed to occasion bronchocele, but that is not the case, as in mountainous parts of Sumatra the disease is found. Snow water differs from rain water in being destitute of air, which makes water brisk. A pint of sea water, according to Dr. Murray, contains muriate of soda 159·3; muriate of magnesia 35·5; muriate of lime 5·7; sulphate of soda 25·6; total 226·1 grains (see Paris's Pharmacologia, p. 272.). The tepid sea bath I found, in India, to be the best tonic in cases of pure debility and scrofulous affections; the gentle

* By referring to Avicenna, Canon. lib. ii. tractii. p. 192, the reader will find some curious opinions regarding various kinds of water in his day, in Arabia; such as "epileptici juvantur ab aqua tepida, laeduntur a calida; vapor marinae aquae curat cephalagiam frigidam."

† In the summer of 1781.
stimulus from the saline particles quickens the circulation and enlivens the spirits.

The excellent Mr. H. T. Colebrooke informs us, on the authority of Captain Gerard, that eight or ten hot springs were discovered in the valley of the Sutluj, in the Himalaya mountains, at a place called Jauri, betwixt Fangal and Suniya; one of these raised the thermometer to 130° Fahr., while the temperature of the river was 61° in April: and Captain Hodgson, in his journey to the source of the Jumna, found a hot spring at Jumnotri, in which rice was boiled; the water was tasteless, and had no particular smell (Asiat. Res. xiv.). Hot springs appear to be frequently met with amongst the Himalaya mountains.

Major Tod, late political agent with the Rajah-poot, states, an officer justly distinguished by his ingenious and laborious researches regarding the antiquities of Hindoostan, says, that "hot springs abound in India: those of Chittagong and Monghir are well known, each has its Seeta koond, or fountain of Seeta; the water of these is nearly boiling hot, and such its purity, that it is often bottled for voyages to Europe. At Gwailoor there is a sulphurous well, which, blacksmiths think, has virtues in tempering steel. At Macherry, west of Jeipour, are many mineral springs, much used by the natives, who ascribe to them peculiar virtues in cases of debility. There is a strongly impregnated sulphurous well near the Fountain of the Sun, at the celebrated Somnâth, in Guzzerat; it changes silver to a yellow coppery hue in a short time. There are hot and cold springs close to each other at Seetabarry, in Haroutee; the water pure, with little or no mineral impregnation. There is another hot fountain in

* The wife of the Indian hero Râm.
Guzzerat, of very great celebrity, in the centre of
the range which bisects the Kattywar peninsula;
temperature of the water about 110°; it has no
mineral impregnation.” We are told by Morier, in
his Travels in Armenia, that at Arzroum there are
delightful warm springs. See work, p. 325.

CCXL.

WAX. Melluigoo गळ्ग (Tam.) Moam (Pers.) Shuma شما (Arab.) or Miettie (Cyg.)
Lelin لين (Mal.) Minum (Tel.) Sikha शिक्ष (Sansk.) Cere (Fr.) Wachs (Ger.) Cera (It.)
Mehdoomul (Hindooie). La (Chin.)

CERA.

The natives of India use wax, as we do, in the
preparation of plaisters, and for burning, &c. In
Lower India it is obtained of the finest quality,
though, in Bengal, it is more considered as an article
of commerce, and is, in consequence, purified in
greater quantity. White wax is called in Tamool
vullay mellagghoo; in Dukhanie suffiad moom; and
in Tellinghoo tella minum. The yellow wax is in
Tamool munjil mellughoo; in Dukhanie peelah moom;
and in Tellinghoo passapoo minum. Wax is imported
into India from Nepaul, from Pedir, in Sumatra, and
from Palembang. For some account of the different
sorts of bees to be found in India, the reader is
referred to article Honey.

It would appear, that wax, as a principle, exists in
many plants, and that all the varieties of it possess
the same essential properties as that formed by the
bee; such as that from the ligustrum lucidum, or
wax tree of China; and we know, that from the berry of the candleberry tree of America (myrica cerifera) candles are made, which, though dearer than tallow, are cheaper than wax; with this vegetable wax, or tallow, soap is also made, and, in Carolina, sealing-wax. The leaves and stem of the ceroxylon andelocula, by the process of bruising and boiling, also yield a sort of wax*; so does a plant called, in Brazil, carna uba; and we are informed by Mr. Brande, that the glossy varnish upon the surface of the leaves of many trees is of a similar nature. I see, by a late Number of the Asiatic Journal, that Dr. Tytler, of Bengal, had submitted to the Agricultural Society of Calcutta a curious artificial wax, made from various vegetable oils, chiefly castor-oil, and which was considered by the Society as a discovery capable of application to several of the most useful domestic purposes. What the particular process is, is not stated; whether by boiling the castor-oil in nitric acid, by which means it is converted into a solid matter, which resembles soft wax, but which, Mr. Brande has informed us, in his Lectures, has not consistence enough to be conveniently made into candles. Dr. John digested bees’ wax and myrtle† wax in boiling alcohol, and thereby obtained two parts; one soluble, which he called cerin, the other insoluble, which he named myricin: the first, though not soluble in water, nor in cold alcohol and ether, yet dissolves in these when heated; myricin is insoluble under all circumstances in alcohol and ether.

* Sir Stamford Raffles informs us, that the wax tree grows abundantly in Java.
† The candleberry myrtle tree (myrica cerifera) is common in Southern Africa, where, Barrow says, they contrive to make candles from the berries, which are firm and good (see his Travels in Southern Africa, pp. 18, 19.).
Gay Lussac analysed wax, and found, that 100 parts consisted of 81.79 carbon; 6.30 of the elements of water; and 11.91 of excess of hydrogen.* See article Tallow† in this part and chapter of this work. With regard to the adulteration of wax it may be said, according to the Pharmacologia of Dr. Paris, that "to detect white lead it is necessary first to melt the wax in water, when the oxyde will fall to the bottom." Tallow may be suspected when the cake wants its usual translucency. Wax may be deprived of its natural colour, and be perfectly whitened by being exposed to the united action of air and water. Wax cannot be kindled unless previously heated and reduced into vapours. Much wax is exported from towns situated on the Hellespont, also from Romania, Bulgaria, Wallachia, and Moldavia. See Ollivier's Travels in the Ottoman Empire, vol. i. p. 351.

CCXLI.

WINE. Shérab unghoorie (Duk.)
Khumar (Arab.) Drakh ka mud (Hind.) Mey (Pers.) Vin (Fr.) Wein (Ger.) Vino (It.)
Mada मद Madira मदिर (Sans.)

VINUM.
VITIS VINIFERA (Lin.)


Grapes can be very successfully cultivated in

* See Brande's Manuel of Chemistry, vol. iii. p. 54.
† Where it will be seen, that the tallow procured from the fruit of the vateria Indica has equally the properties of wax and tallow.
India, and of a peculiarly delicate flavour; but, owing to the great heat, by which means the vinous fermentation is rendered too quick, wine cannot be made, at all events, none has hitherto been prepared of a tolerable quality. In countries lying a little farther North, however, wine is made, and also spirit from it; for instance, in Cashmere, according to the testimony of Foster (Travels in 1783.). Wine is brought to India from Persia, where, by Tavernier's* account, three sorts are made: that of Yesd is very delicate; the Isphahan produce is not so good; the Shiraz is the best, being rich, sweet, and generous†; it is obtained from the small grapes called kishmishes, which are sent for sale to Hindoostan when dried into raisins. Nieburt‡, in his account of Persia, informs us, that there are two sorts of Shiraz wine, a red and a white, both of which are excellent, and find a ready market in India. Not less than 4000 tuns of Shiraz wine is said to be annually sent from Persia to different parts of the world. The greatest quantity is produced, by Mr. Morier's account, in his admirable "Journey through Persia" (p. 74.), in the district of Corbal, near the village of Bend Emir. Analysed, the red Shiraz wine is found to contain about 15.52 per cent. of alcohol; the white about 19.80 per cent.

Wine is well known to be forbidden by the Koran.§

* See his Persian Travels, book iv. chap. ii.
† Shiraz wine, analysed by Mr. Brande, was found to contain 15.52 per cent. of spirit, which makes it about as strong as Lunel wine.
‡ See his Travels in Persia.
§ This fact did not prevent Avicenna of old from highly praising its medicinal virtues: "Promtè descendit, ac concquiritur, alimentum prebet copiosum, laudabilem que procerat succum; moderate sumptum ciborum appetantiam excitat, immoderatus vero ingurgitatum, obstructiones partis jecoris et renum." Canon, lib. ii. tract ii.
it is, notwithstanding, pretty liberally used under the rose* in all Mahometan countries, and is a never-ending theme with Hafiz, who, in one of his finest odes, has this most poetic and voluptuous exclamation:

كُلَ ذَرْبَ وَمِيَ بُرْ كُفَّ وَمَعْشُوقَهُ بَكَامِسَتِ

Which may be thus paraphrased:

With blushing roses in my breast,
While sparkling wine my goblet fills,
With, happier still, my Lelia blest,
What can I fear of earthly ills?

The Hindoos never touch wine, except when it is prescribed to them medicinally. The Persians consider it as a most valuable stomachic and cordial, and place what they call شراب میوه‌ها shérab meywaha, which signifies all kinds of fruit wines, amongst their Adviyahheexeh.

Wines are much drank by such European inhabitants in India as can afford them, and are certainly more conducive to health than arrack, which, in former years, was but too liberally indulged in. Those chiefly brought to table are sherry†, Madeira‡, port§, claret¶, and Cape Madeira.¶ The

† Good sherry contains about 19-17 per cent. of alcohol.
‡ Madeira contains about 22-27 per cent. of alcohol.
§ Port about 22-96 per cent. of alcohol.
¶ Good claret about 15-10 per cent. of alcohol.
¶ To these we may add Constantia, containing 18-92 per cent. of alcohol; Champagne, about 13-30 per cent.; fine raisin wine, made with dried kishmishes from Persia, about 21-40 per cent. Bucellas is a favourite wine in India; it contains about 18-49 per cent. of alcohol. Delightful orange wine is made in that country; it contains about 10-97 per cent. of alcohol, and is, perhaps, the best of all wines not made from grapes.
first has a degree of bitterness in it, and agrees better with delicate stomachs than Madeira, which is of all wines, in my opinion, the most liable to produce acidity in the first passages, a fact so well established, that of late years it is little drank by the dyspeptic* in India. Port, in that country, is apt to bind, and should be taken with caution. Where there is either general inflammation, as in simple fever, ardent fever, or organic inflammation, as in hepatitis, &c., wine is a poison. In cases of pure languor and debility, in India, the safest and most certain cordial is claret, which is at once antiseptic, gently stimulating, and aperient. It has appeared to me, to be particularly indicated for such as are convalescent from typhus fever, in a great de-

* I am well aware, that this opinion is in direct opposition to very high authority, that of Dr. A. Henderson (see his admirable History of Ancient and Modern Wine), who says (p. 355.), that of all the strong wines Madeira is the best adapted to invalids; such may be the case in England, where my experience has been but of short duration, but in India it is far otherwise; there, that wine, from its acidulous nature, is apt to bring on heart-burn, and would seem to be particularly injurious in gouty habits. Dr. Henderson, in speaking of the Persian wines, says, “For the more common wines (not including the Shiraz) five different kinds of grapes are used, four white, and one black. This last is called Samarcandi, from the town of that name; it has a black skin, and produces a kind of claret.” He moreover informs us (p. 266.), that “the Armenian merchants sometimes add saffron as well to improve the colour of the Persian wines, as to make them more pleasant in flavour.”

For much curious information regarding the notions of the ancients on the subject of wine, which they sometimes called cardiacum cardiacorum, the reader may consult Pliny (Nat. Hist. book xiv.) in chapter xiii. of that book, he tells us, that in ancient times the women of Rome were not permitted to drink wine; in the twelfth chapter, he observes, that wine did not begin to be in much reputation in the great city till about six hundred years after the foundation of it. Romulus sacrificed not with wine, but with milk. In chapter xvi. is a full account of the made wines used in those days, such as that prepared from various garden herbs, flowers of trees and shrubs, &c.
gree owing, perhaps, to its powerful antiputrescent quality; and to prove how much nature herself seems to be in unison with this opinion, I may state, that I knew an instance of a delicate lady, who, for several days together, after recovering from a nervous fever, took, while at dinner and after it, a whole bottle of claret without feeling, in the slightest degree, inebriated.

Cape Madeira (I mean that produced from the *groene druyst*) when of the best quality, and such as may now be had from several respectable wine merchants in London, is an excellent wine; it contains much less acidity than the common Madeira, and agrees admirably with weak stomachs. It seems to me, that this wine has undeservedly got a bad name, perhaps from the circumstance of much of a low price and an inferior quality having been exposed for sale; it is said to have an earthy taste, but this is not the case when it is well made, on the contrary, it is delicious and full bodied, with just enough of the Constantia flavour in it to be pleasant, and to mark where it was produced. I write this from long experience of its good qualities†, and shall further state, that, in a medical point of view, I know many delicate people,

* For many years before leaving India, I trusted much, and I may say with almost never-failing success, to the free use of ripe oranges in cases of typhus fever, with occasional blisters to the feet to keep up the energy of the circulation. The diet, pansa alone; drink, lemon-grass tea.

† Quite aware of the strong prejudice that exists in England against Cape wine, I am the more anxious to do what I conceive to be justice to it, and shall, therefore, quote the words of a late distinguished writer in favour of it: “Les vins du Cap de Bonne Esperance, impregnés d'un arôme-exquis, son tres-restaurants, et peuvent faire les meilleurs de tous les vins.” See Chevalier Roques Phytographie Medicale, vol. ii. p. 215.
sufferers from dyspepsia and flatulence, who can take no wine except Cape Madeira, with impunity! It is rather strong, so that two glasses, one at, and another after dinner, are as much as invalids should indulge in. Analysed, it is found to contain about 20-51 per cent. of alcohol.

This is no place to speak of what are called made wines*, that is, of wines prepared from other fruits than grapes; that obtained from parsnips has been supposed, by some, to approach nearest to the malmsey of Madeira and the Canaries; and Mr. Phillips has assured us, that wine made from malt, when kept to a proper age, has as good a body, and a flavour nearly as agreeable as Madeira!! See articles Grape and Toddy in this work.

The Persians, by Sir John Malcolm's account, claim to themselves the discovery of wine, which, they say, was first made by the famous Jemsheed, one of the ancient kings of Persia; it has hence been called in that country zéher-ekhoosh, or delightful poison (see History of Persia, vol. i. p. 16.). From Persia it was, and also from the banks of the Rhine, that grape plants were originally sent to the Cape of Good Hope. Some of these from the first mentioned country now produce the red and white Constantia. Others, on other soils, the Cape Madeira; while those from the banks of the Rhine, and which the Dutch call steen druif, yield a kind of Rhenish wine. See Dr. Henderson's "History of Ancient and Modern Wines."† Should the reader

* On this subject, the reader may consult Dr. Macculloch's very interesting Essay, "Remarks on the Art of Making Wine."

† In Caucasus and the Levant the vine is often found growing wild, which points out this as its original home; and in Madagascar, they make wine from honey, which they call toak; another
wish to know the different methods that have been adopted by Cadet, Proust, &c. for detecting impurities in wine, he may consult the work just cited, p. 342. See article Grape in this chapter.

Many remedies have at different times been recommended to allay the effects of intoxication from wine. Roques in his Phytographie Medicale, vol. ii. pp. 223, 224, says, that in slighter cases, a copious dilution* is extremely useful; and that in more alarming occasions, a few drops of aqua ammoniac in water, had produced almost immediate calmness and collectedness.

CCXLII.

WHITING. Kēllungā-meen கேலுங்காமைன் (Tam.) Calandoo (Cyng.) Merlan (Fr.) Kūllen-gān mutchie കുലെൻഗ’ണ്‍ മുട്ഛി (Duk.) also Diryaka Shankra (Duk.) Merлюнъо (It.)

GADUS MERLANGUS.

Whittings are common on the Coromandel coast, and are as much prized as they are in Europe, as a diet for those who are delicate; being very easily digested. This is the only fish which the Vytians allow their leprous patients to eat. The whittings in India are, generally speaking, smaller than the same kind from the sugar-cane, which they term toupare; and a third kind is made from the onziz (Bananas). See Copeland’s History of Madagascar. Gooseberry wine well made, and with the fruit before it is fully ripe, is little inferior to Champaigne.

* A cup of strong green tea has also some effect in calming in cases of intoxication.
fish in Europe. The species merlangus differs from several others of the same genus (gadus.), in having the chin beardless.

CCXLIII.

WOOD, ALOES or AGALLOCHUM. Pae de aloes (Port.) Chin-hiam (Coch.-Chin.) Aghir (Duk.) قلمبک Cáltámbāk (Arab.) Bois d’aloes (Fr.) Aguru अगुर (Sans.) Aggur, Agor (Beng. and Hind.) also Agha locchio (Arab.) Oudhindi عود هندی (Pers.) Sukkiang (Chin.) Sinko (Kempth.)

AQUILARIA OVATA (Lin.)
AQUILARIA AGHALLOCHA (Roxb.)

Cl. and Ord. Decandria Monogynia.

What is commonly understood by cáltámbac, or aloes wood, in commerce, in Eastern countries, is the interior part of the trunk of the aquilaria ovata (Lin.), and which is, in fact, the dark part possessing a peculiar aroma, caused by the oleaginous particles there stagnating and concentrating; its pores are filled with a soft resinous substance, which is considered as a cordial by some Asiatic nations, and has occasionally been prescribed, in Europe, in gout and rheumatism. If I mistake not, it is what Celsius speaks of under the name of aghalocki, ranking it amongst his Acopa (lib. v. cap. xxiv.), or medicines which invigorate the nerves. The tree is the garo-de-Malaca of Lamarck, the agallochum secundarium (Rumph. Amb.2. t.10.), and may be found described by Loureiro, in his Flora Cochin-Chinensis (vol. i. p. 267.), under the appellation of aloexylum agallo-
chum; he informs us, that it is a large tree with trunk and branches erect, covered with a brown or grey bark; the leaves are alternate, about eight inches long; the flowers are terminating on many flowered peduncles; the wood white and inodorous. The same writer further observes, that “from the bark of the tree the common paper of the Cochin-Chinese is made; the calumbac, or inner part, is a delightful perfume, is serviceable in vertigo and palsy, and that the powder of it, by its corroborating power, restrains fluxes, vomiting, and lienteries.” The aloes wood is noticed by Forskahl* (Mat. Med. Kahirina, p. 148.) under the name of عود قلائی. Avicenna, with his usual intelligence (p. 281.), tells us, that the tree which yields the calumbac is to be met with at Mondelian, Kakelian, and Semandurinam, and that its fruit, which he calls ہرنؤ, resembles pepper, and has a delightful odour. Dr. Roxburgh states, MSS., that the tree is a native of the mountains district East and South-East of Silhet, also of Asam, and grows to a great size, one hundred and twenty feet in height, with a trunk twelve feet round: trunk straight; branches nearly erect; wood white, very light, soft and porous; leaves alternate, lanceolar, smooth, and of a deep green; flowers numerous, small, pale greenish yellow, and inodorous; the fruit is about the size of a myrobalan, with a thick cortex opening into two, and containing two seeds. On the tree, as noticed by Roxburgh, Mr. H. T. Colebrooke has made some valuable remarks, which he very kindly allowed me to peruse; he observes, that it is

* The same writer speaks of a wood that is brought from India to Arabia, called عود قلائی, the powder of which is mixed with tobacco to make it more fragrant. Quere? (p. 149.)
not till the tree has been long cut down, and allowed to decay and rot, that the wood acquires its proper fragrance, to hasten which, it is for a time buried under ground; on being dug up again so much of it is selected as is of a dark colour and glossy appearance, and found, on trial, to sink in water; this is the best, and is called ghark; such as sinks but partially is termed nim-ghark, and what floats semelek; this last is most common, but least esteemed. He further states, that in the Tophet ul Muminin we are instructed, that the tree grows in islands of China and India. The author of the Akhliyarat-badu, on the other hand, believes it to come from Bandar-Chineh, situated at ten days' distance from Java. Some recommend that the crude wood should be taken, but Mr. Colebrooke supposes, that this can only be intended as a caution against using that from which the essential oil had been extracted.

WORMWOOD, MADRAS. Māshipattiri ลอตเตา Tām.) Afsanteen (Arab.) Mustaroo (Hindoie). Dovana (Can.) Baranjāsif kowhi بُرْنِجاسِف كُوَهِي (Pers.) Wael-kolondu (Cyg.) Artemisia Madera-patana (Lin.)


This plant is the nelampāla of the Hort. Mal., and differs from the artemisia Indica (Willd.) and others by growing close to the ground, by its soft leaves.
widening outwards, and by its having alternate branches, round, flexuose, streaked, and pubescent.

I perceive by the Hort. Bengalensis, that there are no less than nine different species of artemisia thriving in Bengal; the present article, and the a. Indica, are, however, the only indigenous plants. The a. vulgaris finds a place in Fleming’s Catalogue of Indian Plants, but when introduced into Hindoostan is uncertain, probably previous to 1794; its Sanscrit, Hindoostanie, and Bengalie names are the same, नागदोन, nagadona.

The leaves of the artemisia maderas-patana the Tamool doctors consider as a valuable stomachic medicine; they also suppose them to have deobstruent and antispasmodic properties, and prescribe them in infusion and electuary, in cases of obstructed menses and hysteria; they sometimes, too, use them in preparing antiseptic and anodyne fomentations, in the same way that its congener, artemisia abrotanum, is in Europe.

It is from the artemisia Chinensis that the Chinese prepare their moxa, which is used as a cauterity by burning it upon any part affected with rheumatism or gout, a fact I find noticed by Loureiro, in his excellent work, entitled Flora Cochin-Chinensis*, also by Dr. Abel, in his Journey into the Interior of China (p. 216.). It would appear, however, that this substance can be prepared of a still more efficacious nature from the common mugwort (artemisia vulgaris). See Thunberg’s Travels (vol. iv. p. 74.). In Lapland, for similar purposes, a fungous excres-

cence is used, found on old birch trees. I cannot conclude what I have to say under this head without observing, that moxa is also obtained from the artemisia Indica (Willd.).

Our article, and eight other species, grow in the botanical garden of Calcutta, all Indian plants, except the a. paniculata, a native of Persia. I perceive by Dr. Rottler’s Herbarium*, that he has lately described a new and beautiful species, which he calls A. mauritiana.

CCXLV.

YAM. See article Potatoe, in this part of the work.

CCXLVI.

YELLOW GUM-RESIN OF NEW HOLLAND.

XANTHORRHOEA HASTILE (Smith.)?


I hesitated about giving the yellow gum-resin a place in this work, and have only been now induced to do so, on finding that it has been noticed by Gray, in his valuable Supplement to the Pharmacopoeias (p. 146); and that it has also lately attracted the notice of several distinguished medical practitioners. I ought first to premise, that two yellow

* A manuscript; which has been kindly lent to me by Sir Alexander Johnston, one of our most zealous and efficient promoters of Asiatic research.
gum-resins, from Botany Bay, are to be found in the apothecaries' shops of London, differing a good deal in appearance, but both emitting, on burning, a smoke of a similar odour, somewhat like that arising from a burnt mixture of storax and benzoin, or, perhaps, still more like that of balsam of Peru. Both are said to be yielded, by what has been called the *acaros resinifera*; but now are known to be from a species of xanthorrhoea. One of the substances is in appearance not unlike yellow arsenic, but more irregular looking, as if from agglutinative leaves; its smell, on burning, is already stated. Two-thirds or more of it, are soluble in spirit of wine; what remains is an extract soluble in water, and very astringent. The gum-resin entire is not soluble in water, but gives to it the smell of storax; to the taste it is peculiarly pleasant, fragrant, and balsamic, and its solution in alcohol has a thick, oily, or rather glutinous consistence. The other sort of yellow gum-resin resembles gamboge, is much darker coloured, and often found in conjunction with the bases of leaves, from which it would appear to have originally exuded, its inner surface adhering round the stem of the tree; it is far less soluble in alcohol than the first mentioned, leaving seven per cent. of an insipid grumous substance, neither soluble nor diffusible in water. Now the question is, are these from the same species of xanthorrhoea? Probably not, for all the seven species described by the excellent Mr. R. Brown* as New Holland plants, yield a yellow gum-resin; or may it be that the one is only purer, and

*See his "Prodromus Nov. Holland." Six of the seven species are, the *hastile, arborea, australis, media, minor,* and *bracteata.* Five of these belong to the colony of Port Jackson, and it is certainly from one of them that the yellow gum resin is obtained.
obtained with more care than the other? It is said, that the yellow gum-resin of New Holland is occasionally found lying in detached pieces under the tree; at other times it is found adhering round the stem, evidently poured from the bases of the leaves; both the yellow gum-resins burn with a flame like rosin when thrown into the fire. From the xanthorrhoea hastile the natives of New Holland procure their long, slender, but straight and strong shafts, for their war-lances, the handles to which are fixed on, as I myself have seen in one instance, with the first-mentioned yellow gum-resin, which it would appear is a powerful vegetable glue. The xanthorrhoea hastile grows pretty straight, to the height of sixteen or eighteen feet, branching out into long, spiral leaves, which hang down on all sides; a peculiarity which has procured for this species the name of "the grass tree" from the English inhabitants of Port Jackson; and it is most likely this plant which yields, at all events, the inferior, if not both sorts of the yellow gum-resin.

The reader will find some account of what is called the acaroid resinifera in Phillip's Voyage, also in White's Journal of a Voyage to New Holland; and an accurate analysis of the gum-resin itself, in Gregory's Dictionary of Arts and Sciences. With regard to the sort used medicinally in this country, I think there is no doubt but that is, or ought to be, what I have noticed as the purest, from whatever tree it is obtained. Gray says, simply, that it is antidysenteric, and employed for closing the mouths of wounds, however large or dangerous. Mr. Charles Kite, in his "Essays and Observations Physiological and Medical" (p. 141.), treats fully of the virtues of this resin, and mentions the great benefit derived from
it in a case of weakness after an attack of apoplexy; also of its good effects in debility after epilepsy, and in a case of irregular liver, in immoderate bleeding at the nose, and in hysteria, diarrhoea, flatulence, dyspepsia, &c.; and I have just learnt from Mr. John Frost, that he had been informed by Sir Gilbert Blane, that he had found benefit from the use of the yellow gum-resin in 

**lienteric fluxes:** the dose, a drachm of the tincture three or four times in the day. Dr. White is said to have ascertained it to be a good pectoral medicine. Mr. Kite administered it in powder, from 3i. to 3ss. twice daily.

**CCXLVII.**

**YEROOCUM PAWL.** 〔యేరోపుమ్ పావు〕
(Tam.) *Akrē ke dood* Jelledee pāloo (Tel.)
Arka अर्क (Sans.) also *Pratāpasa* प्रतापसा (Sans.)
Mūdar (Hind.) also *Ark* (Hind.) Waduri (Jav.)
Ushar ʿuš (Arab.)

Milk of the *Asclepias Gigantea.*
Asclepias Gigantea (Lamarck).


I did not intend to have noticed this article here, it properly belonging to the second part of this publication; but that I find the asclepias gigantea has lately attracted much attention in Europe, as a remedy in leprous and other cutaneous affections. In justice to myself then I must state, that I gave it and another variety of the same plant, places in my work, entitled Materia Medica of Hindoostan, (published at
Madras so far back as in 1819,) on finding that they were articles of the Materia Medica of the Hindoos; which the reader may see, by referring to that work, pp. 127, 128. The other variety is the vullerkoo; it is called suffaid akree in Dukhanie, and tella jella-doo in Tellinghoo; it has several Sanscrit names, the most in use is alarka in Lower India. It is, properly speaking, a variety of the yercum, the milk of which is our present article; both plants in their leaves and stalks contain much milky juice, which, when carefully dried, is considered as powerfully alterative and purgative, and has been long used as an efficacious remedy in the koostum of the Tamools (lepra Arabum): the dose about the quarter of a pagoda weight in the day, and continued for some weeks. The root of the yercum has a bitter and somewhat acrid, or rather warm taste; it is occasionally given in infusion as a stimulant in low fever. Of the other variety, the vullerkoo, the bark is warmish, and when powdered and mixed with a certain portion of margosa oil, is used as an external application in rheumatic affections. In the higher provinces of Bengal, the arka (asclep. gigantea) is supposed to have antispasmodic qualities. Mr. Robinson has written a paper on elephantiasis, and which may be seen in vol. x. of the Medico Chirurgical Society, extolling the mudar root (yercum vayr) as most efficacious in that disease; as also in venereal affections. In the elephantiasis he gave it in conjunction with calomel and ant. powder, in a pill, consisting of half a grain of calomel, three of antimonial powder, and from six to ten of the bark of the root mudar, every eight hours. Mr. Playfair has also written a paper on the same root,
which may be seen in vol. i. of the Edin. Med. Chirurg. Trans., p. 414, wherein he speaks in praise of the alterative, stimulant, and deobstruent virtues of the bark, or rather rind below the outer crust of root, reduced to fine powder, in cases of syphilis, lepra, hectic fever, &c.; dose from grs. iii. to x. or xii. three times in the day, gradually increasing it; he also observes that it appears to cure the bursautee* in the horse. Messrs. Robertson, Playfair, and others, seem chiefly to dwell on the virtues of the rind or bark of the root; but I must observe, that in Lower India, where I was for many years, I found the simple dried milky juice considered as infinitely more efficacious; and later communications from the East confirm me in this opinion. On referring to notes taken from a Medical Sastrum, written in high Tamool, and entitled Aghastier Pernooll, I find the yerum pawl, which is the milky juice of the asclep. gigantea, strongly recommended as a valuable medicine in neer covay (anasarca); and considering the extraordinary effect it seems to have in purifying the habit, in cases of the most loathsome of all diseases, lepra, may I suggest that a trial be made with it in that yet more dreadful malady, cancer, which has hitherto baffled all our best endeavours. I shall say more of the yerum shrub (mudar) in the second part of this work; in the mean time I must observe, that a plant called akand or akund is apt to be confounded with the genuine one (asclepias gigantea) and they no doubt much resemble each other; but the petals of the akund point upwards, and form

* A disease which shows itself in open sores, and as it usually appears in the rainy season takes its name from the Dukhanie word bursaut (rain).
cup-like; but those of the true plant are reflected downwards towards the calix.

In Arabia Felix the asclepias gigantea is called oschar, which I am much inclined to believe must be the same name corrupted which we find it noticed under in Avicenna, viz. عشر Aūshur (Avicen. 233.); we also find it noticed by Sprengel, in his "Rei Herbariae," vol. i. pp. 252, 253. For interesting particulars regarding it, the reader may also consult Abu Hanifa apud Serap. (cap. 50.) and Alpinus Egypt. p. 86.

My excellent and much lamented friend, Dr. Klein of Tranquebar, informed me that he met with a plant in Southern India, called by the Tamools voellárékoo, a good deal resembling the asclepias gigantea, and which he was told possessed virtues as a febrifuge; he found on examination that it was an exacum, to which he gave the specific name of hyssopifolium. From the similarity of name it becomes a question, therefore, whether it may not be actually the vullerhoo, which I have considered as a variety of the asclep. gigantea, or perhaps the akund above noticed; further and more minute investigation on the spot must clear up all those doubts.

CCXLVIII.

I. ZEDOARY, KAEMPHERIAN. Malan kua (Hort. Mal.) Bhuchampa (Beng.) Kaha (Cyg.) Nagai mio (Coch. Chin.) Bhū-champakā भूचम्पका (Sans.)

KAEMPHERIA ROTUNDA (Lin.)
II. ZEDOARY, ZERUMBET. Puliang-kilunggu

Kutchoor (Tam.) Keechlie gudda (Tel.) Hinhooroop pecallieulla
Kakthur (Hind.) Capoor kichlie (Tam.) Zerumbad (Arab. and Pers.) Karchura कचूरा
(Sans.) Shoothee (Beng.) Bengley (Jav.) Katou inschi-kua (Rheede).

CURCUMA ZERUMBET (Roxb.)

CCL.

III. ZEDOARY, TURMERIC COLOURED.

Castoorie Munjel சாஸ்துறீமுன்னூல் (Tam.) Ambie huldie (Duk.) Junglie huldie
Beng.) also Bun huldie (Beng.) Judwar (Duk.) also Bar (Arab.) Castoorie passapoo (Tel.)
Kua (Hort. Mal.) Zedoaire (Fr.) Nirbisi (Hind.) Nirvishā निर्विष्णा (Sans.) Zodoaria (It.) also
Vana haridra वनहरिद्र (Sans.) Walkaha (Cyn.)

CURCUMA ZEDOARIA (Roxb.)
AMOMUM ZEDORIA (Lin.)

It will be seen by this last, and the two preceding articles, what are the oriental names of the roots of three distinct plants of the class and order Monandria Monogynia, and nat. order Scitamineæ, and which, at different times, have been termed zedoaries. I need scarcely mention here the great confusion
which has so long existed regarding the substances, zedoary, zerumbet, zarnab, &c.; a confusion, perhaps, first introduced by the vacillating nomenclature of the Arabians; certainly not remedied by their commentators*, and, unaccountably, neglected by the medical and scientific men of a later age.

The able and discriminating Dr. Roxburgh has done more than any of his cotemporaries towards elucidating the subject in question, and his excellent account of Monandrous plants, in the 11th volume of the Asiatic Researches, will remain a lasting monument of his industry; yet even he confesses, that there are still difficulties to be surmounted, and contradictions to be reconciled; the natural consequences, we must conclude, of the many former indistinct observations and unscientific details. Under these painful impressions it is, with the greatest diffidence, that I offer the following remarks:

I. The Zedoary, Khaempherian, which I have taken the liberty of calling this root, is, I am inclined to believe, the root of the kaempheria rotunda (Lin.), which grows in Ceylon, and is called by the Cyngalese sau-kenda. It is a native of various parts of Hindoostan, and also of Java, where it is called koontshee.† It is the zedoaria rotunda of Bauhin, and has been well described by Sir William Jones, in the fourth volume of the Asiatic Researches. On the Malabar coast it is termed malan-kua; and Rheede informs us (Hort. Mal. part ii. p. 18.), that

* "Si igitur ipsi Arabum principes, his de rebus, se dissensiant; frustra eas ex eorum scriptis distinguere tentabimus." Geoff. vol. ii.
† This is a beautiful plant, flowering in Bengal in March and April; leaves oblong, radical; flowers fragrant, purple and white; root biennial; there is no stem. See Flor. Indica, vol. i. p. 15.
the whole plant, when reduced into powder, and used in the form of an ointment, has wonderful efficacy in healing fresh wounds, and that, taken internally, it removes any coagulated blood or purulent matter that may be within the body; he adds, that the root is a useful medicine in anasarco-sous swellings. It is bulbous, about the thickness of a finger, ash-coloured outside and white within; smells like ginger, and tastes hot to the tongue.

II. Zedoary, Zerumbet. This is, I believe, the curcuma zerumbet (Roxb.), and the amomum ze-rumbet (Willd.); it is the lampoooyang of the Java-nese, and the lampuium (Rumph. Amb. 5. p. 148.). Miller, in his Dictionary, speaks of it under the name of the broad-leaved ginger. The plant is a native of the East Indies, Cochin-China, and also Otaheite; and has been ascertained, Dr. Roxburgh tells us, to be that which yields the zedoary of the London druggists. The root is generally exposed for sale in Lower India, cut into small round pieces about the third part of an inch thick, and an inch and a half or two inches in circumference. The best comes from Ceylon, where it is supposed to be tonic and carminative. It is evidently the zerumbet of Serapio, and zerumbad of Avicenna*; and the following description of it, given by Geoffroy (vol. ii. pp. 150 and 154.), very closely corresponds with the appearance of the root under discussion: "Foris cineria, intus candida; sapore acri, amaricante aromatico; odore tenui fragrante, ac valde aromaticum, suavitatem, cum tunditur aut manducatur, spirante et

ad camphoram* aliquatenu accedente;" an account not materially differing from that given by Rheede (Hort. Mal. part ii. p. 13. tab. 8.), where the plant† is spoken of under the general name of several species of this genus, viz. kua. Its Tellingoo name is keechlie gudda, a name, however, which must not be confounded with katsjula, which is the appellation given to the kæmpferia galanga on the Malabar coast, and which is the kontshur of the Javanese, and sonchorus of Rhumphius. The smell of this last mentioned plant is aromatic, pleasant, and permanent; the colour of the root purplish outside, and white within; it is considered as stomachic and alexiterial.

The Tamools consider pulâng-kilunggu (zedoary zerumbet) as stomachic and tonic; but are, as far as I have understood, unacquainted with its supposed virtues in nephritic complaints, as noticed in the Hortus Malab. From its fragrant smell it is much used, in conjunction with castoorie munjil, which is the root of the curcuma zedoaria (Roxb.), in the batthings and purifications of the Hindoos. The modern Arabs consider zerumbad amongst their Muskewyat Meoadeh (Tonica), Myfettehat (Deobrusterentia), and Mobeyhat (Aphrodisiaca).

III. Zedoary, Turmeric Coloured. (Curcuma zedoaria‡, Roxb.) (Amomum zedoaria, Lin.)

* It is a curious enough fact, that one of the names given to this root by the Hindoos of Upper Hindoostan is capur huldi, which implies, that it smells of camphor; the same name is also sometimes bestowed on the ambi huldi (curcuma zedoaria, Roxb.).
† It has leaves green, petioled, broad-lanceolar; flowers shorter than their bractes, funnel shaped, and pale yellow.
‡ The plant is very beautiful, flowering in the hot season; leaves broad-lanceolar, entire; the flowers rise from the naked earth in large rosy tufted spikes, having a delicate odour; root biennial and tuberous.
This appeared to me, at first sight, to resemble a good deal the root called long zedoary in the excellent Edinburgh Dispensatory of Dr. Duncan, junior, with this exception, that its colour, externally, is more of a dirty yellow than an ash-grey. There are, however, more essential differences in the plants: the amomum zedoaria, according to Willdenow, being distinguished "foliis majoribus ovatis acuminatis;" the curcuma longa "foliis lanciolatis," &c. The root now under consideration is otherwise wrinkled, and, internally, of a brownish red, possessing an agreeable fragrant smell, and a warm, bitterish, and aromatic taste; its Sanscrit name, nirubisha निरिष implies, that the drug is used as an antidote to poison, and its Bengalese, Tamool, and Tellingoo names have evidently been given to it owing to its resemblance to common turmeric. The Mahometans suppose it to be a valuable medicine in certain cases of snake bites, administered in small doses, and in conjunction with golden-coloured orpiment, kust (costus Arabicus), and ajoon (sison ammi). The native women prize it much from the circumstance that they can give with it, used externally, a particular lively tinge to their naturally dark complexions, and a delicious fragrance to their whole frame.

There appears to be no doubt but that this article is the judwar of the ancient Arabians, who distinguished it from the zerumbad (curcuma zerumbet, Roxb.). The plant is a native of many parts of Hindoostan, and would seem to be the zerumbed tommon of Rumphius (Amb. 5. p. 168.).
CHAPTER II.

METALS AND METALLIC SUBSTANCES FOUND IN INDIA AND OTHER EASTERN COUNTRIES.

I.

ANTIMONY, SULPHURET OF. *Anjana kaloo ᠠ单职业brero 个多月 (Tam.) Surmah سرما (Pers. Duk. and Hind.) Ismud اسم (Arab.) Lān-jānūm (Tel.) Ungen (Hindooie). Sauvira सावीर (Sans.) l’Antimoine sulfure (Fr.) Spiessglance (Ger.) Sulfuro d’antimonio (It.) Soorma (Mah.).

SULPHURETUM ANTIMONII.

I cannot learn that this metal has hitherto been found in our Indian dominions. Dr. Fleming informs us, that the proper grey ore of antimony is imported from Nepaul*; and we know that a galena, or sulphuret of lead†, is often sold for it in the bazars, under the name of surmeh; this is, in all probability, the same substance which the Arabians‡ call kohl لک. The greater part of the native anti-

* Other authority, however (Col. Kirkpatrick), says, that there is no antimony in Nepaul, see his Account of that country, p. 117.
† A circumstance which should be particularly attended to, or much mischief may be done. The galena of lead found in India is generally in a cubic form, of a steel-grey colour and metallic lustre. The sulphuret of antimony, on the other hand, is commonly of a lead-grey colour; its fracture radiated and shining.
‡ See Niebhr’s Travels, vol. ii. p. 236.
mony which is met with in Lower Hindoostan is brought from Siam, or from the interior part of the Burmah dominions.† In Persia, D'Herbelot tells us, that much of it may be found at a town called Hamadānī, and hence the not unfrequent Persian name for the article surmeh Hamadānī. Captain Macdonald Kinneir says (Geog. Memoir, p. 224.) "it is also found in mountains South of Helat, in Mekran," and it would seem, by Kirkpatrick’s account, to be a product of Thibet.‡ Mr. Elphinston found it in Cabul, in the country of the Afreeds.§

Sulphuret of antimony the native practitioners of India are occasionally in the habit of prescribing as an emetic in intermittent fever: they also prepare a collyrium with it, mixed with the juice of the ripe pomegranate. The Mahometan women apply it to the tarsus of the eye to increase the brilliancy of the organ, a custom I find also common in Persia.‖ The modern Arabs place sulphuret of antimony amongst their Anthelmintics قاطعات ديدان. See an Arabic work, entitled ذکره تسوبی; it is a general Treatise on Medicine, by Mohammed Ishāk.

Antimony was well known to the ancients: Pliny, the elder, who wrote his Natural History in the reign of Tiberius, A.D. 79., particularly mentions it, and says, that by some it was called stimmi, by others stibium, alabastrum, and larbason; as a medicine it was considered as astringent and refrigerent, and

† See Syme’s Embassy to Ava, vol. ii. p. 375. See also Franklin’s Tracts regarding the Dominions of Ava, p. 129.
‡ See his Account of Nepaul, p. 206.
§ See his Account of Cabul, pp. 146, 147.
‖ See Mr. Scott Waring’s Tour to Shiraz;
much used in complaints of the eyes. He also informs us, that it was put into those ointments which the Roman ladies used to beautify their eyes, and thence called calliblephara, having the effect of making them appear open, large, and fair withal!! See his Nat. Hist. book xxxiii. chap. vi.

Tartarized antimony is given by the European practitioners in India, with success, in very small doses of from a sixth to a sixteenth part of a grain, to produce ease and expectoration in pleurisy and peripneumonia; though I must here acknowledge, that in all such affections I have found ipecacuanha a safer and much more valuable medicine, in nauseating doses; the same medicine has no equal in simple dysentery, that is, dysentery not accompanied with hepatic derangement; in such cases, given so as even to produce daily a little vomiting, it has the happiest effects. I have found tartarized antimony to be a dangerous medicine in cases of typhus fever, in India, by lowering too much the vis vitæ; as an emetic, in the beginning of ardent bilious fever, it is given with most safety in small divided* doses. Three drachms of antimonial wine will vomit an adult, but this preparation is chiefly used for children, and, most successfully, in feverish attacks; a tea spoonful may be given in such cases every quarter of an hour till it excites full vomiting. For the croup of infants it is an invaluable medicine; to a child of three months old, the bowels having been

* Three grains may be added to a pint of the common saline mixture, or barley water, and two thirds of a wine-glassful taken every half hour till it vomits once. If it is required to make the ointment, often so successfully used in different diseases, applied to the skin, to produce local pustular eruption, ⅓ j. of the tar-
tarized antimony is to be triturated with ⅓ j. of hog's lard.
previously briskly evacuated with calomel* and castor-oil, I have given, with the happiest effects, the following mixture: thirty-five or forty drops of antimonial wine is to be put into a table spoonful and a half of barley water, of this, fifteen or twenty drops may be given every ten minutes or quarter of an hour till it vomits freely; this emetic to be repeated twice daily. Timely and frequently repeated emetics are not to be dispensed with in such cases; in India, indeed, one ought even to be given before the first cathartic, the bowels being opened by an enema so as to lose no time.

The modern Arabs† place native antimony (Ithsmid), amongst their Styptics, Manyat roaf wu is shaluddum مانعات رفع واسفار الدم.

Medicines are prepared from sulphuret of antimony in four different ways: 1. By trituration in the metallic state, united with sulphur; hence prepared sulphur of antimony. 2. By the action of heat with phosphate of lime; hence the antimonial powder. 3. By the action of alkalies; hence the brown antimoniated sulphur. 4. By the action of acids; hence tartar emetic. See London Dispensatory, by Thomson.

II.

ARSENIC, WHITE OXIDE OF. Vullay
Pāshānum पश्नाम । (Tam.)
Suffāiḍ soombul سفيد سمبل (Duk.) Turab ul halic تراب الهالك (Arab.) ٣٥ الفار ٣٥ الفار (Pers.) Sum-

- The calomel to be continued every night at bed time as long as it may be necessary.

III.

ARSENIC, YELLOW SULPHURET OF, or YELLOW ORPIMENT. Aridārum (Tam.) Haritālaka हरितालक (Sans.) Hurtal هرتال (Hind. and Duk.) Ursanikova (Arab.) Zirneik zird زرنيک خرد (Pers.) Also Yelliekood pashanum (Tam.).

Arsenicum Flavum.

IV.

ARSENIC REALGER, or RED ORPIMENT. Koodiraypal pāshānum കുടിരയപ്പാശാം (Tam.) Manahsila मनाःशिल (Sans.) Mansil مانسل (Hind.) لعل سنبل Lal sumbool (Duk.)

Arsenicum Rubrum.

V.

ARSENIC, GOLDEN-COLOURED ORPIMENT. Pōnarridāram പൊന്നരീറാടം (Tam.) Vorki hurtal ورکی هرтал (Duk.) Swarna haritālam, स्वर्ण हरिताल (Sans.) Tauki hurtal (Hind.)

Arsenicum Auripigmentum.
If arsenic is to be met with at all as a native product in our Indian dominions, it must be in very small quantity. Mr. Elphinston, in his account of Cabul, informs us, that orpiment is there found at a place called Bulkh (see work, p. 146, 147.), combined with iron, arsenical pyrites, and sulphur (sulphuret); it is brought to India from China and Sumatra.∗ "The greater part of what is called the white oxyde of commerce, is obtained in Bohemia and Saxony, in roasting the cobalt ores, in making saffre, and also by sublimation from arsenical pyrites;" from which last it is that what is termed the artificial orpiment is prepared.

The plain yellow sulphuret, or orpiment, is an article of trade from China†, and the Burmah dominions, where the realgar or red orpiment is likewise procured, as well as in Japan.‡ The first of these is of a lemon-yellow colour, running often into red and brown; it is usually got in large angulo-granular distinct concretions, also in concentrate lamellar concretions; it is soft and flexible, but not elastic. When extremely beautiful, bright, golden-coloured, and flaky, it has got the name of varki hurtal (Duk.), or leafy orpiment by the Mahometans of Lower India; and this is the variety, I am apt to think, which has been by some authors§ termed arsenicum auripigmentum.|| It is brought to India from the sea-ports of the Turkish dominions, though I have been told, that it is occasionally found in cen-

∗ See Marsden's Sumatra, p. 137.
† See Oriental Repertory, vol. i. p. 228.
‡ See Thunberg's Travels, vol. iii. p. 228.
§ Wall, t. ii. p. 163.
|| It is what the Turks call reusina, also chrisma, and may often be seen in the markets of Venice and Marceilles; it is vended in the Levant as a pigment.
tral India, and from its appearance might, by careless
observers, be confounded with yellow talk; but it is
altogether different, being much heavier, and when
thrown into the fire, it emits a blue flame.

The yellow sulphuret of arsenic, according to
Klaproth, consists of 62 parts of arsenic and 38 of
sulphur; it would appear to occur rarely in princi-
tive mountains, and is principally met with in floetz
rocks, in veins along with copper pyrites, iron pyrites,
quartz and calcareous spar (Jameson's Mineralogy,
vol. iii. p. 588.).

The arsenic realger or red orpiment (the sanda-
raca of Pliny, and σανδάρακη of the Greeks), is
very common in the Indian bazars; it is of an
aurora-red colour, which passes through scarlet red,
and hyacinth-red; it is somewhat lighter in weight
than the yellow orpiment, contains a great deal less
sulphur, and is ideo-electric by friction, acquiring
the resinous or negative electricity; internally it is
shining, and is otherwise soft, brittle, and frangible.
I have already said that this species of sulphuret of
arsenic, is a product of the Burmah dominions and
Japan*; it is common in many parts of Bohemia and
Saxony. In Armenia it can be obtained of a very
superior quality; and it appears, that it is also to be
found along with other volcanic substances at Ve-
suvius and Solfatara. There is a coarse-red orpi-
ment frequently exposed for sale in Lower India,
called in Tamool manocillei, in Arabic ʿustirka عستريكة,
in Sanscrit manahsila, and in Persian zirneiksoorkh; it
is used only as a paint.

The Hakeems (Mahometan doctors) do not give
arsenic internally; but the Vytians (Hindoo doctors)

* The Chinese cut it into vessels and figures; it is, moreover, a
pigment.
have for many centuries been in the habit of prescribing it (the white oxide) in very minute doses, not exceeding the fourteenth part of a grain; and in conjunction with aromatics, to check obstinate intermittent fevers; also in glandular complaints, and in cases where the patient is subject to apoplectic attacks, and in certain leprous affections. See a Tamool Medical Sastrum, on the subject of nine metals, called *Kylasa Chintamanny Vadanool*.

In Europe, since Dr. Fowler called the attention of medical men to this medicine, it has been administered in dropsy, hydrophobia, chronic rheumatism, glandular tumours, and various other diseases, (as particularly and ably noticed by Mr. Hill of Chester, in a paper which may be found in the Edinburgh Medical and Surgical Journal, vol. xix. p. 312). It does not appear, however, that in such cases its efficacy is at all established; as a tonic I can speak from experience of the virtues of what is called Fowler’s arsenical solution, having frequently by the use of it, put a stop to intermittent fevers in India, when every thing else had failed. I usually began with five drops, increasing the dose to twenty, or twenty-five, twice in the twenty-four hours. Dr. Thomson seems to think, that the use of white oxide of arsenic is contraindicated in all cases attended with strong arterial action, or where there is the least tendency to pulmonary complaints; united with nickel or the compound of an arseniate, it has

---

* See a Tamool Medical Sastrum, entitled *Aghastier Vytia Anyouroo.*

† For a very full and interesting account of the use of arsenic in cancerous affections, the reader is referred to Dr. Good’s most valuable work, the Study of Medicine, vol. ii. pp. 817, 818, 819; he concludes by saying, “it generally proves beneficial, and, in some cases, may produce a radical cure.”
been given with success in epilepsy (Dr. Good’s Study of Medicine, vol. iii. p. 546.). Of the external use of this mineral in cancer I can say little, as the disease is rarely seen in India; it has by some able surgeons of England been supposed to do more to improve the ulceration in such cases, than any other application that has been hitherto resorted to. *

To counteract the poison of arsenic, various methods have been recommended; in order to render it inert, solutions of the alkaline sulphurets, or of soap, or vinegar have been advised; Dr. Yelloly suggests the propriety of bleeding. Hahneman orders a pound of soap to be dissolved in four pounds of water, and a cup full of this solution taken every three or four minutes. For the best mode of ascertaining whether or not arsenic had been used as a poison the reader may consult a well written and scientific investigation, to be met with in the London Dispensatory, p. 55. The modern Arabian writers place arsenic amongst their Mūckūrḥūt (Versicatoria) see Ulfaz Udwieyeh. Dr. Paris, as appears by his Pharmacologia, places little reliance on sulphuret of potass, as an antidote in cases of poisoning with arsenic; and recommends exciting vomiting quickly, and copious dilution with fluids most likely to act as a solvent for the acrid matter, such as lime-water. For the use of arsenic and the orpiments in the arts in India, see another Part (III.) of this work.

* For some account of the effects of arsenic, as a poison, on vegetable substances, the reader is referred to a curious and interesting memoir of Marcet on this subject, noticed in the Journal of Sciences, Literature, and the Arts, No. xxxix. pp. 191, 192., by which it appears, that bean plants, watered with a solution of oxide of arsenic, died in little more than thirty-six hours.
the greater part of the copper exposed for sale in our Indian dominions comes, however, from other countries.*

Copper is procured either in its metallic state, when it is crystallized in the form of native copper, or sulphuretted, in combination with iron, or with iron and arsenic, or it is got united with oxygen, and then sometimes combined with carbonic acid, or with arsenic acid, or with phosphoric acid, or with muriaic acid. The sulphurets are the most abundant ores, and these, in Britain, are procured chiefly in Cornwall. The native copper ore of Japan† is the purest in the world, and, by Kæmpher’s account, as cheap as iron; but the Swedish is more ductile.‡ Copper is found in Cochin-China, in Siam, in the Burmah dominions§, amongst the Philaran∥ hills in Timor, in Thibet¶, in the island of Bali, and, Dr. F. Hamilton tells us, in Nepal; also in great abundance in Sumatra**, where it is combined with a considerable portion of gold, likewise in the district of Mandore, in Borneo. It would appear by Le Gentil’s Description of the Philippine Islands††, that this metal is

* In the Russian dominions copper is found in great abundance, especially in the Altai and Oural mountains.
† Du Halde says, vol. ii. p. 299., that it is extremely beautiful, and an export to China.
‡ By Grenfel’s Observations on the Copper Coinage, it would appear, that the Cornish and Devon mines alone now yield about 80,000 tons of ore annually. For an interesting account of the celebrated and extraordinary copper mine in Dalecarlia, near Falun, in Sweden (which also yields silver and gold), the reader is referred to Dr. Clarke’s Travels in Sweden; the copper is the finest in Europe.
§ See Franklin’s Tracts regarding the Dominions of Ava, p. 63.
∥ See Malayan Miscellanies, p. 18.
¶ See Turner’s Embassy to the Court of the Tishoo Lama, p. 372.
** See Macdonald’s Account of the Products of Sumatra, Asiat. Res. vol. iv.
common too in those delightful regions. Franklin, in his Tour from Bengal to Persia, informs us, that copper is found in Tauris; it is a product of Ceylon, and, by Morier* and Macdonald Kinneir's accounts, it can be obtained in abundance at Sivas, amongst the mountains South of Helat, in Persia, and in the provinces of Mazenderaum and Kerman, also in Armenia, at the mines of Keban† and Arguna. In Turkey, by Olivier's account, it is drawn from mines South of Trebisond, in the environs of Tocat, and in several parts of Asia Minor. Similar information is given us by Morier, in his Travels through Persia, Armenia, &c., p. 344. Captain Arthur saw at Colombo a crystallized silky carbonate of copper, which, he was told, had been found in the interior of the island, and there called petong. I need hardly say, that copper, fused with tin, forms bronze and bell-metal; and with zinc, or the oxide of zinc, called calamine, it forms brass ‡, which the natives of India know how to prepare in a simple way. Other alloys of this metal are tombac, prince's metal, pinchbeck, and similor; these are all prepared with different proportions of zinc, are, more or less yellow, and are known to the Hindoos. Prince's metal is the palest, and has, therefore, most of the alloy; pinchbeck is redder, and contains more copper; tombac is of the deepest reddish hue, in it the proportion being still increased. The finest of all is the similor, which is also called manheim gold; it

* Copper is brought to India from Persia in large regular shaped cakes, ready for making brass. See Morier's Journey through Persia, p. 161.
† See Morier's First Journey through Persia, pp. 344, 345.
‡ Brass is petatéy in Tamool; peetile जय in Dukhanie; tam-baga-koning in Malay; pittalie in Tellingoo; and pitalaka पितलक in Sanscrit.
has the colour of gold, and resembles pinchbeck; it is from this that the spurious leaf-gold, laces, and other articles, are manufactured, and it is what is mostly gilt. What has been called white copper, and which is much used in China, Dr. Black supposed owed its distinguishing colour to nickel. Nicholson, on the other hand, thought it was an alloy of copper and arsenic; he adds, that if the quantity of copper is small it is both ductile and malleable, otherwise it is brittle. Considerable confusion seems still to exist with respect to the articles zinc, tuttenag, and white copper, in Eastern countries. Nicholson says, tuttenag is a name given, in India, to the semi-metal zinc; that is true: then, he says, it is also given to the white copper of China, a compound, he observes, some think, of copper and arsenic. This much I know to be the case, whatever the tuttenag* of China may be, it differs from what the Chinese call white copper, a substance of which they are extremely jealous, and will not permit it to be exported; it is a peculiar product or manufacture of China, natural or artificial. Dr. Andrew Fyfe analysed some (it was, I believe, a basin which Dr. Hewison procured in China), and found it to consist of copper, zinc, nickel, and iron†; it is supposed to be procured from the reduction of an ore containing these ingredients; and Dr. Dinwidie states, that the pak-fong, or white copper of China, is composed of copper, nickel, and zinc (without iron); the quantity of the zinc amounting to seven-sixteenths of the whole, and

* Sir George Staunton informs us, that tuttenag is, properly speaking, zinc extracted from a rich ore or calamine. Embassy to China, vol. ii. pp. 540, 541.
† By Sir George Staunton's account, a little silver, and, in some specimens, a small portion of iron is found in the white copper. See same vol. and pages.
the proportion of the two first are to each other as five to seven.

While on the subject of white copper, I cannot avoid adding here what has been said of it by Keferstein, and which may be found in the Annal. de Chem. xxiv. p. 24.: "This is a metallic substance resembling silver, which has been employed, under the name of white copper, for a long time at Suhl in ornamenting fire arms. M. M. Keferstein and Muller have recently sought out the origin of this substance, and ascertained that it is got in the scoria of some ancient copper works formerly attached to mines now abandoned; this white copper*, which had formerly been rejected as useless, is now obtained by fusion, for the purpose above stated." The Malay gongs are a composition of copper, zinc, and tin, in proportions not yet determined.

The Romans appear to have got most of their copper from the island of Cyprus, and from certain situations amongst the Alps. Pliny says much on the subject of this metal, both with regard to its use in the arts and in medicine; he gives various prescriptions for colyria, in which copper was a prime ingredient, and speaks of two different methods for preparing verdigris; one preparation, he terms scolecia, was made by keeping for a time, in very hot weather, certain proportions of alum, nitre, and strong white-wine vinegar in a pot of Cyprian copper. See Nat. Hist. book xxxiv. chap. xii.

* Mr. Brande, by analysis, found what is called white copper to be an alloy of copper and nickel. *Manuel of Pharmacy*, vol. ii. p. 242.
VII.

COPPER, SULPHATE OF, or BLUE VITRIOL. Toorishoo तूरिस्हू (Tam.) Neelatota नीलटोटा (Duk.) Tutiya तूटिया (Hind.) Zungbar زنگبار (Arab.) Toorishie (Tel.) Tuttānjanā तूत्तान्जन (Sans.) Palmanicum (Cyng.) Sulphate de cuivre (Fr.) Schwefelsaures kupfer (Ger.) Vitriolo blo (It.) Caparosa (Span.)

SULPHAS CUPRI.

VIII.

COPPER, SUB ACETATE OF, or VERDIGRIS. Vungālāp-patchei वूंगालाप-पत्छै (Tam.) Zungar زنگار (Pers.) Pitrai پیتراي (Hind.) Zunjar زنچار (Arab.) Sennang سنناغ (Mal.) Zenghaliepatse (Tel.) Pittalā पित्तलात (Sans.) Vert de gris (Fr.) Grunspan (Ger.) Verdégrise (It.) Cardenillo (Span.)

SUBACETAS CUPRI.

I cannot learn that this article, verdigris, or that immediately preceding it, is ever prescribed, internally, by the Indian practitioners; the first they use externally, as we do, and they are both employed by them as detergent and stimulating applications for ill conditioned ulcers.

Sulphate of copper is sometimes given as an
emic in the early stages of phthisis*, and where laudanum has been taken as a poison; the dose from gr. i. to x. or xv. in about 3ij of water; it acts quickly and easily, and may be given with advantage in cases of over-eating, where apoplectic symptoms are produced.

Verdigris (acetate of copper) is well known to be principally manufactured at Montpellier, by stratifying copper plates with the husks of grapes, which remain after the juice has been pressed out; these soon becoming acid, corrode the copper; by digesting the oxide thus obtained in acetic acid, and subsequent evaporation, crystals of acetate of copper, commonly called verdigris, are procured. We are informed, by Dr. Thomson, that the Grenoble verdigris is a purer subacetate, being prepared by simply disposing plates of copper in a proper situation, and repeatedly moistening them with distilled vinegar till the surface is oxidized and changed into verdigris.

Verdigris is now commonly avoided as an internal medicine, though, in doses of half a grain, it has been considered as tonic, and extolled in epilepsy; but many prefer, for this purpose, the cuprum ammoniatum, in doses of a quarter of a grain to five grains; as an emetic, in cases requiring quick operation, verdigris is given in doses of from gr. i. to grs. iij. In the arts it is occasionally employed in India, as in Europe, in dyeing cotton black, also of an orange shade, and green; it is likewise used in the preparation of colours, chiefly greens, and, with the assistance of sal ammoniac, a beautiful blue.

The sulphate of copper (sulphas cupri) is obtained,

* See Dr. Simmon's Practical Observations on the Treatment of Consumption. Dr. Good would seem, in such cases, to prefer ipecacuan. Study of Medicine, vol. ii. p. 770.
in considerable quantity, by evaporation from the water of some copper mines, such as Parys, in Anglesea, where it occurs along with copper pyrites, and from which it can be procured by roasting and exposing them to the action of air and moisture. It is a product of Pegu*, from which country it is brought to India; externally, it is a useful escharotic to consume fungus, and is well known to the Mahometan medical men. In Europe it is employed in making ink, also in the process of cotton and linen printing, and the oxide, separated from it, is used by painters.

Poisoning† from cooking and other utensils made of brass or copper is by no means a rare occurrence in India, where, however, they are not unacquainted with the art of tinning such implements. I have known more instances than one of fatal consequences from the use of butter milk that had been kept till it got sour in a brass pot; on other occasions, food having been allowed to stand for some time in a copper pan, after it had been taken from the fire, becomes a poison by admitting of the formation of a green carbonate: in the first case (that in which butter milk was used) verdigris was produced, which, however, would more speedily have been the result if the contents of the pot had been vinegar, or lime juice, in place of butter milk. In order to detect

* See Franklin's Tracts regarding the Dominions of Ava, p. 129.
† By Marcet's interesting Memoir on the Action of Poisons on the Vegetable Kingdom, it appears, that a bean root placed for twenty-four hours in a solution of sulphate of copper occasioned the death of the plant. See Journal of Sciences, Literature, and the Arts, No. xxxix. p. 193. Mr. Phillips found similar effects from a solution of copper used for watering a young poplar tree; a knife employed in cutting a branch of which had the copper precipitated on its surface. Annals of Philosophy, xviii.
the salts of copper, in any suspected liquor, Dr. Thomson directs us to drop into it a solution of ammonia, which, if any salt of copper be present, will produce a beautiful blue colour; he adds, that in cases of poisoning from any of the salts of copper, sugar is the best antidote.

I stated above that I could not learn that the natives of India ever employed either the *vengala patchei* (verdigris), or the *toorushoo* (blue vitriol) internally, yet they have several preparations of this metal (passpoms) which are peculiar to themselves, and which the reader may find particularly described by Dr. Heyne. What is called the *white passpom*, or *tampuru passpom*, is made, he tells us, "by plunging a copper coin made red hot into the acid juice which is expressed from the leaves of the tamarind tree; this to be repeated several times, after which the coin is to be melted in a crucible, with an ounce of sulphur thrown into it at two different times; grind this mass, moistening it with the juice of lemons which will render it white."* Dr. Heyne next mentions a preparation called *bhastmon*, which is certainly a most strange, complex, and heterogeneous compound, too much so, indeed, for particular insertion here; thus much I shall state, however, that it contains copper, egg shells, muriate of ammonia, corrosive sublimate, borax, orpiment, mercury, and lime. It is, by Dr. Heyne's account, administered in leprosy and other cutaneous affections, and, in obstinate cases, it must, he says, be persevered in for forty days. Missy is the name of an oxyde of copper, used by the natives of India against the tooth ache, and to stain their teeth black.

* See Tracts on India, pp. 170, 171.
IX.

GOLD. *Pwonn* (Tam.) *Soonā* (Duk. and Hind.) *Tibr* (Arab.) also *Zeheb* (Arab.) *Tilla* (Pers.) also *Zir* (Pers.) *Run* (Cyng.) *Bāngārum* (Tel.) *Mās* (Mal.) *Swarna* स्वर्ण and *Swarna* सुवर्ण (Sans.) *Or* (Fr.) *Goud* (Dut.) *Guld* (Dan.) *Oiro* (Port.) *Sonā* and *Swarna* (Mah.)

**AURUM.**

India properly so called, has not much to boast of with regard to this metal. Captain Warren discovered a gold mine in Mysore, in 1800, betwixt *Annicul* and Poonganore, but which does not appear to have been thought deserving of much notice; the metal, as far as I can learn, is disseminated in quartz*, (similar perhaps to that which is found in some parts of Hungary). Gold too, I understand, was discovered in the Madura district, by the late much to be lamented Mr. Mainwaring, mineralized by means of zinc, constituting a blende, perhaps resembling somewhat the *Schemnitz blende* of Hungary, and we know from Cronstedt, that the zinc ores of *Schemnitz* contain silver, which is rich in gold. Captain Arthur informed me, that he found gold in Mysore disseminated in quartz, and also in an indurated clay; some specimens he observed, likewise crystallized in

*Gold, it would appear, is oftener found imbedded in quartz than any other stone, though it is also, occasionally, met with in limestone, in hornblende, &c.*
minute cubes; in which form we learn from the authority of Brunich, that gold is sometimes met with in Transylvania, where it is also to be obtained in solid masses, as in Peru. In the Spanish West Indies gold is oftener seen in grains; Siberia being, I believe, the only country in which it can be got composed of thin plates, or pellicles, covering other bodies. Captain Hardwicke says, gold can be procured from certain sands in the Sirinagur country, and we know it to be a product of Assam.*

Gold is more generally found native than any other metal; though Bergman was of opinion, that it never was discovered altogether free of alloy; and Kirwan says, it is seldom got so. Gold dust has been got in the bed of the Godavery, and in Malabar, in the bed of the river which passes Nelumbur, in the Irnada district; it has moreover been procured in very small quantities in Wynade, in the Arcot district; also near Woorigum and Marcoos-pum in the Pergunnah of Colar; and in the sand of the Baypoor river, near Callicut. Pennant, in his View of Hindoostan (vol. i. p. 181.), tells us, that gold is to be found in the rivers of the Panjab; and other travellers say it exists in the channels of certain rivers of Lahore.† Kirkpatrick observes, in his Account of Nepaul (p. 45.), that a little is to be met with on the borders of that country; but that in Thibet it abounds. From Kinneir’s “Geographical Memoir of Persia” (p. 340.) we learn, that there are gold mines in Georgia; and Tavernier, in his “Tra-

* See Gladwine’s Asiatic Miscellany. See also Asiatic Annual, Register for 1805, p. 129.
† But in all these rivers in much less quantities than what are found in the river Avanyos, in Transylvania, or in the beds of several torrents of Brazil.
vels" (chap. x.) informs us, that there are both gold and silver mines in Mengrelia, now included in Georgia; one called Souanet, the other Obelet, about five or six miles from Tefflis; he adds, that there is also a gold mine at Hardanoushe, and a silver one at Gunishe, not far from Trebisond.* In other territories lying still farther east this precious metal is found in great abundance; next to tin, Mr. Crawfurd tells us, in his excellent work on the Indian Archipelago (vol. iii. p. 470), gold is the most valuable mineral of the Archipelago; but it appears to be most abundant in those islands which constitute the Northern and Western barriers; Borneo affords by far the most; the principal are mines in the vicinity of Sambas or Jambas; next to it comes Sumatra, and in succession the Peninsula (Malayan), Celebes and Lusong. The gold of the Indian islands in regard to geognostic situation, is found, as in other parts of the world, in veins and mineral beds, as well as alluvial soils; in the first situations it exists in granite, gnesis, mica-slate, and clay-slate; and in the second in ferruginous clay and sand. The ore is what modern mineralogists term gold-yellow native gold, and always contains a considerable quantity of silver, and generally, though not always, some copper.

Gold, it would appear, has lately been discovered at Santa Anna in Estremadura; Japan† is rich in it, and the mines easily worked; the island of Formosa abounds in gold mines (Asiatic Journal for Decem-

* Fraser, in his Journey to Khorasan, informs us, that gold is found in a mountain called Altoun Taugh, in the Southern district of Bochara.
† See Crawfurd's Indian Archipelago, vol. i. pp. 319, 320, 321.
CHAP. II.

MATERIA INDICA.

1824. Forest* tells us, that there is much in the island of Mindano; it is a product of almost all the Philippine islands†, especially of Luzon (Luzon), of Borneo‡, of Sumatra§, of Siam, of Peguǁ, of Bali¶, in the Straits of Java, of China**, of Tonquin, of the Burmah dominions, of Sulo (at Tambasuc), of Palembang††, of Thibet, and of Malacca; but perhaps in no part of the world is this metal found in greater abundance than in Cochin-China‡‡; nay, it would appear from a description of that kingdom, which may be seen in the Asiatic Journal, for 1801, that gold there is almost taken pure from the mines, which are near the surface of the earth. Niebhu, in his Travels (vol. ii. p. 366.), informs us, that it is a product of the kingdom of Mazambic, and of Abyssinia, and of late years much has been got in Russia. §§

* See his Voyage to New Guinea, p. 249.
‡ French edition.
§ See a paper in the Malayan Miscellanies (p. 25.), by Mr. Hunt, in which he mentions the rich gold mines of Laura, in that island (Borneo), situated to the Eastward of the town of Sambas, also of those of Tambasuk; and Dr. Leyden, in his Sketches of Borneo, speaks of the gold of Bonjar, on the South side of the island. See 7th vol. of the Transactions of the Batavian Society.
ǁ See Marsden’s Sumatra, p. 133.
§§ At a place called Pejen, on the East coast of Bali.
** For some account of the gold of China, and the manner of using it in that country, the reader is referred to a curious paper by M. Landrèse, which may be found in the Transactions of the Asiatic Society of Paris, taken, it would appear, from a Chinese work, entitled “A Description of the Arts of the Empire of China.” See Oriental Herald for May, 1825.
†† The inferior sort of gold dust at Palembang is called mooda, or young dust; the best tooa, or old; the last, when purified, is most brilliant.
‡‡ See Borri’s Account of Cochin-China, also Abbé Rochon’s Voyage to Madagascar and the East Indies, p. 506.
 §§ Sir Alexander Crichton tells me, that the richest gold mines
It would appear, that in former times, one of the grand sources of wealth of the Carthaginians, was derived from the valuable mines of Andalusia and Cordova. We are told by Aristotle, that when the Phœnicians first visited the coast of Iberia, they found both gold and silver in great abundance; nay, Pliny observes, “We have silver mines in many of our provinces, but how is it that the richest should be in Spain, and producing the finest and most beautiful silver?” (Nat. Hist. book xxx. chap. vi.)

Gold leaf (soona wark سوْنا ورک) is prescribed by the native practitioners in consumptive complaints, and in cases of general debility, from its supposed virtues as a tonic, cordial and restorative. The opinions of the Hindoos respecting it, as a medicine, are to be found in many of the Medical Sastrums, especially in a celebrated Sanscrit work, entitled Rasaratna Samoochayen, by Vackbutta, in which medicaments prepared with different metals are fully treated of; it is also particularly noticed in a famous work in high Tamool, entitled Kylasa Chut-tamoony Vadanooll, in which medicines from the mineral world are minutely examined. The Arab-

in Russia are those of the Oural mountains, at a place called Berezoff, near Catherenberg; there are also mines in the Altai mountains, especially at Schlangenberg, which signifies in Russian the mountain of serpents. By late accounts from Russia it would appear, that towards the end of the year 1824, eight thousand pounds of gold are expected to come from the Oural mountains mines, containing much platina; the value of that quantity of gold may be about one million of ducats. Now, at the beginning of this century, the whole of America did not produce more than seventeen thousand two hundred and ninety-one kilogrammes of gold per annum, and of this Brazil supplied six thousand eight hundred and seventy-three kilogrammes. Russia, this year, has yielded three thousand two hundred and eighty kilogrammes, being nearly the half of what is supplied by Brazil!
ians, according to Avicenna, considered this metal as somewhat similar in its virtues to hyacinth (cordial); and the same author tells us, that the filings of it were given in melancholia, "limatura ejus ingredi-tur in medicinis melancholie." For other particulars the reader may consult the Arabic work, "Canoon Fil Tibb" قانون في الطب. The modern Arabs, like the Hindoos, reckon gold leaf amongst their Cardiacs, placing it in the class Mokewyat-dil.

Gold, in every part of the world, is found chiefly in its metallic state, though generally alloyed with silver, copper, iron, or all the three. South America furnishes the greatest quantity. The principal gold mines of Europe are those of Hungary. It is the most tough and ductile, as well as the most malleable of all metals, more elastic than lead or tin, but less so than iron or even copper; hammering renders it brittle, but it resumes its ductility on being slowly heated; it is not sonorous, and is the heaviest of all bodies, platina excepted; for its fusion it requires a low degree of white-heat, somewhat greater than that in which silver melts. Gold mingles in fusion with all metals; it amalgamates very readily with mercury, and is remarkably disposed to unite with iron; every metal except copper debases the colour of

* The veins of native gold are most frequent in the province of Oaxaca, either in grains or mica slate; the last rock, Mr. Jameson tells us, is particularly rich in this metal, in the celebrated mines of Rio San Antonio. Baron Humboldt estimated the annual produce of the gold mines of South America at about 25,026lbs. Troy. It does not appear by the Journal of a Residence in Colombia during 1823 and 1824, by Capt. C. Stuart Cochrane, that that country is very rich in the precious metals; he says, the mines of Chocó are the most likely to prove productive under scientific management; those considered as worth working give two pounds of platina to six of gold. The reader is referred to the interesting pamphlet of Sir W. Adams for much curious information on the actual state of the Mexican mines.
gold; it gives it a red hue, and a greater degree of firmness than it has when very pure; hence the combination is employed in making coins, and different articles of plate, &c. The alloy with silver is made with difficulty; and forms the green gold of jewelers. Proper quantities of copper filings, nitre, prepared tutty, borax, and hepatic aloes, fused together by a skilful artist* give a beautiful compound, which much resembles gold.

With regard to the solution of gold, Mr. Kirwan was of opinion, that in its metallic state it may be diffused through the concentrated nitrous acid, though not dissolved in it; that able chemist found the aqua regia, which succeeded best in the dissolution of gold, was prepared by mixing three parts of the real marine acid with one of the nitrous; aqua regia made with common salt, or sal ammoniac and spirit of nitre, is less aqueous than that produced from an immediate combination of both acids, and hence it is the fittest for producing crystals of gold; one hundred grains of gold require for their solution two hundred and forty-six grains of aqua regia; the two acids being in the proportion above mentioned. The well known aurum fulminans†, which by Beckman's account, was discovered by a German benedictine monk in 1418, is gold precipitated from a solution of that metal in aqua regia, by means of ammonia; it explodes by heat with a greater violence

* See Smith's School of Arts, vol. i. p. 190.
† The fulminating property of gold was at one time supposed to be owing to the presence of the nitrous or marine acid. Black considered it as consequent of fixed air, but it is evident that is not the case, as gold fulminates as well when precipitated by the caustic volatile alkalie as by that which contains fixed air. Bergman considered volatile alkalie as the real cause of the explosion, and explained it on the principles assumed by him and Scheele.
than any other substance in nature; indeed with a strength, according to Bergman, one hundred and seventy-six times greater than that of gunpowder. While gold is indestructible by the common operations of fire, so is it altogether exempted from rusting. The best compound metal for making the mirrors of reflecting telescopes, is that made with an equal part of zinc and gold. With iron gold forms a grey mixture, which is very hard, and is said to be superior to steel for the fabrication of cutting instruments.

Gold is said to be mineralized, when it is mixed with some other substance, in such a manner as not to be readily acted upon by aqua regia; such as by sulphur; with sulphur by means of iron, as in the golden pyrites; by means of quicksilver, as in the auriferous cinnabar; by means of zinc and iron, as in the Schemnitz blende, already mentioned, &c. Gold is no longer in Europe considered as possessing any medicinal qualities, though the ancients* believed it to have such. The solution in aqua regia is a strong poison; if on this solution any essential oil is poured, the gold is separated from the acid, and is

---

* Pliny tells us, that in his time gold was considered as a sovereign remedy for green wounds, applied externally, and that the Roman mothers used to hang it about the necks of their children to preserve them from the spells of sorcerers; he moreover says, that, according to the testimony of M. Varro, gold makes warts fall off! See Natural History, book xxxiii. chap. iii. The author just cited informs us, that the Romans in the time of Nero used to obtain their gold from Dalmatia, and from the sands of the Tagus, in Spain; Po, in Italy; Hebrus, in Thrace; Pactolus, in Asia; and the Indian Ganges. Their scientific men, like those of later ages, busied themselves with alchemy, and Pliny very gravely observes, that the Emperor Caligula (who was a very covetous man) actually had a small quantity of that precious metal made by boiling orpiment dug out of the ground in Syria. See same book and chapter.
united to the essential oil; but this union does not last, for in a few hours the gold separates in a bright yellow film to the sides of the glass. A solution of gold, however, in vitriolic ether is more perfect than that with the essential oils. The yellow etherial solution poured off, and kept for some time in a glass stopt with a cork, so that the spirit may slowly exhale, yields long transparent prismatic crystals*, in shape like nitre, and as yellow as a topaz.

Should the reader wish to see a very curious detail on the alloys of gold, he may consult Philosophical Transactions for 1803, Experiments by Mr. Hatchet. The alloy of lead renders gold very brittle when that metal only constitutes \( \frac{1}{190} \) of the alloy. Gold coin is an alloy of eleven parts of gold and one of copper. Arsenic and antimony in very small proportions with gold, destroy its colour, and render it quite brittle. Mercury and gold combine with great ease, forming a white amalgam much used in gilding. See Brande's Manual of Chemistry, vol. ii. p. 291.

X.

IRON. *Eerumboo* (Tam.) *Loha* (Duk. and Hind.) *Ahun* (Pers.) *Eenuno* (Tel.) *Loha* (Sans.) *Hedeed* (Arab.) *Béssee* (Mal.) *Yákdá* (Cyn.) *Fer* (Fr.) *Ferro* (It.) *Eissen* (Ger.) *Hierro* (Span.) *Tee* (Chin.)

This metal is found in so many different parts of India that it may be considered as a common produce of the country. In Mysore, in the neighbourhood of Baydumungulum, it is smelted from a black iron ore, called in Tellingoo nalla isaca, in the Carnaticca language cari usu, and in Tamool carpoo manil; in other parts of the same territory, lying betwixt Seringapatam and Bangalore, it is obtained from two ores, called aduru kuloo and ipanada; the last mentioned, Dr. Buchanan* informs us, is a very pure ore, found scattered among gravel in small lumps; near Colangodoo, in Southern Malabar, it is obtained from a dark coloured sand ore. Captain Arthur discovered, in Mysore, the magnetic iron ore, also the specular iron ore, or iron glance, which Dr. Heyne† likewise picked up among the Chittledroog hills, near Talem, and other places. Captain Arthur also discovered in Mysore the brown hematite‡, or fibrous brown iron stone, which, I am led to think, is the stone sometimes called by the Tamools carin kuloo. In the Palavarum district it would appear, by Dr. Heyne’s§ account, that this metal is obtained from an ore composed of ochre, clay, scintillating spar, and calcareous earth. “At Yerraguty, near Saugur, iron is smelted from what is called the iron-stone|| of mineralogists, a subspecies of micaceous iron-stone, and which is powerfully attracted by the magnet.” At Ramanaka, about six miles North of

* See Dr. Buchanan’s Journey through Mysore, Canara, and Malabar, vol. i. p. 181.
† See Heyne’s Tracts on India, p. 44.
‡ Or bloodstone, called by the Arabians hujraldum حجر الدم and by the Persians shadunj شتدنچ.
|| See Heyne’s Tracts on India, p. 191.
Nûzid, this metal is smelted from an ore consisting of small rounded stones, lying loose and unconnected, and which do not appear to contain any calcareous matter. Dr. Heyne is of opinion, that though this ore does not exactly correspond with any common iron ores in England, it approaches nearest to hematites; he was disposed to term it a hydrous carbonate of iron: the charcoal employed in smelting it is made from the mimosa sundra (Roxb.). Much iron is manufactured in the Nahn or Sirmor country, in the North of Hindoostan, also in the Nagpore Rajah's dominions, particularly near the town of Chowpara, on the banks of the Beignunga. There is much iron on Ceylon; on Java; in Siam; in Tonquin, by Barrow's account, it abounds; it is not uncommon in Cabul, in the territory of the Afrereads, and in Bajour. A few years ago it was discovered to be a product of the island of Billitten, Eastward of Banka. Captain Macdonald Kinneir, in his Geographical Map of Persia (p. 224.), mentions, that it is to be met with in the mountains South of Helat, in Mekran; and Foster observes, in his Travels, that it is an export from Turshish. Valantyen found it in Bali. To India it is often brought

* Particularly on the hills near the great Lakandi, where, according to Captain Blane (in his Memoir on Sirmor), the ore yields one-fourth of its weight of pure iron.
† See Account of a Route from Nagpore to Benares, by Daniel Robertson Leckie, pp. 68, 69.
‡ It would appear, that the Ceylon iron ore is of a very superior quality; Mr. Russel lately laid before the Literary Society of that island a report, in which he notices, that the iron of certain places has this extraordinary property, that it is malleable immediately on being taken out of the furnace, a circumstance which, when known to manufacturers at home, cannot fail to attract great attention. See Asiatic Journal for August, 1829, p. 136.
§ See Civil and Military Sketches of Java, p. 207.
¶ See Malayan Miscellanies, p. 11.
from Pegu, where, it would appear, that it can be procured of a superior quality; also from Tonquin.

Iron has been discovered in almost every country of Europe; that of Sweden* is considered as the best. The native metal is scarce; most iron being found in the form of oxide, in ochres, bog ores, and other friable earthy substances, of a brown, yellow, or red colour. The iron which is obtained by smelting is not pure, but in the three following states, white crude iron, grey crude iron, and black cast iron, which last is commonly fused with white iron. When crude iron, especially grey, is fused again, in contact with air, it unites, sparkles, loses weight, and becomes less brittle, and may be converted into malleable iron by fusing it in the midst of charcoal, and then beating it for a time with a large hammer, so as to drive out all the parts that may still partake of crude iron; the remainder, on being thus made malleable, is so formed into bar iron; this purified, or bar iron, is soft, ductile, flexible, and malleable, and is what may be converted into steel†, in two ways, by cementation or by fusion. The English steel, a compound of iron with carbon, is made by a process called cementation‡, and afterwards, when

* For an animated account of the extraordinary and, it may be added, awful iron mines of Persberg, in Sweden, the reader is referred to Dr. Clarke's Travels in Sweden, &c.
† Steel is in Tamool oorukoo, also yeghoor; in Tellingoo ookkoo; in Persian and Dukhanie foolad دهلی in Hindoostanie khere دهلی.
‡ There is a particular kind of steel called in India koots, which, from its superior quality, has attracted, of late years, much notice in England; it is prepared in several parts of Lower Hindoostan, especially at a small village South-West of Chittlendoog, in the Mysore country, and at Kakerhally, a village on the road from Bangalore to Seringapatam (see Heyne's Tracts, p. 358.). "In order to convert iron into this steel each piece is cut
fused with a flux composed of carbonaceous and vitrifiable ingredients, it becomes what is termed *cast steel*, in bars, plates, and other forms; and is almost twice the price of other good steel. Nicholson, in his Dictionary of Chemistry and its Application to the Arts, tells us, that the *blueing* of steel affects its elasticity in a manner not easily explained, and is

into three parts, making fifty-two in all; each of which is put into a separate crucible, together with a handful of the dried branches of *tangedu* (*cassia auriculata*), and another of fresh leaves of the *vonangady* (*convolvulus laurifolia*). The mouth of the crucible is then closely shut with a handful of red mud, and the whole arranged in circular order, with their bottoms turned towards the centre, in a hole made in the ground for the purpose. The hole is then filled up with charcoal, and large bellows are kept blowing for six hours, by which time the operation is finished. The crucibles are then removed from the furnace, ranged in rows on moistened mud, and water is thrown on them whilst yet hot. The steel, or *woots*, is found in conical pieces at the bottom of the crucibles, the form of which it has taken.” Some of this Indian steel was some years ago sent to England to Mr. Stodart, by Dr. Heyne, who, after examining it, said, that, in his opinion, it was not, in the state in which it was brought from India, perfectly adapted for the purposes of fine cutlery, the mass of the metal being unequal, proceeding from imperfect fusion; therefore, it is that Mr. Brande recommends a second fusion, which makes it truly valuable for edged tools, and fitted for forming the finest instruments. Mr. Stodart concludes his letter to Dr. Heyne by observing, “this India steel, however, is decidedly the best I have yet met with.” Mr. Stodart is of opinion, that the most proper mode of tempering *woots* is by heating it to a cherry-red colour in a bed of charcoal dust, and then quenching it in water cooled down to about the freezing point. Mr. Brande seems to be of opinion, that the peculiar excellence of the Indian steel is owing to combination with a minute portion of the earths of *alumina* and *Silicia*, furnished, perhaps, by the crucible in making the steel, or rather with the bases of those earths, and, as a proof of this, he shows how *woots* may be made artificially (*Manual of Chemistry*, vol. ii. p. 308.). Nay, Dr. Heyne himself observes, that it is not quite indifferent, in preparing the *woots*, what crucibles are used in the operation; the loam employed for these crucibles, in Lower India, is of a brown-red colour, of an earthy appearance, and crumbles betwixt the fingers; it has no earthy smell when breathed on, nor effervesces with acids.
done by exposing steel; the surface of which has been first brightened, to the regulated heat of a plate of metal, or a charcoal fire, or flame of a lamp, till the surface has acquired a blue colour. It is a singular circumstance that the sword blades of Damascus are still considered as the finest in the world, nor is it known exactly how they are made, though I think it highly probable that they are made of the wootz steel of India.

XI.

IRON FILINGS. Eerumboo pōdie (Tam.) Arapodi (Tel.) Lohay ka boora (Duk.) Limailles de fer (Fr.) Gopul-vertes eissen (Ger.) Limatura di Ferro (It.) Lima-dura hierro (Span.)

Limatura Ferri.

XII.

IRON, RUST OF. Eerumboo tuppoo (Tam.) Lohayka xung (Duk.) Manura (Sans.) Kith (Hind.) Eenapatooppo (Tel.) Carburé de fer (Fr.) Ossido carbonato di Ferri (It.) Sudeed ul hedeed (Arab.) Zafrani ahun (Pers.) Σιδήρος (Gr.)

Ferri Rubigo (Dub.)

I cannot find that iron filings are used in medicine by the Hindoos, and but rarely by the Mahometans,
who sometimes give them in cases requiring tonics, in conjunction with ginger. The Tamool name is *erumboo podie*; the Dukhanie name is *lohay ka boora* شردونکا بورو. Indeed, in Europe, except when there is a decided presence of acidity in the stomach, they are seldom employed, as in dyspepsia; in worm cases they act mechanically; they are usually given in powder, combined with an aromatic, or in the form of an electuary; Dr. Thomson, and no man’s opinion I value more, thinks best, in combination with myrrh, ammoniacum, or some bitter: the dose from gr. v. to 3ss.

The *rust of iron* the Hindoo doctors prescribe in certain cases of *mayghum* (cahexia), particularly that species of it combined with jaundice. By European practitioners it is considered as tonic and emenagogue, and, of late years, it has been used with good effect both as an external and internal remedy in cases of cancer; the dose from grs. v. to grs. xx. or xxv., twice daily. What are commonly called *scales of iron* (oxidized iron) the Tamools term *erumboo kittum*; they are those substances which are detached by the hammer of the smith from the surface of iron heated to redness in the forge. The native Indians, as far as I can learn, do not employ them in medicine. They are, when purified, an imperfect oxide (oxidum ferri nigrum purificatum), and have been given with good effects in general weakness, dose from grs. v. to gr. xv. The simple scales (squamae) are used in the same manner as iron filings, and Dr. Thomson says, are preferable.
XIII.

IRON, SULPHATE OF, or GREEN VITRIOL. Anna baydie அன்ன பைத்தியே (Tam.)
Heera cashish ہیرا کشیش (Duk.) Taroosee (Mal.)
Casis (Hind.) Zunkar madenee ژنگار مادنی (Pers.)
Tootya subz (Pers.) Sulphate de fer (Fr.) Schwefelseaures eisen (Ger.) Solfato di ferro (It.)

SULPHAS FERRI.

This substance was, a few years ago, obtained in Travanicore, by Captain Arthur, from an aluminous schistus.

Sulphate of iron is a dangerous medicine if not administered with caution; it is considered as tonic, emenagogue, and anthelmintic, and is given with success in diabetes, amenorrhoea, and phthisis, and, by Dr. Good’s account, in dyspepsia (see his Study of Medicine, vol. i. p. 171.); lately it has been used as a lotion in cancerous and phagedenic ulcers. It seems to be very partially known to the Hindoos. It is administered in pills with rhubarb, myrrh, or aromatics, in doses of from gr. i. to gr. vi.

Iron, under any circumstances, is not a medicine frequently resorted to in India, where hepatic de-rangements and other visceral affections are but too common, and in which it is certainly injurious; in scrophulous complaints I have given it with marked good effects, and have been induced to think, that on such occasions it may act by supplying what is de-
ficient* of that substance to the blood. The tinctura muriatis ferri is one of the best preparations of iron in dyspepsia or other cases requiring chalybeates; five or six drops given every ten minutes till nausea is excited, often gives almost immediate relief in dysuria, depending on spasmodic stricture of the urethra; as a tonic, the usual dose is from ten drops to twenty-five drops in a glass of water; it is also used as a styptic for cancerous and fungous sores. The ferrum ammoniatum I have never prescribed in India, and believe that it is now seldom ordered.

Dr. Heyne, in his Tracts on India, says, that the native Indians have a variety of ways of preparing iron for medical purposes, and that they are sufficiently well acquainted with its general virtues; he gives an account (see Tracts, pp. 167, 168, 169.) of several preparations of this metal, or what are called in Tamool cendūrams, which, excepting that a little sulphur and the juice of one or two plants are employed in making them, appear to differ but little from the red oxide of iron, which is now seldom used in Europe, excepting as a pharmaceutical agent, but has, no doubt, the same tonic properties that some of the other preparations possess. The Hindoos believe those cendūrams above mentioned as most efficacious in several diseases, particularly what the Tamools term the ulkachēl, or internal fever; these preparations ought properly to be called ecrumboo cendu-rama, or iron cendurams.

It would require more room than can be here spared to enumerate the different uses of this valuable metal in the arts; it is a principal ingredient in dyeing black; with the aid of sulphate of iron cot-

* See Russel on Scrophula.
ton is dyed of a shamois colour, linen yellow, wool and silk black; it is also employed in preparing common ink, and Berlin blue. The ancients* had certainly the art of making a blue enamel with the aid of iron; and, it would appear that Klaproth, on analysing a piece of antique glass of a sapphire blue, transparent only at the edges, found it contained silex, oxide of iron, alumine, oxide of copper, and lime.

The Hindoos use *eerumbo podie* (iron filings), in conjunction with vinegar and the bark of the *ma-rudum* tree, *terminalia alata* (Koenig.), for dyeing black; it is also made use of by the chucklers (tanners), together with other ingredients, for giving leather the same colour. The rust of iron (*eerumbo tuppo*) as well as the scales (*eerumbo kittum*), and also the dross or refuse (*sittie kull*), are employed by the native Indians for similar purposes. The sulphate of iron (*anna baydie*) they use sometimes in the preparation of black leather.

In addition to what I have already said of *oorukoo* (steel), I shall observe, that Dr. Buchanan (now Hamilton), in his Journey through Mysore, Canara, and Madura (vol. i. p. 151.), mentions, that there are in the district of *Chinnarayandurga*, in Mysore, no less than four forges employed in that manufacture; this excellent writer also tells us, that at *Chinnapatam*, in the same country, steel wire is made for the strings of musical instruments, which is in great request, and sent to the most remote parts of India.

What is commonly called black lead (plumbago), Pennant says, is a produce of Ceylon (vol. i. p.189.),

* I think Pliny notices this, though I have not been able to light on the passage.
but, it is to be presumed, that it is of a very inferior quality to that of Borradale, in Cumberland; it is a carburet of iron, and is what lead pencils are made of. A counterfeit kind is prepared by the Jews, by mixing the dust of plumbago with gum Arabic, or fusing it with resin or sulphur, and pouring it into the cavities of reeds. The powder of plumbago, with three times its weight of clay and some hair, makes an excellent coating for retorts.

With regard to the use of iron amongst the ancients—there is nothing satisfactory, nay, much room for doubt. The Arab writers (particularly Avicenna) are more explicit, or rather better informed; he says of the rust: "Rubigo ferri vin adstringendi habet;" again: "Vinum in quo ferrum restinctum fuerit, lienisios, stomachico dissolutis ac debilibus auxiliatur." Vide Canon. lib. ii. tract ii. p. 142.

XIV.

**LEAD.** *Eesum* (Tam.) *Sheesh* (Duk.) *Sisa* (Hind.) *Anik* (Arab.) *Sheeshum* (Tel.) *Surb* (Pers.) *Temaetam* (Mal.) *Sisaka* (Sansk.) *Plomb* (Fr.) *Blei* (Ger.) *Lood* (Dut.) *Piombo* (It.) *Plomo* (Span.) *Chumbo* (Port.) *Swinez* (Russ.) *Hih-yen* (Chin.)

**Plumbum.**

At *Dessouly* in Higher Hindoostan, about fifty coss East of Sirinagur, there is a lead mine of considerable value, worked by the Rajah. In Lower
India this metal has been found in small quantities, at Jungumrauxpillay, in the Cumbem district, in combination with varying proportions of iron, antimony, silver, sulphur, argil, and silex. Dr. Heyne* informs us, that ores of lead have been met with near Cuddapa. In the Sirmor country, as is noticed by the late Captain Rodney Blane in his interesting Memoir of that district, there is a valuable lead mine at Lodi. In Thibet, Captain Turner says, that at a place situated nearly two miles from Tessoolumbo, there is a mine of this metal which much resembles some of those in Derbyshire, and in which the lead is mineralized by sulphur; Sir John Malcolm speaks of a lead mine lying a little North of Odeypoort in Malwa. It is a product of Tonquin, and, according to Dr. F. Hamilton†, of Nepaul, where, however, it would appear but two mines are worked, all the metal being reserved for the Rajah's magazines. In Persia, it is found in the neighbourhood of Yesd, and amongst the mountains South of Helat in Mekran; and by Mr. Morier's § account, also at Khalcal, fourteen fursungs distant from Tabriz. The greater part, however, of this metal which is brought to India comes from Siam, from Aracan, and occasionally from the Burmah dominions; it is a product of Oman in Arabia, whence, Niebhrur tells us, much is sent to Muscat for exportation ('Travels, vol. ii. p. 365.') Mr. Elphinstone, in his excellent Account of Cabul, says, it is also a product of that country, particularly in the territory of the Afreeds and in Upper Bungush.

* See his Tracts on India, p. 315.
† See his Account of Nepaul, p. 78.
‡ See Kinneir's Geographical Memoir of Persia, pp. 40 and 224.
§ See Morier's First Journey to Persia, p. 284.
Lead is found in many parts of Europe, also in some Northern and Eastern* countries. The mines of England are particularly rich; those of Derbyshire alone yield annually about 6000 tons; it is seldom seen native† being chiefly procured in the form of an oxide, called native cerusse, or lead ochre, or lead spar of various colours, red, brown, yellow, green, blueish and black. There are three distinct oxides of lead, the yellow, or massicot, the red, and the brown. Nicholson observes, in his Dictionary of Chemistry, that a native minium was a few years ago discovered by Smithson in Hess. Lead is also found combined with various acids, carbonic, muriatic, phosphoric, chromic, sulphuric, molybdenic; likewise with arsenic acid, forming what is called arseniate of lead. The use of this metal in the arts is well known; it is much employed in glazing porcelain white: it is a principal ingredient in the manufacture of white glass, and the different coloured oxides are valuable pigments, and as such are used by the Hindoos, for particulars respecting which, the reader is referred to another part of this work.

XV.

LEAD, WHITE OXIDE OF, or CERUSSE. Vullay வுல்லாய் also Moothoo vullay (Tam.)

* Lead is a product of the Asiatic dominions belonging to Russia, especially in the mines of Nirtchensk, near the borders of Chinese Tartary. Sir Alexander Crichton informs me, that a chromate of it is found in several mines near Catherenberg, in the Oural mountains, chiefly at Berizoff.
† Either sulphuretted (in galenas) or combined with antimony.
CHAP. II. MATERIA INDICA. 535

Suffidah سنيدة (Duk. Pers. and Hind.) Asfidaj
عسفيدة (Arab.) Plomb carbonate (Fr.) Bleiweissee
(Ger.) Cerussa (It.) Seebaydo (Tel.)

Plumbi Subcarbonas.

XVI.

LEAD, RED OXIDE OF, or MINIUM. Segapoo sendooerum, also Eeum sendoorum சாமூ செந்தூரம் (Tam.) Sendoor ஸ்஬ூன்஦ூர் (Duk.) Sindur
(Hind.) Isrenj ارسنجب (Arab.) Sindura सिंदूरा (Sans.) Yërra sendoorum (Tel.) Temamera
(Mal.) Minium (Fr.) Mennig (Ger.) Vermillon
(Span.) Minio (It.) Yuen-tan (Chin.)

Oxidum Plumbi Rubrum.

XVII.

LITHARGE, or SEMI-VITRIFIED OXIDE OF LEAD. Marudar singhie மருதர் சிங்கி (Tam.) Moordár sang موردار سنگ (Pers. Duk. and Hind.) Litharge (Fr.) Bleiglatte (Ger.) Piombo semivitreo (It.) Almartago (Span.)

Lithargyrum (Duk.)

Cerusse is occasionally used medicinally by European practitioners in India as an astringent;
with it the Tamools are in the habit of preparing certain *kālīmboos* (plasters); the Arabians place it amongst their مسكانيات اوجاع (Anodyna.) It is from the subcarbonate of lead, that most of the cases of poisoning* occur, which happen to painters; and also from the base custom of putting it as well as sugar of lead (plumbi superacetas) into wines.†

The red oxide of lead (minium) is an export from Surat, and, according to Elmore, also from China; its medicinal qualities are nearly the same as those of litharge, but it is now rarely used: the modern Arabs place it amongst their *Modumilatkerough* (Cicatrizantia), and the Hindoos, especially the Bhills, use it commonly in performing some of their religious ‡ ceremonies. Litharge is never given internally; like the other preparations of lead it is powerfully astringent. The Mahometans of India occasionally employ it mixed with vinegar to remove pimples from the face and clear the complexion. What is commonly called Goulard’s extract (liquor plumbi subacetatis), is a medicine too well known to require particular notice here; it is used externally, and when diluted with water, forms a most valuable application to burns and phlegmon-

* Such afflictions are attended with violent pain in the stomach, vomiting, costiveness, difficult breathing, tremors, and a peculiar hardness and smallness of pulse; they are best combated with cathartics combined with henbane, plentiful mucilaginous dilution, and the warm bath.

† It appears by Marcet’s admirable Memoir on the Action of Poisons on Vegetable Substances, that a bean plant was killed in two days by putting its root into a solution of acetite of lead. See Journal of Sciences, Literature, and the Arts, No. xxxix. p. 193.

ous inflammations; about ʒi. to lb. i. of water; in a still more diluted state it is a useful application in cases of ophthalmia. Sugar of lead (plumbi acetæ), taken internally, is very powerfully astringent and sedative in hæmoptysis; dose about half a grain, given every eight or ten hours; as a lotion or collyrium the proportions are from gr. xv. to ʒi. of the salt, to eight or ten ounces of water.

Common galena or lead glance is often found in the bazars of India, and is confounded with the sulphuret of antimony (surmeh). It is apt also to be confounded, Jameson † says, with blende or sulphuret of zinc. Galena is used for glazing pottery; it is abundantly combined with sulphur, and is generally seen in heavy, shining, black or blueish lead-coloured cubical masses. The Romans appear to have got most of their lead from Portugal and Galicia; and to have been perfectly aware of its refrigerent quality, as was Avicenna (Canon. Med. lib. iii. tract. ii. p. 273.). Pliny, in his Natural History, book xxxiv. chap. xviii., gives us a formula for the preparation of psimmithyum (cerussa), and speaks of its poisonous nature when taken internally; he adds, that the Roman ladies occasionally used it as a kind of cosmetic, for making the complexion fair.

* Mr. Reynard of the "Société des Science" of Lisle, is of opinion, that common sugar might be, with advantage, employed instead of sulphate of soda, to prevent the bad effects of sub-acetate of lead when taken internally. Journal of Science for January, 1824, p. 395.

XVIII.

MANGANESE, BLACK OXIDE OF. *Manganese* (Fr.) *Braunstein* (Ger.) *Manganese* (It.)

**Manganese.**

This metal, it is to be presumed, is not common in India; Captain Arthur, however, informed me that he had found it in Mysore, massive in an indurated reddish-brown ochre, combined with oxide of iron; and it would appear that the black oxide is a product of Ceylon •; of all the ores of manganese, this alone has been introduced into the *Materia Medica.* It appears to have been first particularly noticed † by Boyle, about the beginning of the fourteenth century, but was considered as an iron ore, till the separate experiments of Scheele and Bergman, in 1774, proved it to be an oxide of a peculiar metal, which Gahn afterwards succeeded in obtaining in its metallic state. The greater part of the black oxide that is used in England, is found near Exeter in Devonshire, in Cornwall, and at Howth near Dublin. There is this singularity in manganese, that in its metallic state, it has been found capable of depriving a small portion of iron of its magnetism; but the effect ceases as soon as the metal is converted into oxide. The white oxide, or protoxide is imperfect,

• See Dr. Davy's Account of that island.
† I say particularly noticed by Boyle, for I think there is no doubt that the ancients were acquainted with it, though they confounded it with the magnet; and Pliny, in more parts than one, remarks, that the magnet was employed in making glass: this could have been nothing else than manganese. See Beckman's History of Inventions, vol. iv. p. 59.
and is soluble in acids; the black or per-oxide, which abounds as a natural product, is altogether insoluble; it is found in Devonshire and Aberdeenshire, also in Somersetshire. Manganese does not combine with sulphur, but Mr. Brande* tells us, that a compound of oxide of manganese and sulphur is found in Transylvania and Cornwall. Manganese melts readily with most metals, always excepting mercury, which it rejects.

Manganese has rarely, if ever, † yet been discovered in its metallic state; but its ores are found in most of the countries of Europe. The only medical ‡ use of the black oxide of manganese in England is for procuring oxygen gas, and for fumigating in cases of infection; for the mode of preparing the gas, the reader is referred to Dr. Thomson's excellent account, in his London Dispensatory. § For the manner of destroying infection by means of fumigating, the gentleman just named instructs us to take common salt ʒiv., oxide of manganese in powder ʒi., sulphuric acid ʒi., and water ʒij., mix the acid and water well together, and then pour the mixture over the other ingredients in a China basin, which should be placed in a pipkin of hot sand. The doors and windows of the room to be fumigated, must be closely shut for two hours after the charged basin has been placed in it; then thrown open, and a current of air allowed to pass through the room.

† A Frenchman of the name of Peirouse is said to have found it in its native state in the county of Foix. See Beckmann's History of Inventions, vol. iv. p. 68.
‡ In speaking of manganese, Alibert says, "Depuis que la medicine s’est approprie la manganese, elle en a fait des applications utiles au traitement de la teigne, des darte," &c. See his "Nouveaux Elements et de Matiere Medicale," vol. ii. p. 276.
The native peroxide of manganese is much used in the arts in Europe, such as in making the common bottle gass, and when added in excess it gives to glass a fine red or violet colour; it has also been discovered to yield a fine brown colour, used for painting porcelain. Of late years it has been employed in composing the finest kind of crystal-glass; and in forming flint-glass. In the laboratory it is considered as by far the cheapest material from which to procure oxygen gas; and is largely employed in modern times in the preparation of chlorine, especially by the bleachers. See more on this subject in another part of this work. The best manganese is supposed to be that of Piedmont and Perigord in Guyenne.

XIX.

**MERCURY.** Rasam Ḍṇḍlo (Tam.) Rasam (Tel.) Pārāh पार (Duk. and Hind.) Abuk اب (Arab.) also Zibākh (Arab.) Sīmāb (Pers.) Parā (Hindooie). Rāssā راس (Mal.) Sūtām सूत also, Rasa रस and Pārada पारद (Sans.) Mercure (Fr.) Quicksilber (Ger.) Mercurio (It.) Azogue (Span.) Shwuy-yin (Chin.)

**Hyrargyrum.**

We are informed by Captain Turner, that, at Tessoolumbo, in Thibet, cinnaber is found, which contains much quicksilver; and I perceive by that

---

† See Jameson's Mineralogy, vol. iii. p. 324.
valuable little volume, entitled, "Remarks on the Internal Husbandry and Commerce of Bengal," that mercury thus mineralized may be considered as one of the export articles of trade from India; the greater part of this metal, however, which is exposed for sale in India, is brought from Japan*, where it is procured, both in its native state and combined with sulphur (cinnaber)†; in which last form it would appear also, by Dr. F. Hamilton’s account, to be sometimes met with in Guzerat, and has there got the Hindoostanie name of झंगेरफ shengérf; the same author informs us, that it is found in its native state in Nepaul, where it is called sabita.

It is from native cinnaber that the greater part of the mercury of commerce is obtained; this is found in many parts of Europe: amongst the most productive mines, are those of Idria, Carinthia, and at Wolfstein and Morsfeld in the Palatinate; but, perhaps, after those of Idria, the richest mercury mines at present in a state of activity, are those of Almadin, near Cordova, in Spain; though they have been worked upwards of two thousand years. In the Idria mines of Germany, virgin or pure mercury is often procured in considerable quantity; the quantity in 1668, when Dr. Pope visited them, was about 14,862 lbs. annually.

Factitious cinnaber, or red sulphuret of mercury (hydrargyrum sulphuretum rubrum) may be obtained from the black sulphuret‡, by heating it red hot in a flask, when a grey sublimate is procured; which,

* Where, it would appear, that it is also found combined with silver, forming what is termed solid amalgam; the festes amalgam of Werner.
† See Abbé Rochan’s Voyage to Madagascar and the East Indies, pp. 365, 366.
‡ Or Ethioip’s mineral, a name, however, now little used.
when reduced to powder, assumes a red colour, and is called cinnabar. See Brande’s Manual of Chemistry, vol. ii. p. 255. This has been considered as alterative and deobstructient, and at one time was much used in rheumatic affections, leprous cases, and also in worm cases; it is the surur ahmar of the Arabians, but it is now chiefly employed in fumigating in old venereal complaints; the dose when given internally, is from grs. viii. to 3i., in the form of a bolus or electuary. The cinnabar of commerce, or vermilion, a compound of about 8 parts of mercury with one of sulphur, is manufactured to great extent in Holland as a pigment*; and a curious and particular account of the mode of preparing it, may be found in the “Annales de Chimie” livre i. p. 196. The Hindoostanie name of factitious cinnabar is durdar دیردار, in Arabic it is sometimes named sunjefer سنجیر, in Tamool it is enghilicum, in Dukhanie paak shengherf پاک شنگرف, in Persian shengherf شنگرف, in Hindooie ingoor, in Sanscrit inghoolum, in Malay sedilengam; it is also not unfrequently called by the Tamools shadilingum. It is an export from Surat to Madras, also from China† and Batavia‡; the Hindoos§ know how to prepare it in a coarse manner, and consider it as antispasmodic! and also as a valuable remedy for cutaneous affections, and for fumigating, in such cases of the venereal disease as are attended with ulcers in the nose, mouth, or throat.

Mercury, which is well known to be much, and most

† See Elmore’s Guide to the Indian Trade.
‡ See Oriental Repertory, vol. i. p. 88.
§ See Fleming’s Catalogue of Indian Medicinal Plants and Drugs, article Shengherf, p. 51.
successfully used in India, is there chiefly employed in the following forms: calomel (hydrargyri submurias), the mercurial pill (pilulæ hydrargyri), corrosive sublimate (hydrargiri oxymurias), and the ointment.

The use of mercury in venereal complaints, has now been persevered in for upwards of three * hundred years; and although there have of late been doubts entertained with regard to the absolute necessity of it, in such maladies; nay, those who affirm that they can cure the constitutional disease by other and simpler means; I own that I have not been made a convert to this new doctrine, nor shall give up the favorable opinion I have formed of it, after a nearly forty years' experience, notwithstanding all that has been brought forward against it. Much has been said of the modus operandi of mercury in syphilis; but perhaps nothing more judicious has been given to the world on that subject, than the following notion of the celebrated Hunter; that the stimulant operation of this metal, induces an action incompatible with the morbid action of the venereal virus, until the poison is either destroyed or evacuated from the body by the excretions; but whatever may be the principle on which it operates, as Dr. Thomson observes, "its efficacy is certain when judiciously† and cautiously administered." It has appeared to me, that after

* Berengarius Jacobus, a surgeon at Carpo, was the first who cured the venereal disease by means of mercurial ointment; he died in 1527.

† I know of no failure of a complete cure of syphilis, in India, when the medicine in question was timely resorted to and given with skill, and when the patient lived and managed himself as directed; but I have known infinite mischief produced by delay, carelessness, inattention to diet during the course; these are but too often followed by racking night-pains, nodes, ulcers, and all the rest of the horrid train of anomalous symptoms, which I need not enumerate here.
long continued courses of mercury in India, (and they are often, I fear, too long,) blood drawn is not only more fluent, but much darker* coloured than it appears to be when taken from a person in health; if this position is just, it becomes a question, whether or not this power of liquifying, or partially breaking down the blood, may not extend to the other fluids and secretions of the human body; and so account for, from the use of this medicine, the removal of various glandular and other obstructions, to which the frame is subject, whether buboes, liver affections, tumours of the joints from rheumatism †, &c.; and of this we are certain, that in those painful and, I am sorry to say, frequent hepatic derangements (to be met with in all climates), and which are particularly distinguished by a dark-coloured, viscid and offensive smelling bile, and a long train of dyspeptic and nervous symptoms, no sooner has the mercury testified its alterative effect on the habit by bringing on a slight soreness of the mouth, than the bile, if examined, will be found to have assumed its proper healthy rhubarb-like appearance and consistence, with that peculiar smell it only has, when secreted by a liver no longer diseased; while the extraventricular digestion will also be observed to go on with its former vigour, and the stomach by sympathy partake of the happy amend-

* I perceive the same power of rendering the blood dark coloured was observed in mercury by Cirillo, a physician of Naples. See Alibert's "Nouveaux Éléments de Thérapeutique," vol. ii. p. 268.

† Of the wonderful efficacy of mercury in acute rheumatism I have no longer any doubt; it was but lately I saw a delicate female who had been brought to the verge of the grave by bleeding, purging, and the use of diaphoretics, in this complaint, without the smallest advantage, relieved from all her sufferings the moment her mouth became a little affected from the use of the blue pill cautiously administered.
ment. How the more fluent and darker colour of the blood may be induced by the use of mercury, it is for chemistry to explain; the bright-red colour has been supposed by some to be owing to the iron* it contains; the red globules having been found to consist of a fibrous gluten, and that metal; now we know that mercury forms no amalgam with iron, though it does with gold, copper, zinc, bismuth, and lead, &c. †

It is well known that the Eastern nations were the first who employed mercury‡ in the cure of some of their obstinate cutaneous and leprous affections; and it may be questioned, whether the natives of India were before the Arabians, or only second in order, in availing themselves of the virtues of that powerful mineral. We are told by Le Clerc, in his "Histoire de la Medicine" (pp. 771. 791.), that, according to Fallopius, the first physicians in Europe who made use of mercury in venereal cases, lived towards the end of the fifteenth century; and that they were induced to make trial of it from what they had read of its efficacy in scabies and leprous cases, in the writings of Rhazes§, Avicenna∥, and Mesue. The first lived about eight hundred years ago; the second died in 1036; and the last, we are told, pub-

* The experiments of the celebrated Rhazes show that from twenty-five pounds of blood from the human body, nearly two drachms of the oxide of iron were obtained. See Hooper's Medical Dictionary.
§ "Argentum vivum cum extinguitur ardens est; quod scabiei auxilium afferit." Vide Rhaz. de Re Med. lib. iii. cap. xxiv.

VOL. I. N N
lished in the twelfth century (though I perceive that Moore, in his History of the Small-pox, says, Mesue lived towards the end of the eighth century, and beginning of the ninth); and we know that Almenar, a Spaniard, published on it, in 1516.†

Calomel is well known to be most efficacious in liver complaints, in India, and especially in what is called acute hepatitis; but it is not to be prescribed until the more violent inflammatory symptoms have been mitigated by bleeding, blistering, purging, and low diet; it is apt occasionally to open the body too much; in such cases, the admixture of a very small quantity of camphor may be necessary, but certainly not more than a grain, or, at most, two grains in the course of the twenty-four hours. Laudanum or opium in complaints of this nature is often deceitful. I have observed, that calomel is less likely to purge when prescribed in small divided doses during the day, than in a full one at bed time. I commonly gave a grain and a half, or at most two grains, three times in the day, rubbing in 3i. or 3ij. of mercurial ointment, once in the twenty-four hours, on any part of the body where the skin was soft and free from hair. As soon as the mouth gets properly touched † with the medicine, the pain and uneasiness in the side will be found to abate, so that its further continuance must be regulated with caution. In all

* But the fact is, there would appear to have been two individuals of the name of Mesue, probably of the same family. The one who has the greatest claim to our notice, is said to have flourished in the tenth century, to have professed the Christian religion, though a native of Bagdat, he practised at Cairo.

† We learn from Morrison's excellent Chinese Dictionary, that it is not exactly known when mercury was first given, internally, in China; but that in A. D. 745, it was termed in that country push-sez-che-yo, or elixir of life.

‡ And this is our surest pledge that mercury is to do good.
cases where offending bile is to be worked off, or where it may be required to excite a new action, calomel is an excellent remedy, mixed, as occasion may require, with other medicines, aloes, jalap, rhubarb, colocynth, &c. It is no place here to enter into a minute investigation respecting the causes of diseases; and, no doubt, there has been great difference of opinion concerning those which occasion inflammation of the liver. This much may be safely said, that the stimulus of heat (particularly a dry heat, such, for example, as characterizes the climate of the Coromandel coast, where liver affections are more common than in Bengal or in Malabar), too full and improper diet, and imprudent potations, have a great share in bringing on the mischief; nor can it be questioned but that a viscid and badly prepared bile, producing obstruction and irritation, is a more immediate source of evil; and so constantly does neglected constipation precede an attack of hepatitis, that we cannot for a moment deny, but that it must powerfully contribute towards hurrying on the organic derangement by binding up what should daily be carried off. How calomel may be supposed to do good under such circumstances, I think may be conceived from what has been above stated regarding the modus operandi of mercury on the human frame; viz. by inducing a new action incompatible with the existing evil; but, perhaps, more directly by rendering that bile more fluent and natural, which had become viscid and depraved; so the most likely of all things to produce disease by obstruction, stimulated as the liver is at the same time by inordinate heat, and thereby secreting a larger quantity of bile than usual, but which is too thick to flow easily through the various ducts.
With regard to the proximate causes of hepatitis much has been said by different authors. Winslow ascribed both the acute and chronic to an inflamed state of the ramifications of the venæ portæ, which, in his opinion, constitute the seat of the disease. Saunders, and Dr. Good thinks with some plausibility, suspects the acute variety to be owing to an inflammatory state of the hepatic artery, and the chronic to a like state of the venæ portæ (Study of Medicine, vol. ii. p. 388.).

When the membranes of the liver are attacked with inflammation, the pain and fever are infinitely more severe than when the substance of that organ is the seat of the disease. Indeed, I have known instances in which it appeared after death, that almost the whole of the parenchyma was converted into pus, though but little pain of any consequence had preceded. The pain stretching up to the top of the right shoulder more especially marks the acute disease; when the inflammation is on the convex surface of the liver the patient lies with most ease on his right side; while, on the other hand, if the concave side is affected, he lies with greater comfort to himself on the left. The acute disease will, invariably, end in suppuration, by which part of the parenchyma of the organ will be destroyed if a stop is not put to the inflammation by bleeding, blistering, and purging, and a subsequent use of mercury. A tumour forming near the edge of the liver, or towards the concave surface, points externally, and can easily be opened, and the patient by this means saved. If the abscess forms on the convex surface, it will point towards the cavity of the thorax, frequently corroding through the diaphragm. I have known several cases in which the inferior lobe of
the lungs having contracted an adhesion with those parts of the diaphragm connected with the abscess, the matter was discharged by the bronchiæ; but it more usually happens that the pus is diffused into the cavity of the thorax, and so forms a kind of purulent empyema; when the tumour forms adhesions with the stomach, or colon, the matter is consequently poured into them, and is either vomited up or passed by stool.

There is a variety of hepatic derangement which is extremely insidious, and is either a sequel of the acute disease, unskillfully treated, or a consequence of general torpor and languid circulation in the organ in question; in the latter instance frequently attacking delicate women of sedentary habits. It is usually accompanied with one or more of the following derangements: obstructions and slight indentations of the liver itself, or in some of the ducts; chronic dysentery; partial feverish symptoms; dyspepsia; great irregularity of the bowels, from vitiated or scantily prepared bile; dejection of spirits; mental irritability; and, if the sufferer be a female, irregularity of the menstrual discharge. This malady requires much nicety in the treatment; mercury must be used with infinite caution, cool air sought, and whatever is likely to invigorate the frame without over-stimulating: in such affections calomel, by its cathartic quality, is not so much to be trusted to as the blue pill, an excellent addition to which is ipecacuanha; two or three grains of the blue pill mass, with two grains of ipecacuanha, made into two pills, may be taken in the course of the twenty-four hours. Corrosive sublimate is, generally speaking, not a favourite medicine in India; its virtues in syphilis are doubtful; in cutaneous complaints it is
considered as more efficacious, but in every instance it sickens and irritates more or less. The Arabs, by Forskahl’s account (Mat. Med. Arab.), employ it often, and call it سولیمانی soleimanie. The best mode of administering it is in the form of a pill, mixed with some grateful aromatic. I have noticed the good effects produced by a judicious use of mercury in certain cutaneous diseases, in hepatitis, syphilis, and rheumatism; but there are many other maladies in which it has been found highly useful; such as dysentery*, croup, hydrocephalus, the bilious remittent fever of hot climates, in which the remission is of too short duration to expect much advantage from the bark; dyspepsia†, when its cause can be traced, which it often may, to a vitiated bile; hypochondriasis, when it is a consequence of the same derangement; and melancholy, in which the fluid in question is almost invariably dark-coloured, viscid, and offen-

* How many instances have I known in India of patients being saved by the use of mercury (ointment) in dysentery! The very moment almost that the mouth became affected the frequency and tenesmus ceased. A similar salutary result from the use of mercury in dysentery is noticed by Dr. James Johnston, in his valuable work on the Influence of Tropical Climates, p. 220.

† This variety of dyspepsia must not be confounded with some others of that complaint, such as that in which the stomach is affected by diminished nervous influence, or through sympathy with the head, to which there may be an ever-determination of blood, ending, sometimes, in mental derangement; nor with that disease of the stomach consequent of scirrhus in the organ itself. The dyspepsia in which mercury does good is that in which the bile is either too scanty in quantity, or of bad colour or consistence, and which is often characterised by great flatulence about three or four hours after eating; in such cases, a pill, composed of grs. iiss. of the blue pill, and as much compound extract of colocyth, taken at bed time, and continued for fifteen or twenty days together, will be found of the greatest advantage. Dyspepsia, distinguished by peculiar acidity, is best combated by antacids and strict attention to diet. By Prout’s experiments the free acid in the stomach has been ascertained to be the muriatic.
sive, requiring correction in both colour and consistence.

The diseases in which I am of opinion mercury may do harm, in India, are, generally speaking, those which are termed nervous, whose causes are to be traced rather to the brain than the liver; mental derangement, excepting that variety of melancholy distinguished by a black bile, is invariably rendered worse by the use of mercury*; and I think it is sufficiently evident that epilepsy and palsy are to be treated by other means than mercury, if we expect to render the sufferers any relief. So is this mineral also contraindicated in all those deviations from sound health, when either matter is formed in some part of the body, or in which a solution of continuity is evidently approaching; and equally so in those commonly termed cachectic†, provided always they cannot be traced to hepatic derangement. After suppuration has taken place in hepatitis mercury will not affect the mouth.

I mentioned above the advantage that might be expected from the use of mercury in the bilious remittent fever of India; if, however, this disease has, by mismanagement, not been arrested in its career, but suffered to pass into the typhoid type, we must no longer look to mercury for a cure; the time for its employment with success is then gone by; the

* Which appears to me to rarify or make more fluent the circulating fluids, and may have a somewhat analogous effect, perhaps, on the animal spirits, thereby bringing on, sightliness of manner and irregular excitement, the but too common consequences of long-protracted and injudicious courses of mercury in hot climates!

† In the scarify it is known to be a perfect poison; the danger from its use in such cases I perceive noticed by Alibert, in his "Nouveaux Éléments de Thérapeutique," vol. ii. p. 268.
reaction, the excitability of the frame, as Brown would have said, has been overcome by the violence of the fever; and the sufferer, whose body is no longer capable of being made to assume a new action, must be supported and sustained through the depression, by bark, the mineral acids diluted, or, what is better, the juice of ripe oranges* or pomegranates, or death will inevitably ensue. The preparation of bark I have found the best suited in such cases, is the strong decoction with a portion of the fine powder added to it; taking care to open the bowels every evening by means of an enema, and, if necessary, to keep up the vis vitæ by the application of repeated small blisters to the upper part of the foot or inside the ankle; but I, in some instances, could do little good when oranges were not plentifully supplied.

Calomel I have found of the greatest service in putting a stop to the feverish attacks which children are subject to in India; one grain, two or three, according to the age of the patient, may be given over night, and worked off with a little rhubarb and magnesia, or castor-oil, in the morning, and repeated if necessary. With respect to the use of mercury in scrophula, it is a subject on which much has been written, and more said: one fact I have sufficiently established, and that is, that, in this malady, salivation does harm. If the mineral is given at all it must be with great caution, as a gentle stimulant and alterative, and soon followed by sea-bathing and the use of iron, both of which I have found to be most efficacious in affections of this nature; the latter,

* Which the patient swallows with remarkable avidity, and which is, perhaps, the most powerful of all antiseptics.
perhaps, acting by giving to the blood that portion of iron in which it is found to be defective.* The preparation I have found best suited to the stomachs of scrophulous patients is the tinctura ferri ammoniati; the dose from $\frac{1}{8}$ to $\frac{1}{3}$, twice or thrice in the twenty-four hours, in a glass of water.

Cancer is a disease of rare occurrence in India; in its early stages I have found mercury of use, but when an altered organization had taken place, it appeared rather to do harm: the sub-muriate is the best preparation in such cases. The *yericum pawl* (milky juice of the asclepias gigantea dried) I am strongly inclined to believe might be useful in such affections: see article *Yercum Vayr* in this volume; it is the *mudar* of Upper India. Neither does this active mineral ever seem to have done much good in consumption; nay, Dr. Cullen doubted whether or not it did not do harm†; but, alas! what does much good in this distressing complaint? I have, in more instances than one, arrested the progress of the malady in its early stage by means of the blue pill, but the effects were not lasting.

After all that I have said in favour of mercury, in India, and I advance it with great submission to higher authorities, I must enter a caution against its indiscriminate use; and certainly would object to the very large‡ doses now given equally in England.

* See Russel on Scrophula.
† See Practice of Physic, vol. ii. sect. dccccvii.
‡ This is, I know, at variance with the opinions of some late and very intelligent writers, such as Mr. R. W. Bamfield, who, in his Practical Treatise on Tropical Dysentery, recommends scruple doses of calomel night and morning. I have found in hepatitis a repetition of smaller doses more certainly beneficial; for instance, grs. ij, given at most thrice in the twenty-four hours. With regard to dysentery, I would object to mercury in any quantity being given internally, unless, perhaps, a little of the blue
and in India ever being introduced into general practice. In cases requiring simply cathartics, that is to say, unattended with much fever, or any positive visceral affection, why have recourse to this powerful, but debilitating metal? Surely, we have abundance of excellent purgatives, where merely evacuation and not change of habit is required; medicines which do not nauseate nor exert their influence beyond the first passages. The great tendency to the skin in a tropical country, seems to render it there more difficult to affect the system with mercury than in colder climes; I was, on that account, in the habit of advising those who could do it with convenience to remove, during the time they were using it, to some cool situation.†

I cannot conclude what I have to say of the use of mercury as an internal remedy, in India, without expressing more fully a notion regarding it, which

pill in conjunction with ipecacuanha; in that disease I trusted more to the strong mercurial ointment, and so saved the bowels from irritation. My notions of calomel are also in opposition to those of Mr. Corby, who informs us, that calomel, in doses of from grs. v. to grs. x., excites lassitude, sickness, irritation, and, on account of its being a stimulant, acts as a good purgative; but that in doses of from grs. xv. to grs. xx. it is a sedative! allays vomiting, removes spasm, sends the patient to sleep, and produces one or two motions; in this way he found it of advantage in the spasmodic cholera. See Reports on the Epidemic Cholera, published at Bombay, in 1819, Appendix, p. 3.

* Much has been said on the use of calomel, in India, in cases of cholera morbus; and on that subject I was led to give my opinion fully in my observations on the cholera morbus of India (pp. 64 and 65); I can only here add, that whatever hopes may have been at one time expected from this mineral, in that malady, it in too many instances has failed to allow us to speak of it with encomium, and has often been discovered, after death, in the stomach, where it had proved quite inert.

† For instance; if in the Carnatic, that the patient should proceed to the Mysore country, or to the delightful and cool valley of Courtâlam, in the Tinnively district.
has been already hinted at. I have oftener than once observed, that the supervention of one disease has caused the immediate disappearance of another: dysentery I have known effectually removed by the coming on of intermittent fever; rheumatism by an attack of dysentery; epilepsy by epidemic fever; and one remarkable instance of an officer who had not fewer than seven spreading scrophulous ulcers in different parts of his body, which had long baffled my best endeavours to heal, and who, from particular circumstances, having been obliged to sleep amongst the mountains of the Ganjam Circar, for two nights together, got the endemic fever of the district, which, after the third paroxysm, had so completely the effect of changing his habit, that before the end of the eighth day from the time that the fever first seized him, every sore on his body was healed up, nor ever again returned, as far as I could learn. Now the query is, whether, without being led to look farther for the modus operandi of mercury, we might not say, that it acts by bringing on a new affection, and so conquering the morbid action we may have been called to subdue.*

* See Ferrier's excellent Treatise on the Conversion of Diseases, a work which contains sentiments and facts, perhaps, but too little attended to, and which have ever appeared to me to adduce many excellent hints for medical treatment. Reasoning from what he has advanced, for instance, might we not be induced, on some occasions, to try what could be done by exposing the patient to a new but more tractable morbid action, with a view of combating what may have baffled our best endeavours to overcome. It will not be denied that the great object of the practice of physic is to produce, with the least possible delay, so great a change in the state of the human frame, that the existing ailment may be checked, and another excitement superinduced in its room. To ensure this happy effect various modes have been had recourse to, so that the question simply becomes, how can it be best accomplished? Of the wonderful virtues of mercury, in
The preparations of mercury, used externally, which are chiefly resorted to in India by European practitioners are the following: 1. The white precipitate (hydrargyrum præcipitatum album), employed in the form of an ointment in some of the most obstinate cutaneous complaints. 2. The red precipitate (oxydum hydrargyri rubrum, per acidum nitricum), used in the form of a fine powder, for destroying fungus or cleaning chancre; also, when mixed intimately with fine sugar, in the proportion of grs. ss. of the oxide to grs. iv. of sugar, for removing specks on the cornea blown into the eye; or,

occasioning a revulsion in many maladies, I can bear full testimony; antimony, galvanism, brisk purging, copious and repeated bleeding, have all had their strenuous advocates; against the last powerful agent it may look almost like petty treason to say a word in these days, yet this much I shall venture to affirm; that (however useful, nay, absolutely necessary, it may be to bleed freely in some acute, inflammatory, organic affections, and in cases of severe falls and contusions), by the large abstraction of the vital fluid I have known many a fine constitution most seriously injured for life; the blushing roses blighted on the cheek of youth; the muscles rendered flaccid, the tone of the stomach impaired; nay, I have but too often remarked, that it was ever those who had been most frequently bled in early life that were most apt to sink into dropsy and paralysis in their more advanced age. Dr. Morgan, of Walthamstow, suggests the bringing on of syncope, as expeditiously as possible, as a remedy in some obstinate disorders, such as the cholera morbus of India; and this, he says, can be done at once by removing the pressure of the atmospheric air from the thigh and limb of one side, by means of an air pump: the notion is new and ingenious, and certainly worth the experiment. My proposed method of combating the same complaint is by means of galvanism, from a supposition that all the symptoms of the disease are consequent of a temporary diminished quantum of the galvanic fluid in the frame of the sufferer; the vomiting I conceive to be occasioned altogether by a morbid acidity of a peculiar nature, brought on by the reduced nervous energy, and most likely to be relieved by antacids (magnesia) and the use of calf’s bile, taken internally; the natural bile being ever observed to be wanting in the evacuations in such attacks; when it does flow it is salutary.
made into an ointment with lard, it is prescribed as an application to ulcerations of the eye-lids and to chancre.

3. The grey oxide of mercury (hydrargyri oxydum cinereum) I have found, from experience, to be most valuable for fumigating, especially in such cases of venereal ulcers as have become sphenelous, when it acts like a charm; the fumes directed to the parts affected.

4. The milder ointment of nitrate of mercury (unguentum nitratis hydrargyri mitius), the chief use of which, when moderately diluted, is as a local remedy in herpes and tinea capitis, but more especially in psorophthalmia, ulcerations of the tarsi, and in the purulent opthalmia of infants; it is what used to be called unguentum citrinum, though that name, perhaps, more properly belonged to the stronger ointment of nitrate of mercury.

For some account of the preparations of mercury in use amongst the Hindoos, the reader is referred to the second part of this work; articles Rassum, Rassapuspum, Rassacarpoorum, Shadilingum, Shavirum, and Rassa sindoorum. The diseases in which mercury in various forms is had recourse to in India by the Hindoos, are anasarca (neer covay), ascites (maghoodrum), apoplexy (assadi sennie), the venereal disease (maygha veeadie), and leprosy (koostum). See Tamool Sastrums, Aghastier Pernool, and Aghastier Ayrite Anyouroo.

The ancients considered mercury, used internally, as a poison, at least in the time of Pliny the elder it was so reckoned (Nat. Hist. book xxxiii. chap. 8.) ; though it would appear that Galen, who wrote about a hundred years after, and flourished in the reigns of M. Aurelius, Commodus, Lucius, and Severus, began
to think more favourably of it. He would seem like Theophrastus, to have turned his attention particularly to minerals and metallic substances; he went to Lemnos, to see the famous Lemnian earth; he reviewed the metallic substances of Cyprus, and brought to Rome many valuable drugs from the mineral kingdom; nor did he leave unexplored the vegetable kingdom; he made a journey to Palestine, to make experiments on the opobalsamum, and directed the attention of his countrymen, to a great variety of medicinal plants. See Eloy's Dict. Hist.

The uses of mercury in the arts, are many, and highly valuable; such as in constructing thermometers and barometers; in preparing amalgams of gold and silver for the purposes of gilding (in gilding steel or iron, however, which has no affinity for mercury, it is necessary to employ an agent to dispose the surface to receive the gilding; for this purpose a solution of mercury in the nitrous acid is applied to the parts intended to be gilded; when the acid by a stronger affinity seizes a portion of the iron, and deposits in the place of it, a thin coating of mercury, which will not refuse a union afterwards with the gold amalgam). Other uses are, in making what is called a quickening water for gilding; for taking off the gold from gilt-silver tankards; for silvering looking-glasses; for preparing an amalgam in conjunction with tin, lead, and bismuth, for quicksilvering the inside of glass globes; for silvering the convex-side of meniscus glasses for mirrors; for preparing that amalgam in combination with tin and zinc, and formed into a paste with hog's-lard, which

has been found the best suited for anointing the cushions of electrifying machines, &c.

What is called Howard’s fulminating preparation of mercury, as having been discovered by him, is made by dissolving by heat 100 grains of mercury, in an ounce and a half of nitrous acid; this solution being poured cold into two ounces by measure of alcohol in a glass vessel, heat must be then applied till effervescence is excited; a white vapour undulates on the surface, and a powder is gradually precipitated; which, when well washed and dried, is the powder in question: it detonates by gentle heat or slight friction.

We are told by Dr. Paris, in his excellent work*, that with the exception of Peruvian bark, he knows no medicine so often adulterated as mercury; its impurity is seen by its dull aspect; by its tarnishing, and becoming covered with a grey film; by its diminished mobility; it is commonly adulterated by lead, bismuth, zinc, and tin.

There is, I think, no doubt, but that what Pliny calls minium, and which was brought to Rome from Spain, was no other than the native cinnabar † of the modern authors; he observes, that the Greeks termed it miltos, and that some named it cinnaberi, an appellation, however, which we find was also sometimes bestowed on dragon’s blood, a circumstance which often led to much confusion; the minium (cinnabar), the Romans also occasionally called secundarum or secondary vermilion, and were in the habit of pre-

* Pharmacologia, pp. 394, 395.
† The ἐπικαλακτικ of Dioscorides, which some others suppose corresponds with our cinnaber, Dierbach seems to be of opinion was no other than the sanguis draconis. See Dierbach’s Materia Medica of Hippocrates, chap. iv.
paring, by means of fire, what they termed artificial quicksilver or hydrargyrum from it, which in nothing differed from our quicksilver. As a medicine used internally, Pliny cautions us against it as a poison, but adds, and I consider the fact as extremely curious, nor am I aware that it has been before noticed, "unless indeed it is to be administered in the form of an unction on the belly, when it will stay bloody flux." Now whether the ancients carried the use of this remedy so far as to produce ptyalism, is a question we, alas! cannot now solve. See Plin. Nat. Hist. book xxxiii. chap. 8. The same author mentions the use of quicksilver amongst his countrymen in gilding. In the seventh chapter of the same book, we are told this interesting circumstance, that according to Theophrastus, Callas, the Athenian, about 249 years after the foundation of Rome, was the first, who, trying to procure gold by means of fire, from a red sandy earth, obtained by chance the first real cinnaber. By the same author's account it would appear, that native mercury was got in his time from the same mines in Spain that yielded silver; chap. vi.

For various and interesting particulars regarding the use of mercury amongst the Hindoos, the reader may consult a celebrated Tamoöl Sastrum, entitled Concananirar Nool, a work on the preparations of mercury, and other powerful minerals; also, one entitled Boganinar Terumunrum, which treats of the different preparations of mercury, &c. In Sanscrit there are many works on the same subject; the most celebrated are Rasaratna Samoochayem, Rasa Sarum, and Rasa Rutmacarum, in which may be seen many curious, and, certainly, a few extraordinary
notions, respecting the metals, precious stones, sorcery, brimstone, &c. In Ceylon, there are several very interesting Sanscrit works on the Materia Medica, written in the Cyngalese character, though sometimes in Pali; of the last, the books entitled Manjusa and Yogapitaké, are most remarkable. The Bhaishajyā Māni Mālāwā consisting of 1166 stanzas, and the Sārā Ślokā are in Sanscrit, but in the Cyngalese character. Of modern Persian medical books, in which mercury may be found mentioned, the best appear to be the various writings of Secunder, especially that called قرایدنی کربادینیِ Secundrie; the author’s name is Secunder Ben Ismāel; he is said to have been a native of Constantinople, and was at one time physician to the Nabob of Arcot, to whom he dedicated one of his works قانونی جی فی الطب in 1747.†

With regard to the Arabic works in which this metal is mentioned; the reader will find it fully noticed in a book entitled قانونی في الطب Kanooni Fi Alib (Canon. Med. lib. ii. tract ii. p. 119.).

* Since writing the article mercury, I have read Mr. J. Annesley’s valuable work on the Effects of Calomel; also Dr. S. A. Cartwright’s Essay on Syphilis. I have now too little room left here to say much more on this subject; and shall, therefore, reserve any further sentiments I may have to offer till I have occasion to speak of mercury in that chapter of this work which contains the “Formulae.”

† I am happy to say, that we have got four volumes of the writings of this author in the library of the Royal Asiatic Society.
Silver. Vellie வேல்லீ (Tam.) Rūpā रुपा (Duk. and Hind.) Nokra نكر (Pers.) Fazzeh فازجه (Arab.) Vendie (Tel.) Perāk پرک (Mal.) Peddie (Cyng.) Rajata रजत and Rūpya रूप्या (Sans.) Argent (Fr.) Silber (Ger.) Argento (It.) Plata (Span.) Yin (Chin.)

Argentum.

Silver occurs in trifling quantities in Upper Hindoostan. In Lower India, I have been informed that Mr. W. Mainwaring found it in its native state in the Madura district, associated with zinc, sulphur, iron, fluoric acid, silica, and water, forming a yellow blende, perhaps somewhat similar to that to be met with at Ratieborzix in Bohemia. Captain Arthur was the first who discovered this metal in small quantities in Mysore, both in its native state, in thin plates, adhering to some specimens of gold crystallized in minute cubes, and mineralized with sulphur, iron, and earthy matter; forming a kind of brittle, sulphurated silver ore, not unlike what is found in the district of Freyberg, in Saxony, and in Siberia. On the island of Banca there are silver mines, but the sultan has a great objection to their being worked. There are silver mines in the kingdom of Ava*; it is an export in ingots from Cochin-China. We also know, that this valuable metal is a product of Siam†,

† See Oriental Repertory, vol.i. p. 119.
(from which country it is brought to India,) as well as of Manilla *, Thibet †, Japan ‡, Tonquin, and Java. § Kinneir informs us, that it is found in Armenia, and in the provinces of Mazanderaun and Kermaun in Persia. || The richest silver mines of the Russian dominions are those of Schlau- genberg, in the government of Culivan. What is called the Sysee silver of China ¶, found in the mines of Honan, is of the finest quality, five per cent better than dollars; it is got in irregular pieces, but can only be taken from the country by smuggling.

Dr. Heyne, in his Tracts on India (pp. 315, 316.), tells us, that in the Nellore and Callestry districts, on the Coromandel coast, a galena of lead, rich in silver, was found some few years ago; and he adds, that the same ore has also been discovered eight miles north of Cuddapah; the mine I believe had been formerly worked by order of Tippoo Sultan, but abandoned because not sufficiently productive. It would appear, that the ore had been lately analyzed in Bengal, and found to contain eleven per cent of silver!

Native silver is rarely got altogether pure, but

* See Oriental Repertory, p. 88.
† See Turner’s Embassy to the Teshoo Lama, p. 370.
‡ See Tavernier’s Indian Travels, part ii. book ii. chap. xxiii.
§ At Pondang, in that island.
|| Frazer, in his Journey to Khorasan, informs us, that silver is found in a mountain called Altoun Taugh, in the Southern district of Bockara.
¶ We are told by Du Halde, in his History of China, that there are silver mines in that country, in the province of Hon-guang, near the city of Hengtheou-fou (see work, vol. i. p. 213. English edition); and by Morier, in his Journey through Persia, &c., that there are silver mines at Kebean, about eight days’ journey from Tocat, in that part of Asiatic Turkey called Humiyah (see work, p. 344.).
generally contains small portions of other metals, such as metallic antimony with an occasional trace of copper and arsenic; *auriferous native silver* is found at *Konigsberg*, in Norway (discovered in 1625), at *Bauris* in Salsburgh, and in Siberia at *Schlangenberg*; it contains by Jameson’s account 72 parts of silver and 28 of gold! One of the most frequent ores of silver is what is called the compact silver glance, also vitreous silver ore, and sometimes compact sulphureted silver ore; the constituent parts of which (obtained at Himmelfurst) were 85 of silver and 15 of sulphur; it is found in many parts of Europe; in Asia, I believe, only at Schlangenberg, in Siberia.

The most valuable silver mines are well known to be those of Mexico and Peru, which far exceed in value the whole of the European* and Asiatic mines; we are told by Baron Humboldt, that in the space of three years they afforded not less than 316,023,883 lbs. troy of pure silver.†

* In those of Konigsberg, in Norway, however, according to Dr. Clarke, in his Travels in Sweden, the metal is sometimes found in immense masses; one of which, he tells us, kept in the museum of Copenhagen, measures six feet in length, and, at one part, eighteen inches in diameter. From the mines of Konigsberg about one hundred and thirty thousand dollars are annually coined.

† The mines of *Mexico*, or New Spain, are considered as richer in silver than those of *La Plata* (Peruvian); and the mines of *Guanaswato* are infinitely richer than those of *Potosi*. More than three-fourths of the silver obtained in America is extricated by means of quick-silver; the loss of which in the process is immense. For interesting particulars respecting the “actual state of the *Mexican* mines,” the reader is referred to Sir William Adams’s pamphlet on that subject; he speaks highly of that of Valenciana, which, he says, in one year, 1791, yielded as much silver as was produced by the whole kingdom of Peru; nay, it would appear, from late accounts, that the same mine is now actually producing ore which is worth 5000L. weekly; this I should be much inclined to doubt.
The only preparation of this metal used in medicine, is the nitrate of silver (argentii nitras); it is the strongest and most manageable caustic known. Boerhaave gave it in dropsies; it has been prescribed as an antispasmodic and tonic, in cases of epilepsy, chorea, and angina pectoris, in doses of an eighth of a grain, gradually increasing the dose to three or four grains, and is given in the form of a pill with the crumb of bread: in too large doses it is a poison, and is ranked as such by Orfila; the antidote for which, he tells us, is common salt. I perceive, by Dr. Thomson’s London Dispensatory, that, according to Hahnemann, a solution of the nitrate in 1000 parts of water, is recommended as an application to old sores, and for healing the ulcers of the mouth brought on by the use of mercurials. Nitrate of silver, taken internally, and persevered in for some time, gives a singular darkness to the colour of the skin; which often remains a long time after its disuse. See Dr. Good’s *Study of Medicine*, vol. iii. p. 547. It does not appear from Mr. Brande’s account, that any certain means have yet been discovered of preventing this discoloration.* See Manual of Pharmacy.

The nitrate of silver is occasionally prepared in India, by some of the more enlightened Mahometan practitioners, but in a clumsy way; and, I believe, but do not give it with perfect confidence, that some mention is made of it in a Persian medical work, entitled *Krābadinie Cadéry* تصراءدین قدری, which is an extensive treatise on pharmacy, written by Mohamed Akbar Arzany, physician to the emperor Au-

* The reader will find this appearance of the rete mucosum particularly described by Dr. Bradely, in the Transactions of the Medico-Chirurgical Society, vol. ix. p. 294.
rungzebe, to whom it is dedicated. The opinions of
the Hindoos, respecting silver, may be seen in a
Tamool sastrum, named Kylasa Chintâmani Vâda-
nool, which treats of the art of making nine metals
into strong powders; also of arsenic, &c. &c.

The Romans appear, according to Pliny *, to
have got most of their silver from Spain, and we find,
that author expresses his wonder, “that those mines
of the metal, which were first worked in the days of
Hannibal, should still retain the names given to
them by those Carthaginians who first discovered
them, and, brought them to light; such as that of
Bebelo, so called in the days of Pliny;” it yielded to
Hannibal three hundred pounds weight of silver
daily.

The uses of silver in the arts are many and valu-
able. For curious and interesting accounts of silver-
ing in all its modes, the reader is referred to Smith's
School of Arts, and Nicholson's Dictionary of Che-
mistry, with its application to the arts. The silver-
smiths of Upper India appear to be well acquainted
with the art of silvering; they also make silver-plate
admirably, and can prepare the leaf, which the Ta-
mools call villie reck; in Hindoostan it is روپی وری
(rupie wurk); in Tellingo venie rekoo, and in Sans-
scrit rupie dullum. It is much employed by the moo-
chiemen in ornamenting pictures, images, fans, &c. †

What is called fulminating silver, was discovered
by Berthollet (Annales de Chimie, tom. i.), and is
obtained by dissolving oxide of silver in ammonia;
when a small quantity of liquid ammonia is poured

* See Pliny's Natural History, book xxxiii. chap. vi.
† My friend Dr. C. Wilkins informs me, that in the higher
provinces silver-wire is made as fine as a hair; this can be flattened
into lamina, it is then covered with a silken thread for embroider-
ing muslins.
on the oxide, a portion is dissolved, and a black powder remains; this is the fulminating compound, which explodes on being gently heated (see Brande’s Manual of Chemistry, vol. ii. p. 269.); but this powder is not to be confounded with the detonating silver of Descotils, which is obtained by dissolving silver in the pure nitric acid, and pouring into the solution while it is going on, a sufficient quantity of rectified alcohol; for further particulars respecting the process, the reader is referred to Ure’s excellent Dictionary of Chemistry, article Silver; I shall merely here add, that the powder, when well prepared, is white and crystalline, and that heat, a blow, or long continued friction, causes it to inflame with a brisk detonation.

To conclude, I may observe, that in speaking of the description of rocks in which native silver and gold are most frequently found in different parts of the world, Baron Humboldt says, “If the great argentiferous and auriferous deposits that have formed for ages the wealth of Hungary and Transylvania, are found solely in syenites and porphyritic green-stones, we must not thence conclude that it is the same in New Spain. The veta negra of Sombrecete, which traverses a compact lime-stone, has furnished the example of the greatest abundance of silver which has been observed in the two worlds. The mine of Valenciana is worked in transition slate; and in the central part of New Spain, where porphyries are frequent, it is not that rock which affords

* This, however, does not hold good in some other countries of Europe; for instance, we know that in Saxony, and Bohemia, and Norway, native silver occurs in gneiss and mica slate; in Ireland and Saxony in clay slate; and in Suabia in granite. See Jameson’s Mineralogy, vol. iii. p. 45.
the precious metals, in the three great workings of Guanaxuato, Zacatecas, and Catorce; the miners there work on metalliferous mineral deposits, almost entirely in intermediary formations of clay-slate, grauwacke and alpine lime-stone. In fact the more we advance in the study of the constitution of the globe in different climates, the more we are convinced, that there scarcely exists one rock anterior to alpine lime-stone, which has not been found in some countries extremely argentiferous.” See Humboldt’s Geognostical Essay, on the Superposition of Rocks, in both Hemispheres.

XXI.

TIN. Tagurum தகுரும் (Tam.) Runagā रनगा (Duk. and Hindooie). Urzeez ارزیز (Pers.) Timā تیمā (Mal.) also فالاغ (Mal.) Trapu त्रफु and Ranga रंग (Sans.) Kulai 卡力 (Hind.) Resās رصاس (Arab.) Etain (Fr.) Zinn (Ger.) Tin (Dut.) Estano (Span.) Stagno (It.) Olowo (Russ.) Galai (Turk.) Yang-seih (Chinese).

I do not believe that tin has been hitherto found in any part of our Indian dominions, strictly so called; it is a product of the East coast of Sumatra, and of the Malay peninsula, including consequently Siam and Pegu; but not to the Northward of 10° of North latitude, nor to the Southward of 6°. The places whence it is chiefly brought to India as an article of commerce, are, Queda, Junk-Ceylon,
Tavâi, in Lower Siam, and the islands of Lingin and Banca; the tin mines of the last mentioned country are extremely rich, and are worked by the Chinese; from these mines, Mr. Elmore tells us, in his "Guide to the Indian Trade" (p. 20.), are annually exported, not less than from forty to sixty thousand peculs of tin; and it appears, by a valuable memoir on the subject of this metal in Eastern countries, to be seen in the Asiatic Journal for Jan. 1820, that at the two islands last mentioned, it is sold cheaper than at either Prio or Pera, or indeed any part of the Malay peninsula; and that must be cheap indeed, as the tin of the last-mentioned country, we know, is sold at Queda for about 48l. per ton, and sells in China for 80l. per ton. There are those who believe, that the tin mines of Banca are comparatively a recent discovery, about the year 1710, as is stated by Captain Hamilton; who was in India at the time of the discovery; but how can this be reconciled with the facts, that the native Indian ships were found laden with tin, in the first voyages of the Portugese, and that it was carried to China by the Arabs in the ninth century.

The tin ore of Banca, is the common tin ore or tin-stone of mineralogists, and is usually of a reddish-brown colour; "superior in value," Mr. Crawford in-

* See Franklin's Tracts on the Dominions of Ava, p. 64.
† We are told in the Oriental Herald for February, 1824, that tin, in Siam, is diffused over more extensive geographical limits than in any other part of the world; and for productiveness the mines of Junk-Ceylon are considered as next to those of Banca. Eight thousand peculs, or about five hundred tons, are sent annually to the capital from the mines of Junk-Ceylon.
‡ The island of Banca lies betwixt Sumatra and Borneo, from the first of which it is separated by a narrow channel; it is in longitude 106° 5', and latitude 2° 33' 8".
§ See New Account of the East Indies, vol. ii. p. 120.
forms us, to block tin*, twenty-two and a quarter per cent. The Cornish tin is obtained with vast labour, by mining through obdurate granite, often to the prodigious depth of many hundred fathoms. Banca tin, on the other hand, by digging through a stratum of sand and clay; and seldom to more than three or four fathoms in depth. "To clear the Cornish mines from water, the most expensive and complex machinery is requisite; to clear those of Banca †, a simple wooden wheel, costing a few shillings!" We learn from Kinneir's Geographical Memoir of Persia, that tin is found in that country, amongst the mountains South of Helat, in the province of Mekran (p. 224.); and I was informed by the late Mr. W. Petrie of Madras, that there is a tin mine at Penang; it would also seem, by Barrow's account, to be a product of Tonquin. Tin, there is not a doubt, is found in some part of the Russian dominions, but Sir Alexander Crichton says, that it has not yet been discovered from what exact spot.

The tin of Banca finds its way to almost every part of the world; but China, and the continent of India, are its principal markets.

The tin-stone ore, above noticed, is combined with oxide of iron and silex. Another species of oxidized tin, is what is called wood-tin; its constituent parts, according to Jameson, being, oxide of tin 91 parts, and oxide of iron 9 parts. I am not aware, that it has as yet been found in Asia; it occurs at St. Columb, St. Roach, and St. Denis in Cornwall; it is one of the commonest tin ores of Mexico. Tin, in

* A name vulgarly given to iron and tin combined.
† The produce of the Banca mines, when they were wrought to the greatest advantage, was nearly the same in numerical amount with the highest produce of those of Cornwall. Crawford's Indian Archipelago, vol. iii. p. 466.
its metallic state, has been hitherto found only in Cornwall, in the form of what is called *tin pyrites*, and often associated with ores of copper and blende.

The pulvis stanni I have known some of the Mahometan doctors acquainted with as a medicine. It is considered as anthelmintic, and acts chiefly mechanically, given in doses of 3i. or 3ij. mixed with treacle or honey, for two or three successive mornings, and a brisk cathartic afterwards administered. Dr. Good mentions a case of tape-worm thirty-eight yards long, having been expelled from the anus by a dose of tin filings and jalap; 3ij. of the former and 3ss. of the latter, mixed with honey (Study of Medicine, vol. i. p. 299.).

The various uses of tin in the arts in Europe, are too well known to require being particularly noticed here. Some of the chief are, in tinning different metals, such as iron and copper. Iron when tinned in a particular manner, forms fer blanc. Pins are whitened, or, improperly speaking, what are called silvered, by boiling them with tin filings and tartar. Hollow mirrors or globes are silvered by an amalgam, consisting of one part by weight of bismuth, half a part of lead, the same quantity of pure tin, and two parts of mercury. Tin is much used for making domestic utensils, and in the process of enamelling.†

There are various kinds of pewter; the most valuable is that made with 17 parts of antimony and 100* of tin; to this the French add a little copper: Mr. Parkinson† proposes the addition of a little lead. The oxide of tin, vulgarly called putty, is generally used for polishing mirrors, lenses, and for rendering

* See Nicholson's Dictionary of Chemistry.
† See Parkinson's Memoranda Chemica, p. 169.
‡ To make the white enamels.
glass white and opaque, converting it into enamel. This must not be confounded with the putty of glaziers, which is prepared by kneading powdered chalk with linseed oil.

The oxide of tin is used in dyeing, as a mordant, especially for the purpose of heightening scarlet and madder red; and the murio-sulphat of this metal has been found to be a useful addition to give a deeper hue to yellow, in dyeing silk of that colour with the quercitron bark. The aurum musivum is a combination of tin and sulphur, much used by the japanners, also as a pigment for giving a golden colour to small statues or plaster figures; it is likewise mixed with melted glass to imitate lapis lazuli. Wallevious supposed tuttenag was a compound of two parts of tin with one of bismuth. Tin is also, we know, employed in the composition of a valuable kind of earthenware.

Mr. Beckman, in his History of Inventions, seems to be of opinion, that the stannum of the ancients, and cassiteron of the Greeks, was altogether different from our tin, and that it was no other than the regulus of lead, or werk of the Germans. Now, on perusing Pliny's Natural History on this article (book xxxiv. and chap. xvii.), I find no reason at all to concur with that gentleman; on the contrary, Pliny, after telling us very plainly the use of tin, viz. for lining brass or copper utensils, partly to take away the disagreeable taste which such vessels have, and partly to preserve them from rust, adds, that "in these days tin is often found counterfeit, by adding to white lead a third part of white brass;" he also mentions another device for counterfeiting tin, viz. "by mixing together white and black lead in equal
proportions," and so forming what was in his time termed, argentine lead!

Some account of tin may be found in a Persian medical work, entitled Kanoon der Alimi Tib, also, I believe, in a Sanscrit work called Rasa Sarum, which treats of the principles of nine metals, and their compounds; but I have met with no Hindoo medical practitioner that seemed to be aware of the virtues of the powder in worm cases; nor have I in my possession any Tamool prescription (and I have many) that contains tin.

XXII.

ZINC. Tootoonagum သို့တာတဆိုင် (Tam.) Sungbusrie سنغبوسرى (Duk.) Zinc (Fr.) Zink (Ger.) Zinco (It.) Pi-yuen (Chin.)

ZINCUM.

Mr. Mainwaring discovered zinc in the Madura district, in Southern India, some years ago, combined with sulphur and iron, forming what is called blende; but whether it was the yellow, the brown, or the black, I cannot say. Dr. F. Hamilton found zinc in Nepaul, and there called dasta.* But by far the greater part of this metal which is met with in India, is brought from Cochin-China or China, where both the calamine and blende are common; it is from the last, however, which is a sulphuret, that this metal is usually obtained for commerce, and is

* See his Account of Nepaul, p. 76.
then called spelter.* The metal may be procured pure "by dissolving this zinc of commerce (spelter) in diluted sulphuric acid, and immersing a plate of zinc for some hours in the solution, which is then filtered, decomposed by carbonate of potassa, and the precipitate ignited with charcoal in an iron pot" (Brande's Manual of Chemistry, vol. ii. p. 133.). It would appear, that though the process of extracting zinc from its ores had long been known in China, it was not so in Europe before the year 1721, when Henke pointed out a method of extracting it from its ores; and Dr. Thomson informs us, in his Dispensatory, that Von Swab first obtained it by distillation in 1742. Now-a-days, the mode of extracting zinc from its ore is sufficiently well understood, as well in Derbyshire as in many other parts of Europe.

Zinc, oxidized in the ore, called red zinc ore †, has hitherto only been got in North America. Oxidized in the common calamine ‡, its constituent parts are varying proportions of oxide of zinc and carbonic acid; this is found in several parts of England, but, I believe, in greatest abundance in Derbyshire; on the continent it is got in Carinthia, Hungary, Silesia, &c. Calamine is an article of the British Materia Medica, but it must first be prepared, forming then what is called calamina preparata, and is used in making certain collyria; also, in dry powder, it is applied, with success, to excoriations, ichorous ulcers, and superficial inflammations; it is calamine preparé

* This spelter, or impure zinc, is employed by the braziers in soldering.
† Consisting of 76 parts of zinc, 16 of oxygen, and 8 of oxides of magnesia and iron.
‡ Of this there are two varieties, the one a true carbonate of zinc, the other a compound of oxide of zinc and silica.
(Fr.); gabnei (Ger.); khaknei (Dutch); galniya and calamina (Ital. and Span.). Calamine, in its impure state, is well known to the Hindoos, who term it maddal tootum (Tam.) and dusta (Hind.). The Mahometans of India call it kull-kubrie خولکبیری; they employ it for nearly the same purposes that the prepared article is used in Europe.

What is commonly called tutty is the impure oxide of zinc, which the French call tutie, the Germans tutia, the Italians tuxia, and the Spaniards atutia; it is supposed to be an artificial compound of the sublimed oxide of zinc, that collects in the chimney's of the furnaces in which the ore of this metal are roasted, mixed with clay and water, and baked. Dr. Hooper considers the name tutia as a Persian word, and that the article was known to the ancients under the name of pompholyx. I am strongly led to believe, whatever confusion may have been introduced by their want of scientific arrangement, and by their many vague terms and synonyms, that the ancients knew much more than we are aware of regarding many mineral substances; and in the present instance, I am inclined to think, that, perhaps, spodos, and not pompholyx, was the word which they bestowed on the impure oxide of zinc. It appears that it only got the name of pompholyx after having undergone a certain preparation, which rendered it not only much whiter, but lighter* than the spodos; in fact, a something which I fancy corresponded very nearly with our flowers of zinc, or

* In book xxxiv. chap. xii. Pliny gives an account of the preparation of pompholis, which, he says, is exceedingly light, and rises with the smoke of the smiddle, and is only to be distinguished from soot by its extreme whiteness. Now this must lead us to suppose, that pompholis actually was the same as the lana philosophica and flores zinci of the early chemists.
zinci ossidum of the London Dispensatory. So am I also of opinion, however indefinitely he applies the word cadmia, that by it Pliny meant our calamine stone, and that with it and copper the Romans made some of their most highly-prized brass images (see chapters iv., v., and vi. of the same book and work); and all this may have been done without their considering zinc, as we now do, a distinct metal: with them cadmia was a most useful stone, and as such they employed it.

The oxide of zinc has been considered, by European practitioners, as tonic and antispasmodic; and has been, according to Gaubius, employed with success in chorea; he gave it the name of cadmia. Dr. Good†, however, does not speak so highly of its virtues; though he thinks its antispasmodic properties may be greatly increased by adding to a full dose of it a full dose of ammoniated copper. Dr. Duncan gave it with success in epilepsy (Commentaries, iii. p. 216.).

I do not find that the Mahometan practitioners of India employ zinc in any form. The Hindoos, or rather the Tamools, call it, as already noticed, tootānāgum, and prepare with it a kind of flowers of zinc, which they term tootenāgum passpum, in the following manner: “Zinc is to be fused in an earthen pot, some green leaves of the euphorbia nereifolia (elēkūllē) being thrown into the melted mass, which is constantly stirred with an iron spoon; it inflames in the usual manner, leaving ashes, which are kept in the fire till they acquire a splendid white colour; only the finest parts of these are preserved for medical use, and are separated from the

* See Study of Medicine, vol. iii. pp. 440, 441.
rest by sifting through a piece of fine muslin” (see
Heyne's Tracts on India, p. 166.). This tootenaga
passpum, the gentleman just quoted tells us, is em-
ployed by the native practitioners with the greatest
confidence (and I consider the fact as curious), in
the following diseases: gonorrhœa virulenta (megho-
rogam), in debility from nocturnal pollutions, in flor
albus (kusum arogam), and the hæmorrhoids (arge-
rogam).

The white vitriol, or sulphate of zinc, is in Tamool,
vulley tootum, in Dukhanie, suffaid toota سفید توتوه, in Tellingoo, tootum, and in Sanscrit caburnie.

The Hindoos and Mahometans of India seem only
to know it through their connexion with Europeans.
In very small doses, that is from one to two grains,
it has been employed, given twice a day, as a useful
tonic in epilepsy*, intermittent fever, fluor albus,
chorea, and pertussis. Dr. Pearson says, that in
doses of five or six grains he has found it a useful
emetic, evacuating the stomach without weakening
it. When immediate vomiting was required I have
given it to the extent of 91. with success: we all
know its value in preparing collyria, to be used after
vascular congestion has been removed.

The use of zinc in the arts is chiefly in the fabric-
ation of brass and other gold-coloured mixtures, and
in making bronze, which is done by fusing together
tin, copper, and zinc. The lately discovered mal-
leability of zinc, at a temperature of 300° of Fah-
renheit, has, no doubt, greatly enhanced its value;
the inconvenience arising from its brittleness thus
being removed, the metal is now applied to many of

* See Brande's Manual of Pharmacy, in which he says, that in
diseases attended with considerable irritability the sulphate of
zinc appears preferable to sulphate of iron.
the purposes for which copper had been hitherto used (Jameson’s Mineralogy, vol. iii. p. 418.). The same author tells us, that the oxide of zinc has of late been recommended as a substitute for white lead; as a pigment it is not liable to change, and is not subject to those deleterious consequences so frequently attendant on preparations of lead. Zinc detonates strongly if mixed with nitrate of potash and thrown into an ignited crucible. Gold, silver, platina, and nickel, are rendered brittle* by it; but with bismuth and lead it enters into no combination in fusing. Of all known bodies, except manganese, zinc unites the most readily with oxygen; it takes it from almost every other body, which renders it useful in detecting the most trifling quantities of oxygen: hence zinc acts with great rapidity on all the acids. I shall conclude what I have to say of this article by observing that zinc inflames in oxy-muriatic gas, and is a most powerful conductor of galvanism.

Such are the metals and metallic substances which I have found in India and other Eastern countries, in use amongst the natives and European inhabitants; there are, no doubt, others, but any inquiry regarding them would have been foreign to my pursuit, which is confined merely to such articles as are known to have some tangible intrinsic value, whether in medicine, the arts, agriculture, or horticulture.

* See Parkinson’s Memoranda Chemica, p. 173.
CHAPTER III.

FORMULÆ, WITH PRACTICAL OBSERVATIONS.

See Article I. page 2.

DILUTED SULPHURIC ACID—Acidum Sulphuricum Dilutum.

Prepared by mixing a fluid ounce and a half of the sulphuric acid with fourteen fluid ounces of distilled water. It is a tonic, a restorative, and is given with success in protracted venereal affections, in India, when the constitution has been weakened by long courses of mercury: dose from ten to thirty minims.

℞ Acidi sulphurici diluti . - m[.]
Infusi roseæ - - f[.]iss.

Misce. This may be taken two or three times during the day.

℞ Acidi sulphurici diluti - f[.]ij.
Tincturæ cinchonæ compositæ f[.]ij.

Misce. Of this one or two tea-spoonsful may be taken twice in the twenty-four hours, in a glass of water, to restrain colliquative sweats. Dr. A. T. Thomson tells us, in his London Dispensatory, that in malignant erysipelas, with a tendency to hæmorrhagy, the diluted sulphuric acid has been given to the quantity of f[.]ij. in twenty-four hours.
See Article II. p. 2.

Diluted Nitric Acid — Acidum Nitricum Dilutum.
Prepared by mixing together a fluid ounce of nitric acid with nine fluid ounces of distilled water: dose from ten minims to forty in any bitter infusion or in distilled water.

℞  Acidi nitrici diluti - - fʒiij.
    Aquæ distillatæ - - fʒxxxiij.
    Syrupi - - fʒiij.

Misc. Of this three or four ounces may be taken for a dose in typhus fever; or, as a tonic, to alternate with mercury, in venereal affections attended with obstinate anomalous symptoms; or it may be prescribed as a useful adjunct to bark in typhus fever.

℞  Decocti cinchonæ - - fʒxxiiij.
    Tincturæ ejusdem - - fʒiij.
    Acidi nitrici - - miiix.
    Syrupi aurantii - - fʒiij.

Misc. Fiat haustus.

Diluted nitric acid is sometimes used, in India, to act as a blister in cases of cholera morbus; and with it is prepared, occasionally, a bath, as recommended by Dr. Scott in chronic hepatitis: in making this bath* the acid must be added to the water till it is

* The bath recommended by Dr. Scott was for the feet and legs, which he ordered to be kept in the acid mixture for half an hour or more at a time, and to be continued for a fortnight if found beneficial; it would appear to stimulate the liver and keep the bowels open: but in two instances, in which I marked its effects, it rendered both individuals peculiarly nervous, amounting almost to hysteria!
about the sourness of vinegar. Dr. Thomson recommends for fetid ulcers a lotion made with $f_{3ij}$ of the acid and $0j$ of water. A few drops of diluted sulphuric acid added to sulphate of quinine, previously to its being mixed with water, seems to have the effect of increasing its tonic properties.

See Article III. p. 4.

**Diluted Muriatic Acid — Acidum Muriaticum Dilutum.**

Prepared by mixing together a pound each, by weight, of muriatic acid and distilled water: dose from fifteen minims to $f_{3i}$ in any bitter infusion. Mr. Brande says (Manual of Pharmacy, p. 200.), that, as a tonic, this acid is not preferable to the sulphuric; he gives us the following gargle as serviceable in malignant sore throat:

\[
\begin{align*}
R & \text{ Acidi muriatici} & - & - & f_{3ss}. \\
& \text{Decocti cinchonæ} & - & - & f_{3iiiss}. \\
& \text{Infusi rosæ, comp. āā} & - & - & f_{3i} \\
& \text{Mellis rosæ} & - & - & f_{3i} \\
& \text{Misce. Fiat gargarisma.}
\end{align*}
\]

This acid, in the state of gas, is employed often, with advantage, for neutralizing putrid miasmata and destroying infection in sick rooms; disengaged by pouring sulphuric acid on common salt. The muriatic acid does not appear to have any positive antisyphilitic virtues, and is but little employed in any way in India.
See Article V. p.6.

**Almond — Amygdalus Communis (Lin.).**

R Olei amygdalæ dulc. — — fʒi.
Syrupi toleratni — — fʒi.
Aquæ distillatæ — — fʒvi.
Liquoris potassæ subcarbonatis, q. s.

Fiat emulsio. A table-spoonful to be taken two or three times in the day, when cough is troublesome, and inflammatory symptoms abated. The bitter almonds contain less fixed oil than the sweet; but there can be obtained from them, by distillation, an oil which is virulently active, in fact, destructive to animal life*; taken in the small quantity of one drachm.

See Article VI. p.8.

**Aloes — Aloes Extractum (Edin.).**

Aloes is seldom prescribed by itself; but is one of the best of all the stomachic aperients in India, given alone or in conjunction with bitter extracts.

R Aloes spicati — — ʒss.
Pulveris rhei — — ʒss.
Extracti gentian. — — ʒi.
Syrupi simplicis, q. s.

Misce, et divide in pilulas xx. Two of these may

*See an excellent Treatise on Prussic Acid, by Dr. Granville (p. 89.). See also the papers of the very able and scientific Mr. Brodie, in the Philosophical Transactions. If Prussic acid should have been taken so as to endanger life, Mr. Stowe recommends an emetic, without delay, and then to rouse the energies of the system by means of oil of turpentine, brandy, or ammonia. This acid has a strong odour of bitter almonds; it is soluble in alcohol, and may be precipitated from its solution by nitrate of silver.*
be taken twice in the twenty-four hours, in slowness of the bowels consequent of dyspepsia.

The extract of the common aloe (Barbadoes aloe) is more active than that of the spiked aloe.

In dyspepsia, with much flatulence, consequent of liver derangement, I have found the following most useful:

\[ R \] Pilulæ aloes compos.,
   Pilulæ hydrargyri, āā - grs. xxv.
   Syrupi zingiberis, q. s.

Misce, et divide in pilulas x. One to be taken every night at bed time, and continued for fifteen or twenty days; or the compound extract of colocynth pill may be used in the same quantity, in place of the aloe.

\[ R \] Aloes spicati - - giss.
   Lact. nov. vaccin. - - 33viij.

Tere simul, ut fiat enema, tepidum injiciendum; in suppression of the menses or to expel ascarides. The pilulæ aloes et assafaetidæ are useful in flatulence and dyspepsia; dose grs. x. twice daily. The pilulæ aloes cum myrrha are excellent for opening the bowels in chlorosis; dose from grs. viii. to grs. xv. twice daily.

\[ R \] Pulveris aloes composit. - Eij.
   Pulveris antimonial. - Eij.
   Syrupi simplicis, q. s.

Misce, fiat massa, et divide in pilulas xvi. Two may be taken every night as a sudorific laxative.

\[ R \] Pilulæ aloet. (Edin.) - grs. xii.
   Calomel - - grs. v.
   Syrupi simplicis, q. s.

Misce, et divide in pilulas iv. The whole to be
taken at bed-time to purge of bile, when the stomach is easily sickened; or they may be made with the pilul. aloes composit. (Lond.)

\[ \text{R Vini aloes} \quad - \quad - \quad f\frac{3}{4}iiss. \]
\[ \text{Spiritus ammon. aromat.} \quad - \quad f\frac{3}{4}ss. \]

A table spoonful may be taken, or a little more, when necessary, to open the bowels in cases of nervous weakness.*

See Article VII. p. 11.

ALUM—Alumen.

This is used as an astringent and tonic in hæmorrhages and gleet. For the first a powder has been found useful, consisting of alum grs. x., kino grs. v., and repeated twice or thrice daily. For the latter, pills composed of alum grs. v. or vi., compound powder of cinnamon grs. vi., and extract of gentian, grs. vi. made into four pills for a dose, and repeated if found to do good. Dr. Pearson recommended alum-whey for gleet, prepared by boiling together a pint of cow’s milk and 3ij. of alum till coagulum takes place, then strain off the whey, dose 3ij. The alumen ustum (Dub.) is a useful escharotic, and is much used in India by the Hindoos in cases of ophthalmia; or a collyrum may be made by dissolving grs. vii. or viii. of alum in f\frac{3}{4}iv. or f\frac{3}{4}v. of rose-water. A useful gargle, in cases of relaxed uvula, is made with alum 3iss., decoction of cinchona f\frac{3}{4}xii., and f\frac{3}{4}iiss. or f\frac{3}{4}ij. of honey. Dr. Scudamore, in his Essay on Blood (p. 155.), says, that a saturated solution of alum is an efficacious styptic.

* The decoctum aloes compositum I have found to be a valuable aperient in hypochondriasis, in the quantity of f\frac{3}{4}vi. given twice daily, with an equal quantity of the compound infusion of gentian, and 3ss. of the subcarbonate of potass.
See Article VIII. p. 14.

**Amber — Succinum.**

M. Wilson, in his Pharmacopoeia Chirurgica, informs us, that the oleum succini cum opio is a useful medicine applied to the face in cases of tic doloureux. The oil, in doses of from six to fifteen drops, has been given as an antispasmodic and stimulant in hysteria and epilepsy, combined with water by means of mucilage, but it is not very efficacious. Brande notices the following as recommended to be rubbed on the chest in hooping-cough: spiritus camph., tinctur. opii, olei succini 30 f. Fiat linimentum.

See Article X. p. 17.

**Anise Seed — Anisi Semen.**

A mixture made with oil of anise xii. minimis, white sugar 3i., tincture of ginger f.3ij., and f.3vi. or f.3vii. of peppermint water, is a good carminative; the dose three table-spoonsful: or one or two drachms of the spirit of anise, spiritus anisi (Lond.), may be given for the same purpose, made by macerating for twenty-four hours half a pound of bruised anise seed in a gallon of proof spirit.

See Article XII. p. 20.

**Assafetida — Assafetida.**

In cases of what are called nervous head-ache I have known much relief given, in India, from pills composed of assafetida 3i., aloes grs. v., syrup of ginger q. s., made into fifteen pills, three or four of
which may be taken at bed time. Dr. Miller gave
the following, with success, in hooping-cough:

R Assafœtid. - - - 3ss.
Aq. ammon. acetat. - - f 3ss.
Aq. pulegii - - f 3iij.

Misc. One or two table-spoonsful to be taken
every hour.

As an emmenagogue from grs. x. to 3i. of the pilulæ
galbani compositæ (Lond.), made into pills, may be
taken at bed-time. Ten grains of the pilulæ aloe
et assafœtidæ (Edin.), made into two pills, and taken
twice daily, are useful in dyspepsia with flatulence.

R Mistur. assafœt. - - 3vss.
Spir. lavend. comp. - - 3ss.
—— ammon. arom. - - 3ij

Misc, sumat eger ter quotidie cochlearia tria.

This I have found extremely useful, in India, in
nervous sinkings in delicate females. For relieving
the pains of cholic an injection may be used made
with assafœt. 3iuss. and 3x. of barley-water. In
epilepsy, one may be employed prepared with tinctur.
assafœt. 3ss., tinct. opii f3i., decoct. avenæ f3xii.
The Hindoos take assafœtida in large doses, also mix
it with their food to prevent flatulence.

See Article XIV. p. 28.

Asarabacca — Asarum Europæum (Lin.)

Little employed in India. An errhine prepared
with the powder of the dried leaves (asari folia) and
the powder of the white hellebore root (veratri ra-
dix), of each 3i., has been recommended in cephalæa
and lethargic affections; a little snuffed up the
nose, occasionally, till a copious discharge from the nostrils comes on.

See Article XX. p. 32.

**BEEF TEA — Carnis Bubulae Infusum.**

Best prepared by putting a pound of the lean part of beef, cut into very thin slices, into a quart of water, and boiling it over a quick fire for ten minutes, taking off the scum; afterwards, pouring off the clear liquor for use, add a little mace, and boil the whole for five minutes longer. Veal broth (jus vitulinum) is more nourishing, without heating.

See Article XXI. p. 39.

**BENZOIC ACID — Acidum Benzoicum.**

Of this (the flores benzoes of the old Pharmacopoeias), from grs. v. to 3i. or more have been given in chronic asthma, as an antispasmodic, but it does not appear to be very efficacious. The tinctura camphoræ composita, into which it enters, is more useful in the same disease in doses of f3ij.

See Article XXVI. p. 44.

**BORAX — Sub Boras Soda.**

\[
\begin{array}{ccc}
\text{R Boracis pulveris} & - & - & 3i. \\
\text{Mellis despumat.} & - & - & 3i.
\end{array}
\]

Misce. A little to be applied frequently to the parts affected, in the thrush. A good gargle for the mouth, when the patient is under the influence of mercury, is prepared with borax 3ij., rose water f3x., and honey and tincture of myrrh, of each 3ss.
See Article XXIX. p. 48.

**Camphor — *Camphora.*

The camphor mixture is made by rubbing half a drachm of camphor with ten or twelve drops of rectified spirit, and then adding a pint of water: dose from $\frac{1}{3}$i. to $\frac{2}{3}$iij. in low fevers; or,

$R$ Misturæ camphoræ - - $\frac{3}{8}$viii.

Acidi sulphurici diluti - $\frac{1}{2}$i. 

Misce. Of this three table-spoonsful may be taken occasionally, in nervous affections. The spiritus camphoræ, made by mixing $\frac{3}{4}$iv. of camphor with $\frac{3}{4}$ij. of rectified spirit, is a useful application in chronic rheumatism. The linimentum camphoræ, but more especially the linimentum camphoræ compositum, is most serviceable in sprains and rheumatic pains, or in cases of cynanche tonsillaris, to be put on flannel and applied round the neck.

$R$ Camphoræ - - - grs. vi.

Moschi - - - grs. vi.

Opii - - - grs. iiss.

Misce fiat pulvis. To be taken in a little syrup in tetanus.

Camphor combines well with calomel, and prevents it from irritating the stomach. $R$ Calomel $\frac{3}{4}$ij., camphoræ $\frac{3}{4}$i.: siat pilulæ xx.; sumat unam omni nocte, to be continued till the mouth is affected, in syphilis or hepatitis. $R$ Camphoræ grs. vii., pulv. antim. grs. iij., confection. rosæ q. s.; misce, fiat bolus, in phrenitis, after bleeding and

The emulsio camphoræ of Dr. Duncan’s Edinburgh Dispensatory, is a much more valuable and efficacious medicine; in typhus fever I have given it with success, in doses of $\frac{3}{8}$iiss. every five hours.
purging. R Camphorae grs. vi., opii extracti grs. x. grs. xii., aqae distillate ferventis ʒ xii.; rub the camphor and opium well together, and add the boiling water to form a collyrium; useful in the early stages of ophthalmia with much pain and swelling. R Camphorae grs. iv., moschi grs. v., extract. cinchonae grs. xii.; fiat bolus, ter in die sumendus, in hysteria. R Mist. camph. ʃvi., aq. ammon. acetat. ʃiij.; misce, capiat ʃiij. sexta quaque hora, in low fever.

In cases of poisoning from camphor, Mr. Stowe recommends vomiting with sulphas zinci (Ə.i.); glyssters of soap dissolved in water; and active purges when the vomiting has ceased. When as much as possible of the poison has been expelled, an infusion of coffee is useful; if there is stupor, bleed; but no vegetable acids are to be given till the poison is expelled.


See Article XXXI. p. 52.

Lesser Cardamom — Cardamomum Minus.

The dose of the powder is from grs. vii. to grs. xviii.

A tea-spoonful of the tincture is a dose in a little tepid water as a cordial. R Magnesiae ʒi., tincturæ cardamomi ʃiiss., aqae cinnam. ʃvii.; misce. Of this two or three table-spoonsful may be taken for pain in the stomach from flatulence, in dyspepsia, the bowels being open.

See Article XXXVI. p. 60.

Cassia Pulp — Cassiae Pulpa (Lond.).

The pulp of the fruit of the cassia fistula is much used by the natives of India in electuary, for cos-
tiveness, in doses of from ʒiv. to ʒvi. mixed occasionally with a little pounded black pepper.

See Article XXXVII. p. 62.

CASTOR — Castoreum.

In substance the dose is from gr. viii. to ʒi.; tincture from ʒzxv. to fʒiiς.

r Castorei, moschi, assafaetid. αα grs. v.
Olei succini rectificati — miiʒ.

Misce, fiat pilulæ tres, bis terve in die sumendæ, in epilepsy. r Tinctur. aloeōs comōs. fʒvįi., tinct. castorei fʒiiς., vini ferri ʒss.; misce, fiat mistura, sumat fʒi. ter in die. Dr. Thomas recommended this as useful in suppressed menses, and I found it beneficial in India.*

See Article XXXVIII. p. 63.

CATECHU, EXTRACT OF — Catechu Extractum.

Dose of the extract from grs. viii. to grs. xxv.; of the tincture, from fʒi. to fʒiiς. r Catechu in pulv. trit. ʒi., confect. opii grs. xii., confec. arom. q. s.; fiat bolus, bis in die sumendus; this, in an immoderate flow of the menses, was a favourite prescription of Dr. Babington, senior. Catechu, as well as any other astringent, must be ordered cautiously in the diarrhoeas of hot climates, which are generally occasioned by liver derangements, in which nothing must be pent up. The electuarium catechu compositum I have given with success in menorrhagia, in

* ʒi. of the tinct. castorei, in combination with ʒzxv. of spir. ammon. faetid, ʒxxv. of spir. ether sulph., and ʒi. of aq. cinnam., is a useful draught in hysteria.
doses of from 3i. to 3i., together with an infusion of cinchona or cascarilla, with a little diluted sulphuric acid.

See Article XXXIX. p. 66.

**PREPARED CHALK — Creta Præparata.**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Misturae cretae</td>
<td>f 3v.</td>
</tr>
<tr>
<td>Confectionis aromaticæ</td>
<td>3i.</td>
</tr>
<tr>
<td>Liquor. subcarbonat. ammon.</td>
<td>f 3i.</td>
</tr>
<tr>
<td>Tincturae opii</td>
<td>m 20.</td>
</tr>
</tbody>
</table>

Miscæ; fiat mist. Of this a couple of table-spoonful may be taken occasionally in simple diarræa. Common dose of the mist. cretae is from f 3i. to f 3ij. The *hydrargyrum cum creta* is a most valuable alternative medicine in India, dose from grs. x. to grs. xv. twice in the day. Ten or fifteen grains of the pulvis cretæ compositus is one of the safest restrainers in diarræaæ, where no fever prevails. Dr. Thomson recommends the *puke. cret. comp. cum opio*, as more efficient in Europe, in doses of from 3i. to 3i. for an adult.

See Article XL. p. 67.

**CHAMOMILE FLOWERS — Anthemidis Flores (Lond.).**

Dose of the powder from 3i. to 3i.; that of the decoctum anthemidis nobilis, from f 3ss. to f 3iss.; of the infusion anthemidis, from f 3i. to f 3iiij.; of the extract, from grs. viii. to 3ij. — 3i.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assafœtidæ</td>
<td>3iss.</td>
</tr>
<tr>
<td>Extracti anthemidis</td>
<td>3i.</td>
</tr>
<tr>
<td>Pulveris rhei</td>
<td>3i.</td>
</tr>
</tbody>
</table>

Miscæ; fiat massa, in pilulas xxx. dividenda. Three of which may be taken as a dose, morning and even-
ing, in dyspepsia attended with flatulence. Chamomile tea (inf. anthem.), is a good stomachic, in doses of three or four ounces, taken early in the morning, in India. Dr. Babington gave the following as a stomachic and tonic: & cham. flor. in pulv. trit. 3i., myrrh. pulv. grs. v., rhei grs. iij.; fiat pulvis, bis in die sumendus.

See Article XLI. p. 68.

**Charcoal — Carbo Ligni.**

The charcoal poultice is prepared by adding to a sufficient quantity of the common linseed-meal poultice as much charcoal in fine powder as it will bear, then let the whole be well mixed. It is a useful application to foul ulcers, but not nearly so efficacious as the balsam of Peru.

See Article XLII. p. 70.

**China Root — Smilax China (Lin.)**

I have already mentioned the dose of the decoction of the root of the smilax China, a plant so little now sought after in Europe, though so much esteemed in China and in Japan. In the first mentioned country, the root is called too-fuh, and in Japan sankira, also often, but vulgarly, kuakuara; it is found growing in the neighbourhood of Papenberg and Kosido. (See Flor. Japon. p. 152.). The smilax China is common in the woods of Cochin-China, and called by the natives cay-khuc-khac; of it Loureiro says, “valet in quibuscunque doloribus vagis, venereis, aut rheumaticis.” See Flor. Cochin-Chin., vol. ii. p. 622.
See Article XLIII. p. 72.

**CINNAMON — Cinnamomum.**

The dose of the bark, which is much prized by the Hindoos, is from grs. viii. to ɔiss. ; of the water, from f ɔi. to f ɔvi. or vii. ; of the tincture from f ɔi. to f ɔss. ; of the compound powder from grs. x. to ɔss.

R Tincturæ cardamomi composit. f ɔvi.—ɔi.

Aquæ cinnamomi — — — f ɔvi.

Misce, capiat cochlearia magna ɔij. bis terve in die in dyspepsia. The spiritus cinnamomi is useful in cases of languor, in doses of f ɔi. to f ɔss. in a little barley-water.

See Article XLV. p. 75.

**CLOVE — Caryophyllus Aromaticus.**

The dose of powdered cloves, is from grs. ɔij. to grs. xij. ; that of the oil from ɔiij. to ɔviii. mixed with a little syrup. The best mode of administering cloves, is in the form of the *infusum caryophillorum* (Lond.) made with one drachm of bruised cloves, boiling water half a pint; macerate for two hours: of this from f ɔi. to f ɔiiis. may be given thrice in the twenty-four hours in languors, in dyspepsia. Mr. Brande informs us, that a five grain pill, made of jalap and powdered cloves, equal parts, will generally open the bowels.
See Article XLIX. p. 88.

**COLOQUINTIDA — Colocynthidis pulpa.**

The dose of the extractum colocynthidis is from grs. v. to 3ss.; of the extractum colocynthidis compositum from grs. vii. to grs. xxv.; of the pilulæ colocynthidis composite from grs. x. to grs. xxv.

\[ R \] Extracti colocynthidis composite = grs. xxvi.
Extracti jalapæ = = = ηij.
Pulveris rhæi = = = ηi.
Hydrargyri submuriatis = = grs. xvi.
Syrupi zingiberis q. s.

Fiant pilulæ xxiiij. one, two, or three may be taken at bed-time, according to circumstances, as a cathartic.

\[ R \] Extracti colocynth. comp. = grs. xv.
Calomel = = = grs. iiij.
Syrupi zingiberis q. s.

Fiant pilulæ iv. primo mane sumendæ.

\[ R \] Pilulæ colocynth. composit.
Pulveris rhæi, ææ = = = grs. x.
Hydrargyri submuri.
Olei lavendulae = = = miv.
Syrupi simp. q. s.

Misce, fiant pilulæ v. primo mane sumendæ, as a stomachic purge.

\[ R \] Extracti colocynth. = 3i.—3iss.
Olei ricini = = = 3ij.
Decoct. flor. cham. = = = 0i.

Misce, fiat enema, statim injicienda. For constipation.
Poisoning with colocynth *, is to be treated nearly in the same manner as that recommended for poisoning with camphor; with this, certainly, great difference, that after vomiting with sulphas zinci, and giving an infusion of coffee, the camphor mixture may be ordered. Mr. Stowe informs us, in his Toxicological Chart, that the fruit of the Fœwilla cor-difolia, has lately been found to be a powerful antidote against vegetable poisons. See Annals of Philosophy, for May 1820.

See Article L. p. 86.

**COLUMBA Root — Calumbœ Radix.**

The dose of the infusion is from ½i. to ½iiiss.; of the tincture from ½i. to ½vi. Ἐ radicis calumbæ grs. xii.; rhæi.; ferri rubigin. après, grs. viii.; misce, fiat pulv. bis in die sumendus, in chlorosis or dyspepsia. Ἐ pulveris calumbæ grs. xii.; sulphatis potassæ grs. x.; fiat pulvis, bis in die sumendus, indyspepsia. Ἐ infusi calumbæ f ⅓xii.; tincturæ cascaril. ½i.; tincturæ cardamoni ½i.; misce, fiat haustus, bis in die sumendus in weakness, and dyspepsia. Ἐ magnesiae subcarb.Éi., infusi calumbæ f ⅓i., tincturæ calumbæ f ⅓i., fiat haustus. Dr. Paris orders this in lithic diathesis.

See Article LIII. p. 91.

**Coriander Seeds — Coriandri Semina.**

Ἐ Semin. coriandri contus. - grs. x.  
Pulv. rhæi - - grs. x.  
Pulveris calumbæ - - grs. x.

* The ancients gave colocynth in the form of clysters, in sciatica and palsy; and I find Dioscorides, in speaking of it, says, (ὡλοκηνθείς) ὅτι ἐν καὶ στομάχες λαμ. Q Q 2
Misce. Fiat pulvis, hora somni sumendus, in dyspepsia, with flatulence and costiveness.

See Article LIV. p. 92.

Cowhage — Dolichi Prurientis Pubes (Edin.).
R & Spicul. dolichi pub. - - grs. x.
Mel. optim. q. s. Misce.

Ut fiat bolus, bis in die sumendus; or the same quantity of the cowhage may be rubbed into a powder, with gr. xii. of tin filings (limatura stanni), and taken night and morning with a little syrup, in worm cases, to be followed by a brisk purge.

See Article LVII. p. 96.

Creyat Root — Radix Justiciae Paniculatae.
R Pulv. radicis just. panicul. grs. x.
Pulv. rhæi - - grs. vi.
Pulv. pipéris nigri - grs. viii.

Misce, fiat pulv., hora somni sumendus, in dyspepsia. The infusion and tincture may be made like those of the columba root, and used in the same proportions, and for the same complaints. The creyat root is a most useful and valuable bitter.

See Article LX. p. 101.

Croton — Croton.

Under the article croton, at p. 101 of this volume, will be found, an account of the different modes of administering this drastic cathartic in India. The expressed oil is chiefly used in England, given cautiously in doses of one drop in conjunction with mucilage of acacia gum, sugar and almond emulsion; or pills composed, of six drops of the oil made into eight pills with a little crumb of bread; of these one may
be taken every six or eight hours, till complete evacuation is procured. In this last form, I have known it to act when other cathartics had failed; and in some habits, it seems particularly to influence the biliary system*, without the irritating effects of mercury. An electuary is also now prepared with the oil. In the Quarterly Journal of Science, Literature, and the Arts (vol. xx. p. 281.), will be found some account of the best mode of administering the croton oil, by Mr. Frost, that gentleman obtained from grs. xxxii. of the oil, of active matter (soluble in ether and alcohol, and combined with a very small portion of fixed oil), grs. 8·5, and of inert fixed oil, grs. 23·5. He suggests another mode of ascertaining the rate per cent. of active matter, than that adopted by Dr. Nimmo; and has discovered, that a principle, analogous in its nature to tiglium seeds oil, pervades the expressed oil of the seeds of several species of jatropha and ricinus. For an account, by Mr. Frost, of the pinhoen or emetic oil, obtained from a species of jathropa in South America, the reader is referred to the London Journal of Science, for October 1825, as adverted to by Dr. Copland, in his excellent London Medical Repository, for February 1826, p. 179. At p. 108, I gave Dr. Nimmo's formula for the alcohol solution of the croton oil, administered in the quantity there mentioned, as a dose in delirium tremens. Dr. Smith ordered the following in constipation. R olei croton. mij.; mucilag. tragacanth. f 3 i.; sacchari albi q. s.; tere in mortario ut fiat mixtura; one half to be taken at first, and the other some hours afterward if necessary.

* See some judicious observations on the similarity of the evacuations produced by calomel and croton oil, in the Transactions of the Medical Society of Calcutta, vol. i. article Croton, by Dr. J. Adam.
Before concluding what I have to say about this extraordinary substance, I must mention, that I have been just informed, that one great advantage to be derived from the oil of croton is, that we may frequently be enabled by it to purge maniacs, when it could be done in no other way, simply by touching their tongues with it. I moreover see by the Flora Cochin-Chinensis (vol. ii. p. 582.), that Loureiro found the croton tiglium growing in Cochin-China; of the seeds he says, "purga, emetica, emmenegoga, valet in obstructionibus rebellibus, precipue uteri, hydrote et cacochymia ex humoribus crassis." The oil has been found to be eminently useful as a drastic purge in apoplexy; however, notwithstanding all this high commendation of the new medicine, I find doubts expressed respecting it by a very competent judge. Dr. James Johnston, in his Medico-Chirurgical Review, for Jan. 1826, in noticing a report from Mr. Tegart, inspector of army hospitals, on the subject of croton oil, observes, "we fear the author has over-rated this new remedy, which we think may prove a useful adjuvant to other purgatives, without producing the disagreeable effects resulting from its solitary employment, and this is the result, we believe, it will ultimately retain." Mr. Tegart, I ought to have said, states, that he had found the oil useful as an excellent febrifuge; keeping the bowels open, increasing the urinary discharge, and relaxing the skin; the mode of giving it for this purpose, which he recommends, is, "dissolving the oil in spirits of wine, and then diluting the solution in any palatable vehicle, so as to give half a drop for a dose.

N.B. Since writing the above article, I have ascertained, that there is now prepared by Mr.
Noekes, No. 97, Oxford Street, an expressed croton oil of a superior quality, of which two drops is a sufficient dose, in syrup or mucilage; this quantity purges copiously and easily, without producing any of the distressing symptoms which usually accompany the use of this oil as formerly proposed. Mr. Noekes is the successor of Mr. Pope, who appears first to have discovered this new mode of obtaining the expressed oil of croton seeds; and which is accomplished simply, by carefully removing from each seed, the thin filament in which the kernel is closely enveloped, previously to expressing the oil. See a paper on the subject in No. 13. of the Medico-Chirurgical Transactions. I perceive, that Dr. Calderini has lately by experiments proved the purgative quality of the euphorbia lathyris, and that Mr. Grimaud has announced to the royal academy of medicine, that the Italian physician is convinced, that the oil obtained from it, is preferable in every respect to that got from the croton tiglium! (See London Medical and Physical Journal for June 1825, p. 530.)

See Article LXI. p. 109.

DILL SEED — Anethi Semina.

The dose of the powdered seeds is from grs. x. to 3 grs. A couple of tea-spoonfuls of the water, Mr. Brande says, seldom fails to relieve the flatulence of stomach to which infants are subject.

See Article LXX. p. 123.

FEBRIFUGE SWIETENIAN — Swietenia Febrifuga (Roxb.).

Of the powder of the bark (commonly called bark of the red wood tree), from 3 i. to 3 iv. 3 v. and 3 vii.
may be given in the twenty-four hours. Of the tincture, prepared in the same way that the tinctura cinchoneæ is, the dose may be from f 3i. to f 3iiiss. and 3ij., and repeated; of the infusion, from f 3i. to f 3iiij., twice or thrice daily. It is to be hoped, that a sulphate may soon be prepared with this bark, of virtues somewhat similar to sulphate of quinine (quininae sulphas,) got from the cin. oblongifolia, or red bark; also a syrup, a tincture, and a wine. The sulphate of quinine is a most powerful tonic in intermittent fever, dyspepsia, and rheumatism*; so much so, as to have rendered the first of these altogether within its control. I usually order 3i. of it to be dissolved in a few drops of diluted sulphuric acid; and that to this should be added f 3xviii. of water. Of the mixture f 3vi. may be taken daily, in doses of f 3ij. at a time; so administered I have never found it fail in putting a stop to the most obstinate quartan. The tincture is made by adding grs. vi. of the sulphate to f 3i. of alcohol; the syrup by mixing together two pounds of simple syrup and sixty-four grains of sulphate of quinine; six spoonfuls of this syrup is sufficient to arrest the progress of an intermittent. See Dr. Dunglison’s edition of Magendie’s “Formulaire,” p. 81. The Italians use the bark of the quina. bicolorata as a febrifuge; it contains a bitter principle resembling colocynite, but neither quinine† nor cinchonine; in South America they employ for the same purpose the whole of the low growing plant, Erythæa chilensis ‡, which has a pleasant bitter taste, much resembling the columba root, or

* See London Medical and Physical Journal for Feb. 1826, p. 106.
† See Medical Repository for Feb. 1826, p. 186.
‡ In the language of Chili it is called, Mr. Frost informs me, kassen-laugen.
the gentiana lutea; and a substance has lately been obtained by Oerstädt from black pepper, said to be a more powerful febrifuge than any of these. See article Black Pepper in this chapter of the work.*

See Article LXXII., p. 129.

**Fennel, Sweet** — *Anæthum Fœniculum* (Lond.).

Of the bruised seeds the dose is from grs. xv. to 3i.; of the water from f 3ii. to 3v. R magnesiae 3iiss.; pulv. rhæ. 3i.; aquæ fontan.; aquæ fœniculi ââ f 3iiiss.; tincture lavendulae comp. f 3ss.; misc., f. mistura. Two table spoonsful to be taken thrice in the twenty-four hours, to open the bowels in dyspepsia with flatulence; or the plain aquæ fœniculi may be taken as a carminative.

See Article LXXXI. p. 142.

**Galbanum** — *Bubon Galbanum* (Lond.).

The dose of the pilulæ galbani comp. is from grs. viii. to grs. xv. or 3i. taken every night, in chlorosis or hysteria. The pilulæ assafoetidæ comp. (Edin.), and pilulæ myrrhæ comp. (Dub.), are nearly the same as the pil. gal. comp., and doses the same. Dose of the tincture from f 3ss. to f 3iij. as an emmenagogue. R pilulæ galban. comp. 3i., aloes spicat. 3i., syrups. zingiberis q. s.; fiunt xx. sumat duas, bis in die, in amennorrhœa. R pilulæ galban. comp. 3ij., ferri rubigin. 3iv., syrup. zingiberis q. s.; fiunt pilulæ xl.; of which three may be taken twice in the day in chlorosis. (Babbington.) The emplastrum galbani compositum (Lond.) is an excellent suppurative for indolent tumours.

* Also see article Shenium, in volume ii.
See Article LXXXII. p. 144.

**Galls — Gallæ.**

The tincture has been given in intermittent fevers* in doses of from fʒss. to fʒiij. ḥ gallarum cons-tusarum ʒi., adipis præpar. ʒv. to ʒvii.; misce, fiat uñguentum; to be applied morning and evening to the parts affected, in cases of blind piles; to this if required ʒi. of opium may be added, or camphor. ʒss. As a gargoyle for relaxation of the uvula, Mr. Brande recommends fʒvii. of an infusion of galls, and fʒi. of spirit of wine. The infusion to be made by adding ʒij. of bruised galls to fʒxii. of boiling water.

See Article LXXXIII. p. 147.

**Gamboge — Gambogia (Edin.).**

The dose of the substance, Pearson thinks, may be as far as from grs. iij. to grs. xv. or grs. xx., which is more than is usually given. The pilulæ gambogiae composite is a very active form for purging off bile, the dose from grs. xii. to grs. xv. or ʒi. ḥ gambogiae in pulv. tritur. grs. v. vel grs. vi., super-tart. potassæ ʒi., confect. cassiae (Lond.) q. s.; fiat bolus; to be taken at bed-time, in dropsy. ḥ gambogiae grs. iv., tincturæ sennæ comp. fʒss., tincturæ jalapæ fʒiss., syrup. zingib. fʒss.; fiat haustus, in anasarca. ḥ pilul. gamb. comp. grs. viii., calmel grs. iij., pulv. scillæ exsiccatæ gr. i. vel grs. iss., confect. arom. q. s.; ut fi sunt pilul. iii.; two of which may be

* Murray, in his Apparatus Med. (vol. vi. p. 9.), holds out a caution against using such strong astringents, as likely to bring on visceral obstructions. See also Pearson’s Synopsis of the Mat. Med., p. 353.
taken at bed-time and one in the morning; and the medicine to be continued every alternate day for a few days together, in dropsy, if found beneficial. ḫ gambogiae, hydrargyri muriatis ãã 3ss., potassae supertartratis. 3v.; fiant pulvers decem equales; one or two to be taken every other night, in dropsy consequent of liver obstructions (Dunn). On the continent an alkaline solution is given in doses of from drops xl. to l. in coffee or milk and water, increasing the dose, in hydropic and worm cases. The solution is prepared by adding 3i. of the gum-resin to a strong lixivium of subcarbonate of potass, rubbing the two well together; after it has stood some time to settle, the liquor is poured off from the sediment. See Pearson’s Practical Synopsis of Materia Medica, p. 202. But gamboge, it must be remarked, is but little used as a purge in India.

See Article LXXXIV. p. 150.

Garlic — Allium.

The Hindoos prepare a kind of syrup with garlic, which they find useful in catarrh and pituitous asthma; it is somewhat similar to the syrupus allii of the Swedish Pharmacopœia, which is made by steeping in a covered vessel a pound of fresh garlic, bruised, in two pounds of boiling water, and adding a sufficient quantity of sugar to the strained liquor, given in doses of one or two drachms.

See Article LXXXV. p. 152.

Ginger — Zingiber.

The dose of the syrup is from f3i. to f3ij.; of the tincture from f3ss. to f3iiij. As a grateful stimulant it enters into many valuable preparations.
Gum Ammoniac — Ammoniacum.

℞ Misturæ ammoniaci — fʒvi.
Oxymel. scillæ,
Tincturæ camphor. compos. āā fʒss.

Misc. Capiat cochlearia duo sexta quaque hora; in humoral asthma, when sleep is necessary and inflammatory symptoms not feared.

℞ Misturæ ammon. — — fʒv.
Oxymel. scillæ — — fʒss.
Vini antim. tartar. — — mxxvi.
Aceti distillat. — — fʒiij.

Misc. fiat mistura. Two table-spoonsful may be taken occasionally in cough or humoral asthma.

℞ Gum. ammon. — — ʒi.
Pilulæ hydrarg. — — grs. xv.
Scillæ exsiccat — — grs. vi.
Syrup. simp. q. s.

Misc. ut fiant pilulæ xvi. One to be taken three times in the day, in asthmatic cough, when at the same time hepatic derangement is suspected.

The emplastrum ammoniacum is applied as a resolvent to scrofulous tumours; but is not near so efficacious as the emplastrum ammoniaci cum hydrargyro, which I have found to be also a powerful resolvent, applied to indurated glands, nodes, &c.
See Article XC. p. 160.

**Gum Arabic — Gummi Arabicum.**

$\mathbb{R}$ Mucilag. gum. acaciæ - - $f^{3}vi$.
Ol. amyg. dul. - - $f^{3}iij$.
Syrupi croci - - $f^{3}i$.
Liquor. ammon. subcarbon. - $f^{3}ss$.

Misce, fiat emulsio. Of which $f^{3}ss$ may be taken occasionally in catarrh.

$\mathbb{R}$ Bals. copaibæ - - $f^{3}iss$.
Mucilag. gum. acaciæ - $f^{3}v$.
Aquæ rose - - $f^{3}vi$.

Misce, fiat injectio. In gonorrhœa, when inflammatory symptoms have abated. When venereal ulceration is suspected in the urethra, the following may be found useful: $\mathbb{R}$ Calomel grs. xv., Mucilag. gum acaciæ $f^{3}iiss$; tere simul, et adde aquæ calcis $f^{3}v$. vel $f^{3}vi$. ut fiat injectio.

See Article XCI. p. 162.

**Gum Tragacanth — Tragacantha (Lond.).**

The pulv. tragacanth compos. is an excellent medicine in tickling coughs; $f^{3}i$. may be given as a dose in barley-water. Of the mucilage of tragacanth, made by dissolving with a gentle heat an ounce of the gum in $f^{3}x$. of water, $f^{3}ss$. or more may be taken frequently for a teasing cough; for which purpose, Dr. Thomson thinks, it is better suited than the mucilage of gum Arabic.°

° $\mathbb{R}$ Pulv. trag. comp., pulv. contrayer. comp. $f^{3}ii$. aquæ distillat. $f^{3}i$. aquæ cinnam. $f^{3}iij$. syrups. croci $f^{3}i$. misce, fiat haustus. A quieting draught, recommended by Dr. Merriman as the safest for a woman immediately after delivery, to be repeated every sixth hour, if necessary.
See Article XCIII. p.164.

**Hellebore, Black — Helleborus niger.**

℞ Pulveris rad. * hellebor. nigri grav. xv.
  Calomel — — grav. v.
  Pulv. ipecac. — — grav. iiij.
  Syrup. zingib. q. s. Misce.

Ut fiat pilulæ quatuor; capiat duas, quarta quaque hora. In mania or dropsy, to be repeated cautiously till complete evacuation has been procured; or pills may be made with the extract, the dose of which is from grav. v. to grav. viii. The tincture of the Edinburgh Pharmacopoeia may be taken in doses of from v.xxx. to f.3i. in uterine obstructions†, in which cases it has been considered as very efficacious.

**Hellebore, White — Veratrum album.**

℞ Unguenti veratri — — iiiij.
  Sulphuris — — 3ss.

Misce, fiat unguentum. This I have thought useful in the lepra græcorum; or the unguent. verat. may be mixed with an equal proportion of the unguentum hydrargyri præcipitati albi, as an application in scabies. Mr. Brande is of opinion, and he is right, that the ung. verat. is never to be used in children’s cases, which the other may be if with caution. The tinctur. verat. albi (Edin.) has been given in doses of from v.iiij. to v.xxxii. to produce vo-

* Mr. Brande, in his Manual of Pharmacy, says, the root ought never to be taken.
† In case of poisoning with either of the hellebores, Mr. Stowe recommends the same treatment as in cases of poisoning with colocynth.
miting in mania. Of the wine of white hellebore, as ordered by Mr. Brande, the dose is from \( \frac{\text{miv.}}{\text{m}} \) to \( \frac{\text{mxxx.}}{\text{m}} \); this was a favourite medicine of Dr. J. Riddel in mania some seventy years ago. The celebrated *eau medicinale* was, at one time, supposed to contain white hellebore, but it is now pretty well ascertained that that medicine owes its antipodagric powers to the colchicum autumnale.* White hellebore owes its virtues to *veratrine*, obtained by Meissner, as well as by M. M. Pelletier and Caventou, from the seeds of the veratum sabadilla; it would appear, by Majendie’s "*Formulaire,*" that a quarter of a grain (gr. 0·205 troy) rapidly induces an abundant alvine evacuation.

See Article XCIV. p. 167.

**HENBANE† — *Hyoscyamus***

The doses of the extract and tincture have already been mentioned. A solution of the extract in water, in the proportion of 3i. to 25i., dropt into the eye, has been recommended by Professor Himly for facilitating the operation of cataract, by its effect of dilating very much the pupil. It is advisable often to combine calomel with henbane, in India, even when simply sleep or quiet is sought. & Extract. *hyosciam,* calomel, āā grs.iv., fiant pilul. ii., to be taken at bed-time; to this grs. ij. extract. conii may be

---

* The extraordinary property of this medicine, in allaying the severity of the pain in gout, is well known: dose of the substance (dried bulb) from grs. ij. to grs. x.; of the saturated vinous infusion from \( \frac{\text{mxxv.}}{\text{m}} \) to \( \frac{\text{mlxxv.}}{\text{m}} \). My excellent friend, Dr. Theodore Gordon, informs me, that he has found it most efficacious in those agonizing and deep-seated head-aches which have resisted every other mode of treatment.

† Poisoning with henbane, according to Mr. Stowe, is to be treated as poisoning with camphor.
MATERIA INDICA.  PART I.

added if indicated. & Calomel grs. iv., extract. hyoscyam. grs. vi., pulv. ipecac. grs. iiij., opii grs. iiij.; fiant pilul. iii., one to be taken thrice in the twenty-four hours in mania. & Camphor. grs. x., extract. hyoscyam. grs. v., opii grs. iss.; fiant pilulæ iv., to be taken at bed-time in mania.

See Article XCVII. p. 175.

HORSE-RADISH — Raphanus rusticanus; radix (Dub.).

The dose of the root in substance is from 3i. to grs. xxv. The syrup was ordered by Cullen for hoarseness proceeding from relaxation. & Sinapi semin. contus. 3vi., raphan. rustican. incis. 3vi., aquæ ferventis fbi.; macera per horas tres, dein addespirit. pimentæ 3ij.; miscet; of this, in palsy, two ounces may be taken twice in twenty-four hours. & Rad. raphan. rustic. contus. 3vi., semin. sinapis contus. 3i., farin. sem. lini 3iiss., aceti q. s.; miscet, fiat cataplasma, to be applied to the feet or ankles in palsy. The dose of the infusion armoracæ compositorum (Lond.) is about from 3iss. to 3iiss., given in palsy or dropsies. Of the spiritus armoracæ compositus, which Dr. Thomson recommends in dropsies attended with debility, the dose may be from 3i. to 3v., given best, he says, combined with infusion of foxglove or of juniper berries.

See Article C. p. 180.

IPECACUAN — Ipecacuanha.

At page 181, I have mentioned several plants which might be substituted for ipecacuanha; and observed, that Loiseleur Deslongchamps found that
of all those he had any experience of in Europe, the leaves of the asarum Europæum were decidedly the most emetic: the dose of the fine powder is from grs. xx. to grs. xl. to an adult. The euphorbia lathyris is amongst those which the above-mentioned gentleman discovered to have an emetic quality; but by his account it appears that the seeds may be rather considered as an efficacious purge, taken to the quantity of one dozen; and we know that M. Grimaud has lately announced to the Royal Academy of Medicine of Paris, the experiments of the Italian physician Caldirini, who would appear to think the purgative powers of the e. lathyris* to be in every respect preferable to those of the croton tiglum!

Ipecacuan in India is a most useful medicine, and in idiopathic dysentery is one most to be relied on, after purging freely with castor-oil. R Pulv. ipecac. gran. viii., magnes. gran. xvi.; misce, fiat pulv. et divide in chart. quatuor, one to be taken every three hours, in dysentery. R Pulv. ipecac. gran. vi., pilul. hydrarg. gran. ix., pulv. rhæi gran. vi., syrup zingib. q. s.; fiant pilulæ vi., one to be taken night and morning, and continued for ten or fifteen days, in chronic liver flux. To vomit freely, the dose of the powder is from grs. xii. to 3ss. Of the vinum ipecacuanhæ, if required as a diaphoretic or expectorant, for a child, the dose may be from m xviii. to m xxv.; if to vomit freely, two tea-spoonfuls may be taken; in croup it is, so given†, invaluable, or in the feverish attacks so common to children in

* See Dr. R. Macleod’s valuable Medical and Physical Journal for June 1825, p. 530.
† Or a safer way may be to give a tea-spoonful every ten minutes till it vomits.
India, purging at the same time, in both affections, with calomel during the night, in doses of from gr. i. to grs. iii. or grs. iv.; for an adult, as far as f\textsuperscript{3}vi. or more of the wine are given as an emetic. Of the pulv. ipecac. composit. from grs. x. to 3i. may be ordered in a little tepid water, to produce copious perspiration in acute rheumatism, assisted by plentiful dilution with warm rice gruel.

Ipecacuanha has of late years been found a valuable medicine in certain dyspeptic complaints, in doses of from gr. i. to grs. iii. in the form of a pill, with the addition of a little soap, and taken directly after eating; at the same time, Mr. James recommends that grs. ij. or grs. iij. may be taken at bedtime to obviate costiveness. See London Medical and Physical Journal for June 1825, p. 530. By an accurate analysis of ipecacuanha, by Magendie and Pelletier, which may be found in a memoir read at the Academy of Sciences of Paris, on the 25th of February, 1817, and inserted in the Journal de Pharmacie (vol. iii. p. 145.), it was discovered that ipecacuanha contained a particular active principle, which those gentlemen named emetine, and which produces vomiting, in doses of from gr. 4. to grs. iv.* But this substance, Mr. Brande\textsuperscript{t} thinks, cannot be well depended on as a substitute for ipecacuanha. R Syrup. simplic. Ibi., emetine puræ gran. iv.; misce, dosis cochlearia modica duo vel quatuor. Magendie.

* See Loiseleur Deslongchamp's Recherches et Observations sur l'Emploi de plusieurs Plantes de France, p. 3.
\textsuperscript{t} See Brande's Manual of Pharmacy, p. 106. For the mode of preparing the emetine, see Dunglison's Formulary, p. 60.
See Article CII. p. 188.

**JALAP — Jalapæ radix.**

At page 183, I have mentioned several articles which might be substituted for jalap. Of the powder of the common jalap the dose is from grs. xv. to 3ss. for an adult, usually given (when required simply to evacuate the bowels freely) with as much of the powder of potassæ supertartras. Jalap is one of our most certain and powerful cathartics, and is of the greatest use, in India, at the commencement of fevers, by often immediately, before it operates, producing a considerable degree of nausea, or even vomiting, and thereby not rarely exciting diaphoresis. Of the tincture the dose is from $f_{3i}$ to $f_{3iv}$; of the extract may be taken from grs. x. to 3ss.; of the tinctura sennæ composita (Edin.) from $f_{3iss}$ to $f_{3vi}$. $k$ Pulv. rhei gran. xii., pulv. jalapæ gran. xv., hydrarg. submuriat. gran. v., syrupi zingiberis q. s.; ut fiunt pilul. vii., three to be taken at bedtime, and two in the morning early, to carry off bile, or at the commencement of fever. $k$ Infus. sennæ $f_{3xii}$, tinctur. sennæ $f_{3i}$, tinctur. jalap. $f_{3i}$, potassæ tart., syrup. simp. āā $f_{3i}$; misce, fiat haustus; one half to be taken in the morning early, and the other three hours afterwards, as a purge in fever.

See Article CIV. p. 185.

**KINO — Kino.**

The doses of the substance and tincture have already been mentioned. $k$ Extract. cinchonæ, gum kino āā 3ss., aluminis, pulveris zingiberis āā 3ss., syrupi croci q. s.; misce ut fiunt pilul. xviii., three
of which may be taken twice or thrice daily, in leucorrhœa, washing each dose down with \( \frac{3}{3} \) iss. or \( \frac{3}{3} \) j. of the infusum cascarillæ. Tincturekino, tincturæ catechu \( \frac{3}{3} \) iss., tincturæ opii \( \frac{3}{3} \) j.; misce, fiat mistura; of this I have given \( m^{xxv} \) thrice in the twenty-four hours, with great success, in cases of spitting of blood, as recommended by Dr. R. Thomas, in his Modern Practice of Physic.

See Article CVII. p. 191.

**Leech— Hirudo.**

In Dr. James Johnson's excellent Medico Chirurgical Review for December, 1825, there is some account of the means used by the Neapolitans to induce leeches to fix on any particular spot, namely, by touching the part with the point of a quill, recently taken from a pigeon's wing; that gentleman notices another mode of whetting the appetites of those little animals, viz. by putting them into some porter for a few minutes. The Mahometan doctors in India adopt a method which I have never known to fail, which is, to scratch slightly the part you wish them to fix on, with the point of any sharp instrument, so that the leech may taste the blood. The small brown leech of China, called by the Chinese *ma-hwang*, is very voracious.*

See Article CX. p. 195.

**Linseed—Semen Lini.**

\[ \text{R Olei lini - - - } \frac{3}{3} \text{ xii.} \]
\[ \text{Liquor. calcis - - } \frac{3}{3} \text{ vii.} \]

*See an interesting account of the poisonous leeches of Ceylon, by J. Tytler, Esq., in the Transactions of the Medical Society of Calcutta, vol. i. p. 117.*
MISCE. An excellent application for burns, when the violent inflammation is a little abated. \( R \) Olei ricini \( f\frac{3}{4}i. \), olei lini \( f\frac{3}{4}v. \); misce, fiat enema. In cases of ileus, or inflammation of the rectum, accompanied with constipation.

See Article CXVII. p. 208.

Manna — Manna.

\( R \) Magnes. sulphat. \( - - f\frac{3}{4}i. \)
Mannæ \( - - 3vi. \)
Tincturæ sennæ \( - - f\frac{3}{4}iss. \)
Aquæ ferventis \( - - f\frac{3}{4}v. \)

Misce, fiat haustus. For a purge. To keep the bowels open, and cool the frame when heated, in India, \( 3ij. \) of the sulphate of magnesia dissolved in \( f\frac{3}{4}viii. \) of tepid water, and taken an hour before breakfast, is an excellent remedy; so forming a kind of mineral water, which may be continued for ten or fifteen days together; it never sickens the stomach; on the contrary, it excites appetite, and clears the complexion, possessing, I am inclined to believe, a somewhat alterative quality. \( R \) Mannæ optim. ol. amygdal. \( \text{āā f\frac{3}{4}i.} \), kali præp. gran. xii., aquæ cinnamom. aquæ fontan. \( \text{āā f\frac{3}{4}iiij.} \); the manna, oil, and kali having been well rubbed together, the waters are to be added, and two ounces to be taken twice daily: I have found this prescription, as recommended by Dr. Babington, very useful in inflammation of the kidneys, in India. \( R \) Mannæ \( 3i. \), mucilag. gum Arab. \( f\frac{3}{4}ss. \), ol. amygdal, syrup. aurantiarum \( \text{āā f\frac{3}{4}iiiss.} \); misce, ut fiat ilinctus, of which a tea-spoonful may be taken when the cough is troublesome in consumption. Cullen took some pains to show that there was but little difference

\( R \) R S
betwixt manna and sugar, a notion well combated by Pearson, in his valuable Practical Synopsis of Materia Alimentaria and Materia Medica, p. 192.

See Article CXXVII. p. 228.

**Musk — Moschus.**

Mr. Brande gives us the following mode of preparing the *mistura moschi*: ἐκ Moschi, acaciae gomæ contriti sacchari purificati, singulorum drachmam, aquæ roseæ fluidancias sex; let the musk and sugar be well rubbed together, adding the rose-water by degrees; of this the dose may be from $\frac{1}{3}$ to $\frac{1}{3}$ iss., given every three hours, in hooping-cough. Mr. Brande expresses his doubts of the efficacy of musk, and I am inclined to coincide with him, though many able medical practitioners have thought it a valuable antispasmodic, such as Pringle, Whytt, De Berger, Dr. Parson* and others. Cullen informs us, that it is best given in substance to the extent of from $\frac{1}{3}$i. to grs. xxx. in the form of a powder or bolus. ἐκ Camphoræ gran. v., moschi, $\frac{1}{3}$i.; miscē fiat pulv., in rigid spasmin. ἐκ Camphoræ gran. vi., moschi gran. xii., opii gran. iss. vel gran. ij.; miscē, fiat pulvis; in the same. ἐκ Moschi gran. xxv., acaciae gummi 3ss.; miscē optime, dein adde, aquæ roseæ $\frac{1}{3}$iss., etheris sulphur. $\frac{1}{3}$iss., fiat haustus; in typhus fever. ἐκ Misturæ camphoræ, mistur. moschi āā $\frac{1}{3}$ijss., syrupi zingib., spirit. ether. sulphuric. āā $\frac{1}{3}$ij.; miscē, fiat mistura; a table-spoonful to be taken every four hours or oftener, in nervous fever. ἐκ Moschi gran. x., camphoræ gran. iv., extract cinchonæ gran. viij., syrupi zingiberis q. s.; ut fiat bolus, ter in die sumendus, in epilepsy.

See Article CXXVIII. p. 230.

**MUSTARD — Sinapis.**

The unbruised seeds may be given in much greater quantities, internally, than the bruised; which last, in the dose of about 3ij., proves emetic. R Sem. sinap. alb. contus. 3iiss., radicis armoraciæ 3ii., cort. aurantiarum 3vi., aquæ fontanæ 0iiss.; quoque ad 0i., cola, ut fiat decoctum; of this about a wine-glass full may be given three or four times during the day, in paralytic affections. Mustard seed is reckoned a medicine of great value amongst the Javanese and Chinese; the last-mentioned call it keae-tsae.

See Article CXXXIII. p. 241.

**MINT — Mentha Sativa.**

The dose of the aqua menthæ viridis may be about from f3ij. to f3vi.; that of the aquæ menthæ piperit. not quite so much; they are both grateful slight stimulants and carminatives, but are usually prescribed in conjunction with other medicines. The spiritus menthæ piperit. (Ph. Lond.) and the spirit. menthæ viridis are ordered in doses of from f3i. to f3v. in flatulence; the oleum menthæ viridis, and the oleum menthæ piperitæ, are given in doses, the first from ni. to nix., the last from mij. to mviii.; they are useful adjuncts to cathartic boluses or pills, or may be given singly in cases of cramp in the stomach and flatulent colic.
See Article CXXXIV. p. 242.

**MYRRH — Myrrha.**

& Mel. roseæ - - - ʒiss.
Decocti hordei - - f ʒxii.
Ticturæ myrrhae - - f ʒvi.
Aceti - - - f ʒi.

Misce, fiat gargarisma in cynanche maligna. The pilulae Galbani compositæ is one of the best and safest emenagogues; dose from grs. vii. to grs. xv. or ʒi., in pills, at bed-time. & Ferri subcarbonat. ʒi., pulv. myrrhae ʒij., aloes spicatae extract. ʒij., pulv. rhæi gran. xii., syrup. zingib. q. s.; misce, ut fiat pilul. xxxvi.; three or four to be taken twice in the day, to open the bowels in a suppression of the menses. & Pilul. aloes. cum myrrha ʒi., pulv. rhæi gran. xii., calomel gran. ij., syrup. zingib., q. s.; misce, ut fiat pilulae viii.; four to be taken at bed-time in suppression of the menses, and repeated if necessary.

Dr. Babbington ordered the following with advantage in hectic affections accompanied with debility, and there is no better authority. & Myrrhae in pulv. trit. ʒi., kali præp. ʒss., sulph. ferri gran. xii., mucilag. gum. Arab. ʒij., decoct. glycyrhrhiz. ʃviss., spirit. piment. ʃʒi. The myrrh, sulphate of iron, kali, and mucilage, to be well rubbed together, then the other articles to be added; the dose ʒi. twice or thrice daily. This is nearly the same as the famous preparation of Dr. M. Griffiths, which many have found so useful in pulmonary consumption, and which is considered as peculiarly indicated in this complaint in England, though I confess it has too often disappoint-
ed me in India. * Ř Pulv. rhæi 8i., pulv. myrrhae 3ij., extract. gentianæ 3i., extract cinchonae 2iss., potassæ subcarbon. 8ij, syrup. zingib. q. s.; ut fiat pilulæ lxx.; three may be taken twice or thrice in the twenty-four hours in pulmonary consumption. The pilulæ rhæi comp. contains myrrh, and in doses of from grs. vi. to grs. xv. is a valuable laxative pill in hypochondriasis.

Dr. Alston thought that myrrh partook of the nature of saffron, and rarefied the blood. I find in Galen these words, "Papaveris succus, et myrrha, et crocus, si largius bibantur, quædam dementant, quædam mortem inferunt."

See Article CXXXVI. p. 246.

**Nightshade, Deadly — Atropa Belladona.**

Ř Extract. Belladonæ - grs. xii.
Pilulœ hydarg. - - grs. xii.
Pulv. Ipecac. - - grs. xii.
Syrup. zingib. q. s.

Ut fiat pilul. xii. One to be taken morning and evening for a cancerous affection, at the same time the powder of the dry leaves of the belladona is to be sprinkled over the face of the sore.

Ř Belladon. fol. exsic. 8ij., aquæ fervent. fʒxxiv., macera per horas duas, cola, dein adde tincturæ cardam. comp. fʒi.; of this fʒi. may be taken twice or thrice in the day, increasing the dose if necessary, in rheumatic gout and epilepsy.

Dr. Brands of Sabzerfen has lately announced to

* It ought to be given, Dr. Thomas thinks, as an auxiliary to the foxglove. See his Modern Practice of Physic, p. 534.
the public, the general result of his inquiries into nature of narcotic plants, and states, that he found a peculiar principle extremely pure in all of them he examined, such as belladona, hyoscyamus, conium, stramonium, digitalis, &c. The narcotic principles, he says, are soluble in alcohol, æther, acids, and water, and of a highly offensive odour.*

See Article CXXXIX. p. 253.

OIL, CASTOR — Oleum Ricini.

Little need here be observed in addition to what has been already said of castor oil, at p. 253. The oil is well known and universally prized in all Eastern countries, and is, I understand, spoken of in a Chinese medical work, entitled, Puntsaou, in high commendation; the seeds are called in Chinese pematsze.

See Article CXLII. p. 259.

OIL KYAPOOTIE — Cajaputi Oleum.

This oil, diluted with about an equal quantity of olive oil, I have found of the greatest use as an external application in chronic rheumatism. I have known benefit derived from the internal use of the oil in palsy, and that sinking of the spirits, and lowering of the pulse, which frequently attend hysteria and hypochondriasis, in doses of five or six drops in syrup; its taste is pungent but agreeable, it burns quickly, and is perfectly soluble in spirit of wine.

* See Dr. Copland's London Medical Repository and Review for Feb. 1826, pp. 183, 184.
See Article CL. p. 271.

**Opium — Opium.**

℞ Syrupi papaveris,

Tincturæ opii camphoratae 3a  f 3i.

Aquæ cinnamomi 6ss.

Miscæ, fiat haustus, ter in die sumendus; in hooping-cough*, after the bowels have been fully opened. A full dose of laudanum at the beginning of nervous remittent fever in India, when the bowels have been fully evacuated, often puts a check to it, such as: ῆ Tincturæ opii f 3i., liquor. volatil. corn. cerv. f 3i. aquæ cinnam. f 3i., syrups. zingib. 3i.; miscæ, fiat haustus. In asthma the asthmatic coughs of old people, f 3iiss.—3iiij. of the tinctura opii camphorata may be given in a little barley-water at bed-time, provided always that the bowels are open. ῆ Spirit. ammon. aromat. f 3i., tincturæ opii, m. xxxv., aquæ cinnam. f 3i.; miscæ, fiat haustus; for flatulent cramp in the stomach, when the bowels are open. ῆ Emplastri aromatici, emplastri opii, partes æquales; fiat emplastrum, for flatulent cramp in the stomach, or this embrocation may be used: ῆ Αetheris sulphurici f 3iiss., spiritus camphoræ f 3iiss., tincturæ opii f 3ss.; miscæ, fiat embrocatio. The following is useful in spasmodic cholic: ῆ Tincturæ opii f 3iiss., olei ricini f 3ss., misturæ assafoetidae f 3vii.; miscæ, fiat enema. Mr. Brande recommends the following pills in rheumatic pains: ῆ Opii gran. iv., calomelanos gran. vi., antim. tart. gr. i., extract. conii Ξi.; miscæ, et divide in pilulas viii., sumantur duæ horæ decubitus. Sertuerner having discovered that the sedative principle of opium was an alkaline salt,

* Often very obstinate in India, and requiring frequent change of air.
morphea, Roubiquet, by many curious experiments confirmed his statements, and has given to the world the best method of preparing it, which may be found exactly detailed in Magendie’s “Formulaire,” edit. by Dr. Dunglison, pp. 3, 4.* By certain experiments prosecuted by De Rosne, that gentleman obtained a salt, in which, he thought, consisted the sedative properties of opium, but the subsequent labours of Magendie and Robiquet have proved, that De Rosne’s salt, which they have named narcotine †, is properly speaking that principle which produces the excitement felt by those who take opium, before the sedative effects are produced. With regard to the quantity of morphia produced from different opiums, Dr. Thomson informs us, that he obtained from Turkey opium, nearly three times the quantity of morphia, yielded by the same weight of India opium; on the other hand Mr. Brande procured from a carefully prepared sample of English opium, a larger quantity of morphia than from the same weight of Turkey opium, (Manual of Pharmacy, p. 128.) It would seem, that opium in combination with vegetable acids or oil has its powers increased. With regard to the combinations of morphia, its acetate and citrate, they may be used in the same diseases in which opium itself is indicated. Dr. Thomson, in the last edition of his London Dispensatory, observes: “the result of my own experience inclines me to regard the acetate as well adapted for cases of phthisis and inflammatory affections, where it is of importance to obtain the sedative effect of the remedy free from the exciting quality.” The efficacy of the

* The mode is also given in Brande’s Manual of Chemistry, vol. iii. p. 69.
† For its preparation see Magendie’s “Formulaire,” edition by Dr. Dunglison, p. 14.
famous black drop, is supposed to be owing to the acetate of morphia*; but the acetate itself is a better preparation, and produces its effect in doses of one-sixth of a grain. In Magendie's "Formulaire," p. 11., I find the following formula for preparing a syrup of the acetate morphia: Take of perfectly clarified syrup 0i. (f 3xv., f 3vi., grs. i., troy) acetate of morphia grs. iv. (gr. 3-281 troy); with these form a syrup; this syrup is at present generally used in Paris: the dose is two tea-spoonsful every three hours; sleep, however, is often produced by a much smaller quantity. The mode of preparing a sulphate of morphia, will also be found in Magendie's Formulaire, and likewise a syrup of sulphate of morphia, the dose of which last is the same with the syrup of the acetate just mentioned. Mr. W. Stowe, in his Toxicological Chart, directs, that poisoning with opium† is to be treated in the same manner as poisoning with camphor.

See Article CLXII. p. 302.

Pepper, Black — Piper Nigrum.

The emplastrum cantharidis vesicatoriae compositum, and the unguentum piperis nigri, are both prepared with the black pepper, and are both useful in those complaints in which they are indicated; the first in producing a blister more certainly than the common blistering plaster, the last in paralytic affections. To raise blisters, in Upper India, where the Spanish fly is not found (except what is brought from Europe),

* Which, in its preparation, crystallizes in soft, silky prisms, which are very soluble.
† Opium appears to have been little known in China before the medical work, entitled Pun-tsoou, was written, in 1600, since which period it has been given in dysentery (say-le); its names in Chinese are ya-pee and o-foo-yung. See Morrison's Chinese Dictionary.
two excellent substitutes are resorted to, both fully noticed in Part II. of this work, viz. the fly named in Hindoostanie *telini*, which is the *meloe cichorei* of natural history, and the one called meloe trian-thema. See article *Telini* in vol. ii. The moxa, which, when burnt, is so much used as an external stimulant in China and Japan, the reader will find noticed in vol. ii. of this work, under the name *Mashiputrie* (Tam.) (Artemisia Indica). There has lately been discovered a peculiar chemical principle in black pepper* by Mr. Oerstädt, somewhat resembling the resins; it would appear that M. Meli has successfully employed it as a febrifuge; it is said to be even more certain than sulphate of quinine; and more active, and must be given in smaller doses.

See Article CLXXI. p. 317.

*Poison Nut, or Nux Vomica — Nux Vomica.*

In addition to what I have already stated regarding this nut, I have to observe, that M. le Docteur *Fouquier*, physician of the Hospital of la Charité of Paris, is said to have employed the alcohol extract with success in *paraplegia*; Alibert for this purpose tells us, that “deux décigrammes” (quatre grains) have been given in two doses, at two or three hours distance betwixt each. The Chinese are well acquainted with the deleterious qualities of this nut, which they call *ma-tseen*; they have an idea, that nutmeg (*tow-kow*) has somehow the power of diminishing its poisonous nature; Loureiro observes, that he gave an infusion of the half toasted seeds in wine to a horse labouring under weakness of limbs, and that he died convulsed about four hours after

* See article Shevium, in vol. ii.
taking it; on the other hand he informs us, that the seeds burnt black may be safely administered, and are useful in flor albus (see Flora Cochin-Chin., vol. i. p. 125.). In Magendie's "Formulaire," edited by Dr. Dunglison, will be found (p. 51.), the mode of preparing strychnine, as also formulæ for its administration in pills, tincture and mixture; we are there told, that the action of pure strychnine is like that of the alcoholic extract of nux vomica, but much more powerful, one eighth of a grain being sufficient to kill a large dog. The pills should be so prepared with conserve of roses, that each do not contain more than one twelfth, or one eighth of a grain; of the tincture from six to twenty-four drops may be given; it is made with an ounce of alcohol, and three grains of strychnine.

In the London Medical and Physical Journal, for Feb. 1826, p. 178, is detailed a case of epilepsy by Dr. Bofferio, in which strychnia was employed to the extent of one grain doses, but not with any lasting good effect. Mr. Stowe states, that poisoning with nux vomica, must be treated in the same manner as poisoning with henbane.*

See Article CLXXV. p. 327.

Potass — Potassa.

R Aquæ cinnam. fʒiss., liquor potassæ subcarbon. m xv., spirit. aether. nitrici fʒss., tincturæ opii m xxv., syrup. simp. fʒi.; misce, fiat haustus, ter in die sumendus, in gravel. R Aquæ potassæ fʒss., aquæ liquor. calcis fʒvii.; misce, of this a

* For an account of the effect of nux vomica in producing a kind of catalepsy, also in preventing hydrophobia and arresting the progress of lepra, see Transactions of the Calcutta Medical Society, vol.i. p.188.
table-spoonful may be taken twice or thrice in the day in a little chicken broth, in gravel. & Potassae subcarbonat. Ωi., rhæi gran. vi., pilulæ hydrarg. gran. iii., syrupi zingib. q. s.; fiant pilulæ vi., capiat unam bis in die, in gravel combined with hepatic derangement, to be repeated.

See Article CLXXXIII. p. 342.

**Rhubarb — Rheum.**

The tinctura rhæi et aloes (Edin.), and the tinctura rhæi et gentianæ (Edin.) are both excellent stomachic laxatives, and may be useful in cases of dyspepsia or flatulent colic, in doses of from f 3i. to f 3iv.; but if required to purge as far as f 3vii. may be given. The pilulæ rhæi compositæ is perhaps the best of all the stomachic purges in cases of hypochondriasis or dyspepsia; the dose from grs. viii. to grs. xv. or xvi., twice daily.

| R Sp. Rhub. pulv. | - | - | grs. x. |
| Pulv. rad. colomb. | - | - | grs. x. |
| Pulv. aromatic. | - | - | grs. v. |

Misce, fiat, pulv. hor. somni sumendus, to keep the bowels open in dyspepsia.

| R Pulv. rhæi | - | - | grs. xii. |
| Pulv. jalap. | - | - | grs. xii. |
| Calomel. | - | - | grs. v. |
| Syrup. zingib. q. s. |

Fiant pilul. vi., four of which may be taken at going to bed, and the other two if required in the morning, to open the bowels freely, and carry off offending bile. & Pulveris rhæi, pulveris myrrhae aë grs. xv., aloes vulg. extracti grs. vii. extracti anthe-
midis ηισσ., syrup. zingib. q. s.; fiant pilul. xx., two 
or three to be taken an hour before dinner in dys-
pepsia accompanied with constipation. & Pulveris 
rhæi gran. viii., magnesiae carbonatis 3ij., pulv. arom. 
gran. x.; miscis, flat pulv., to be taken for heartburn. 
& Pulv. ipecac. grs. v., pulv. rhæi gran. x., syrup. croci 
q. s. fiant pilul. iv., one to be taken every three hours 
in dysentery; to this, if hepatic derangement is sus-
pected, grs. iij. of the pilul. hydrarg. may be added, 
and the pills continued for some days, reducing the 
quantity of rhubarb if it purges too much.

A new chemical principle has lately been dis-
covered by M. Pfaff in the common rhubarb, which 
appears to contain its active virtues; it is solid, dark-
brown, opake, and has a disagreeable odour, and nau-
seous, bitter taste.

See Article CLXXXV. p. 846.

Rosemary — Rosmarina herba (Dub.).

I have observed under the head of rosemary (ros-
marinus officinalis), that the physicians on the con-
tinent consider this plant as useful in glandular 
aффections, and this appears to be confirmed by later 
experience; nay, the medicine would seem further to 
have obtained repute, also, in those complaints con-
ected with atony of the nervous system, and spas-
modic affections. Alibert* gave the essential oil of 
rosemary in doses of from two to four drops on 
sugar: the spirit may be given in doses from $\text{f}_3\text{i}$. to 
$\text{f}_3\text{iij}$. the powder from grs. xii. to 3ij. I have ob-
served, that the French believe this plant to have 
virtues in the glandular affections of children. It

appears to have been the *ros* of Virgil (Georg. ii. v. 212.), Dioscorides 1. 3. c.lxxxix. p. 209. says of it, "vi porro exalfactoria pollet et sanat morbum regium."

See Article CLXXXVI. p. 351.

**RUE, COMMON — Ruta.**

Dr. Thomson says, that he has found a strong infusion of the leaves, exhibited per anum, of great use in relieving the convulsions* of infants.

*Extract. rutæ graveol. gran. xii., aloes spicat. gran. vi., rhæi gran. viii., syrup. simp. q.s.; fiant pilul., vi. to be taken during the day in suppression of the menses. The oleum rutæ is given in hysteria as a stimulant and antispasmodic, in doses of from miiij. to m vi. in syrup; the common dose of the extract is from grs. xii. to grs. xv. or Əi. in pills.

See Article CXCII. p. 365.

**SAL AMMONIAC — Murias Ammoniae.**

Dr. Paris informs us in his Pharmacologia, that a plaster prepared with 3ss. of the muriate, 3i. of soap, and 1ij. of acetate of lead, is a valuable rubefacient in pulmonic complaints. The *aqua ammoniæ* (Edin.) some think the best of all antacids (when well diluted) in heartburn, the dose from mviij. to mxv. in a large cup-full of tepid water. The spiritus mindereri. (*aqua acetatis ammoniæ* (Dub.), is, perhaps, the safest and most effectual diaphoretic, the dose from f3iiss. to f3xii. repeated every three or four

* Alston thought very highly of it in the same affections (Mat. Med. vol. ii. p. 213.). Boerhaave himself took it in great quantities: "Dolia ejus quotannis absumo" (vide Chem. ii. p. 77.).
hours. ℞ Aquæ acetat. ammon. f₃ij., aquæ fontanæ f₃ix., potass. nitrat. gran. v., syr. simp. 3iss.; misce, fiat haust., to be given at bed-time, after proper evacuations have been procured, in ardent remittent fever; to this, tinctur. opii mxxv. may be added, if circumstances admit.

℞ Ammoniæ subcarbon.⁺(am. præp.) 3ss.
  Succ. limon. - - 3iiss.
  Aquæ cinnam. - - 3i.
  Syrupi zingib. - - 3iss.

Misce, fiat haustus. A useful draught in fevers; or f₃i. of the liquor. ammon.⁺ subcarb. may be given occasionally in a little tepid gruel. The spiritus ammoniæ arom.⁺, or spir. ammon. fætid., in doses of f₃i., are useful in hysterical depressions or colic; or the spirit. ammon succin., in the dose of f₃ss.

℞ Spir. ammon. succin. - f₃iiss.
  Misturæ camphor. - f³vii.
  Tincturæ castor. - f₃i.
  Syrupi simp. - f₃ij.

Fiat mistura, cujus capiat aeger cochlearia duo, in an hysterical attack. The linimentum ammoniæ fortius (linimentum volatile (Edin.), is a most valuable external application, spread on flannel, in sore throat; or rubbed on the skin to relieve rheumatic pains; though it is often necessary to render it milder by the addition of a little olive oil: but I often found the soap liniment (lin. sapon. composit.) more useful in India in rheumatism.

⁺ Sal volatilis salis ammoniaci of the old Pharmacopæias, also sal cornu cervi.
⁺⁺ Spir. salis ammoniaci, P. L. 1720 — 1745.
⁺⁺⁺ Often called sal volatile.
See Article CXCVI. p. 373.

**SALTPETRE, OR NITRE — Nitrum.**

Potassæ nitratis — 3vii.
Decocti hordei — f3xiv.
Oxymellis simp. — f3iss.

Misce, fiat gargarisma, in inflammatory sore throat; or the trochischi nitratis potassae (Edin.) may be used for the same purpose, one or two taken occasionally. Rut Decocti avenae Oij., potassæ nitratis giss.; fiat potus; in ardent fever, after due evacuations have been procured; or it may be made with decoctum hordei Oij. Rut Potassæ nitratis giss., aquæ fontanæ f3iv., mucil. gum. Arab. f3ij., vini antimoni m-xl., syrup. aurant. f3ss.; misce, capiat f3i., ter in die, in remittent fever, with a hot skin and teasing cough. Rut Emuls. acaciæ Arab. f3vi., potassæ nitrat. ëiiss., acetii scillæ f3v., spiritus menth. piper. f3iss.; misce, fiat mistura, capiat æger f3i., ter in die, in dropsical affections.

An old writer has said, that "it is not probable that a native saltpetre is any where to be found, whatever some authors may affirm;" but we now know that this is not the case; Brande• himself states, that "it is an abundant natural product." Certainly the ancients confounded it often with other substances; Hippocrates speaks of νιτρον, εγυδρον, λιτρον, &c.; Galen †, Pliny ‡, and Dioscorides §, all use various names for a certain saline substance, but

---

‡ Vide Simpl. l. 9. and 11.
§ Pliny, lib. 31. c. 10.
§ L. 5. c. 130, 131.
which Geoffroy was at great pains to prove was altogether different from our nitre.

See Article CXCVII. p. 375.

SALTGLAUBER — Sulphas Soda.

This salt has of late years been almost entirely superseded by the sulphate of magnesia, which is every way preferable. The late Dr. Gregory of Edinburgh was of opinion, that the latter neutral salt possessed to a certain extent alterative powers, and I believe it. In small quantities of ʒij. to ʒiij., copiously diluted, it forms in India an excellent mineral water, useful in cutaneous affections, touching the parts, at the same time, twice daily with castor-oil. It never sickens the stomach, nor interferes with diet of any kind; on the contrary, I have found it to increase the appetite, taken in this way an hour before breakfast. Glauber salt would appear to have been known to the Chinese (who call it Taousze), since the year 702, and is mentioned by several of their medical writers.*

See Article CC. p. 380.

SARCOCOLLA — Sarcocolla.

At p. 381 I have observed, that Mesue said of it, "purgat pituitam crudam;" but he also stated, "ventriculo bilioso est nocutissima, sarcocolla, et ob "id vitanda pichrocolis est;" that Arabian physician

* Mr. Morrison, in his Chinese Dictionary, informs us, that four of the most distinguished Chinese medical writers were Chung-king-chang-ke, Show-chin-law-yuen-foo, Tung-yuen-le-gae, and Tan-ke-choo-chin-heang.
gave sarcocol in substance to the extent of 3ij. (Mesue, Simpl. l. ii. c. xviii. p. 69.), Shroder not more than 3i.

See Article CCI. p. 381.

SARSAPARILLA, Substitute for — Periploca Indica.

I have noticed at p. 382, the nature and mode of using this root. The true sarsaparilla of America, was at one time thought to possess powerful antisyphilitic virtues, but is now merely considered as useful in rendering a mercurial course more efficacious. Paris observes, that it is rarely boiled enough; Dr. Thomson on the other hand thinks long boiling injures it; Mr. Brande is of opinion, that the virtue does not reside exclusively in the cortical part; but is to be sought for in the amylaceous covering of the woody fibre, only to be dissolved by due boiling (Brande's Manual of Pharmacy, p. 380.). Geoffroy, gave it to the quantity of from 3ss. to 3ij. in substance, and in decoction to f 3ss. (Geof. ii. p. 135.), in venereal affections. The reader will find much curious information regarding sarsaparilla, in some of the old authors de Morbo Gallico, such as Cardanus, Claudianus, Massa, &c. The preparations in modern use, are: the decoctum sarsaparillae, of which f 3ij. may be taken thrice daily; the decoctum sars. compos., of which the same quantity may be ordered. Much of the good effects of this last preparation I consider is owing to the guaiac. root which it contains; a medicine perhaps not sufficiently appreciated, nor is the gum resin itself. The following is the old decoctum lusitanicum, and which was, some years ago, supposed to possess valuable alterative virtues: & Radicis sarsaparillae, ligni sassafrasencis,
ligni guaiaci rasi, singulorum $f^3$iss., radicis mezerei, seminum coriandri, $\ddollar f^3$ss., aquae distillatæ O. x., coque ad octorios quinque; of this a pint is to be taken daily.

See Article CCIV.

**SCAMMONY — Scammonia.**

I have observed, that some of the old Arabian writers said much against this medicine, but no one has expressed himself so decidedly in opposition to it as a writer of a much later age, Hoffman: “Ego nunquam in praxi mea in usu habui, nec in posterum habebo; me semper ab ejusmodi venenis colliquatvis abstinens:” Hoffman in Shrod. p. 573. Alston observes candidly, I reckon scammony milder than the resina jalapæ (Mat., Med. vol. ii. p. 469.).


See Article CCV. p. 389.

**SENA — Senna.**

$R$ Infusi sennæ - - $f^3i$.
Tincturæ jalap. - - $f^3i$.
Magnesiae sulphat. - - $f^3$ss.
Syrupi zingib. - - $f^3i$.

Fiat haustus; a strong purge, at the beginning of inflammatory fever.
Senna is one of our most efficacious purges; two drachms, when infused during the whole night in eight or ten ounces of boiling water, are as powerful as thrice that quantity when infused but for one hour: to this two drachms of manna may be added before taken, to prevent griping. The electuarium sennæ composit., by itself, is a good aperient, in doses of from 3i. to 3v.; if a little powdered jalap, say eight or ten grains, are added to it, it is a powerful purgative.

I have not been able to learn, that any of the Greek writers previous to Actuarius notice senna; he was properly speaking a Jew physician, but wrote in Greek, and practised in Constantinople in the 13th century; but the medicine had been particularly treated of by the Arabian writers, upwards of 300 years before his time; first by Mesue, who died in A.D. 865, and afterwards by Serapio, who flourished in A.D. 890.

See Article CCLX. p. 395.

Soda, Carbonate of — Carbonate of Soda.

R Extract. anthemid. 3i., sodæ carbon. 3ss., pulv. rhæi 3i., olei carui mx., syrup. zingib. q. s.; siant pilul. xxiv.; two to be taken thrice daily in dyspepsia: or this: R Sodæ subcarbon. 3iv., radicis rhæi contus, 3iiss., corticalis cascaril. contus. 3i., aquæ ferventis f3xii.; macera per horas tres, dein cola, capiat aeger f3i. bis in die. R Sodæ subcarbon., myrræe optimæ á á gran. iv., ferri sulphat. gran. iij.; siant pilulæ duæ, ter in die sumend. (Hooper), in scrophula: in that complaint in India, I have found greater advantage from preparations of iron, and sea-bathing, than any other medicine. The best pre-
paration is the sub-carbonas ferri, in doses of from vii. to xxx. grains twice or thrice daily, in the form of a bolus, with bark and aromatics.

Much has lately been said and written on the subject of iodine, which was discovered in 1813, by M. Courtois, in the mother-waters of soda, as it is obtained from sea-weed *; it was first used in medicine by Coindet, a physician of Geneva, in goitre; and, it would appear, with the happiest effects; but I presume, from what I myself saw of that disease, during a long residence in Switzerland, that although it may for a time be checked by the use of soda, no lasting cure is ever performed, if the sufferer remains within the influence of the endemic cause. Iodine has also been considered useful in white swellings, scrofula, and amenorrhœa, to destroy any disposition to scrofulous phthisis, and to hasten the cicatrization of venereal ulcers! A tincture has been given to the extent of ten drops three times a day, in a little sugared water, increasing the dose to twenty drops. This tincture is prepared with one ounce of alcohol and forty-eight grains of iodine. It would appear, that an ointment is also now employed made with twenty-nine grains of the hydriodate of potash, and \( \frac{3}{10} \) of hog's-lard: of this the quantity of \( \frac{3}{5} \) may be rubbed in, morning and evening, on the bronchocele, at the end of eight days increasing it to \( \frac{3}{1} \). See Magendie's Formulaire, p. 39.

* It has been got from a great variety of sea-plants, such as the Fucus saccharinus, F. digitatus, F. serratus, &c.; and from sponge by Dr. Fyfe and Mr. Straube, of Hofwyl. See Magendie's Formulaire, edited by Dunglison, p. 22.
See Article CCXIII. p. 402.

**SQUILL — Scilla.**

& Aceti scillae • - - - f 3i.
Decocti hordei - - - f 3v.
Syrupi croci - - - f 3i.

Misce, fiat mistura. A table-spoonful to be taken three or four times in the day, when cough is troublesome.

& Syrupi papaveris f 3vi., oxymellis scillae f 3iiij., decocti hordei f 3vi.; misce, capiat cochlear. duo magna, ter in die; in simple catarrh, proper evacuations having preceded. The compound squill pill is an excellent expectorant, in doses of from grs iiij. to grs. xii.; it may be combined with ipecac., or, when water may be suspected to be forming in the chest, with the blue pill or calomel. & Pilulæ scillæ composit. Æij., pulv. ipecac. gran. iv., pilul. hydrarg. gran. xii., vel hydrargyr. submur. gran. iv., syrup. zingib. q. s.; fiant pilulæ xviii., two to be taken at night and one in the morning. & Pulv. scillæ gran. xii., pulv. ipecac. gran. xii., extract. tyraxaci Æij., pilul. hydrarg. gran. x., syrup. simp. q. s.; fiant xxiv., capiat duo, mane et vesperae, in dropsey. Mr. Brande tells us, that obstinate hoarseness is sometimes removed, by thirty drops of the tincture of squills, taken night and morning, in a little water. The Romans used both the oxymel and acetum

• The acetum scillae may be seen very highly spoken of, in consumptive cases, in an old book, attributed to Galen! viz. "De Medicamentis, facile parandis;" of it is said in that work, "Item phthisicos ab omnibus deploratos hoc medicamento sanitati restitutos novimus." I believe it to be a very valuable expectorant, and have found it so in India.
scillae (scillium); the last they thought had virtues in epilepsy: with the first they prepared a warm gargle, which they ordered in quinsey (see Pliny, Nat. Hist. book xxiii. chap. ii.).

℞ Pulv. scillae exsiccat. gran. ii., pulv. fol. digital. grs. ii., pilulæ hydrarg. gran. iiss.; fiant pilulæ duas, hora somni sumendas, in incipient hydrothorax; if rest is required, to this may be added, extract. lactucæ grs. v. to vi.

See Article CCXVIII. p. 411.

Sulphur — Sulphur.

Before proceeding further, I must here rectify a mistake, made by my amanuensis, at page 413. In speaking of sulphur, it is there said, that Dr. Thomson cautions us against the exhaustion which sulphur is so apt to induce; this, he does not say of sulphur, but of a very different medicine, supertartras potassae.

℞ Sulphur. sublimat. - - 3ss.
     Potassæ supertart. - - 3iiss.
     Electuar. sennæ compos. - 3i.
     Syrup. simp. q. s.

Misce, fiat electuarium; of this a tea-spoonful may be taken at bed-time for the piles.

℞ Sulphur. sublim. - - 3ij.
     Potassæ sulph. - - 3iv.
     Electuar. sennæ compos. - 3ij.
     Syrup. simp. q. s.

* Fiat electuarium, capiat aegér singulis noctibus cochleare minutum, for the piles; bathing the parts frequently at the same time with water made cold by means of salt-petre, in India.
R Sulph. sublim. - - - 3iss.
Sacchari non purific.,
Supertart. potassae, āā - - 5ij.

Misce, fiat pulvis, bis in die sumend., in scabies, the itch, impetigo, or blotched face.

R Sulphur. loti - - 3ij. — 3iiss.
Sodae subcarbon. - - gran. xxx.
Pulv. antim. gran. iss. — gran. ij.

Misce, fiat pulv., bis in die sumend., in cutaneous* impurity, consequent of unchecked cardialgia, which it often is, in India.

R Sulphur. sublim. - - 3iiij.
Adipis præpar. - - 3ij.

Misce, fiat unguentum; to be rubbed on the affected parts every night at bed-time, in the itch.†

See Article CCXXX. p. 442.

THORN APPLE — Datura.*

It would appear that M. Brande had succeeded in procuring an alkaline principle from the seeds of the datura stramonium, as well as from the hyoscyamus niger. Magendie regrets, however, that that

* For such affections, Dr. Thomson says, that he considers the solution of potass, (liquor potassæ, Lond.), almost a perfect specific, given in doses of from mxi. to f3ij. in some bitter infusion.
† The hydro-sulphuretum ammonæ (Dub.) is a medicine I have no experience of in India; it is said to be powerfully sedative, lowering the action of the heart and arteries. Mr. Cruikshank ordered it in small doses of mvi. or mvi., three or four times in the day, in a large tumbler of water.
† In the Transactions of the Medical and Physical Society of Calcutta, p.121, will be found an account of the successful use of a decoction of the datura fast., in spasmodic asthma; 3i. of the bark, to lb. iss. of water, boiled to lb. i.; dose 3ij.
gentleman has given us but an imperfect account of these substances, and thinks the experiments merit repetition; an accurate analysis of the seed just mentioned will be found at page 121 of Dr. Dunglison’s edition of Magendie’s “Formulaire.” Dr. Marcet, I perceive, by the Med. Chir. Trans. vol. vii. p. 551, gave great relief in sciatica by prescribing the extract of the seeds of the datura stramon., in doses of from one-eighth of a grain to one grain. In cases of poisoning with the datura, Mr. W. Stowe recommends the same treatment as that ordered for poisoning with henbane, opium, and camphor.*

See Article CCXXXV. p. 457.

**TURPENTINE — Terebinthina.**

As an application for burns, the value of the linium terebinthinae (Lond.) is well established; it was first recommended by Dr. Kentish, and Dr. Wilson gives his evidence to its good effects. Dr. Kentish began by bathing the burnt parts with warm oil of turpentine, and then dressed them with plasters of the liniment. The use of the emplastra picis compositum (Lond.), and the tar ointment (unguentum picis liquidæ), are too well known to require particular notice here. I have found the latter of great use in the tinea capitis, in India, a most obstinate disease.

See Article CCXXXVII. p. 461.

**ACETUM — Vinegar.**

Vinegar is one of our best and safest acids, and is

* Dr. Adam seems to prefer a tincture of the datura fastuosa, given in asthma. The capsules, seeds, and leaves; the quantity of spirit, the same as for tinct. digitalis; dose, 30 or 40 drops, repeated every two hours. See work last quoted, p. 370.
much used, both externally and internally by all de-
scriptions of medical men, in India; next to it, as
an internal medicine in that country, may be ranked
the tamarind pulp; on the other hand, lime-juice, and
that of oranges, or pumplemoses, not quite ripe, are
hostile to many stomachs, and apt to bring on cho-
lerna morbus. A tea-spoonful of vinegar is an ad-
mirable adjunct to tepid drinks, such as barley-water
or rice-gruel, when perspiration is required to be
brought on in inflammatory fever; cloths dipped in
it and water, are a good application in sprains and
bruises; or a cataplasm may be made with vinegar
mixed with linseed-meal; it forms a good collyrium
with a little brandy and rose-water. 1 R Aceti f\textsuperscript{3}ij, 
spiritus tenuioris f\textsuperscript{3}i., aquæ roseæ f\textsuperscript{3}xv.; fiat colly-
rium. The following I have found to be a useful
embrocation in pains and bruises, when the skin re-
 mains entire: 2 R Ammoniæ preparatae 3ij., aceti 0ij.,
spiritus tenuioris 0iiss.; misce. The acidum acetos-
sum aromaticum (aromatic vinegar) is an agreeable
perfume, and is considered as antifebrile, taken in
doses of f\textsuperscript{3}ss. in barley-water. With vinegar, boiled
with honey, may be prepared an excellent gargle, in
inflammation of the throat. Dr. Pearson gives us
this useful caution in his Practical Synopsis of the
Materia Medica (p. 327.): “When vinegar is em-
ployed to fumigate sick rooms it should be boiled in
glazed earthen pipkins, and carried about the bed,
and not thrown on hot bricks, by which means it is
decomposed.” The ancients thought very highly of
chap. i.), that an oxycrake made with it is an excel-
 lent remedy in burns, scaldings, and various cuta-
aneous affections!
See Article I. chapter ii. page 495.

**ANTIMONY — Antimonium.**

R Pulveris antimonialis  -  grs. v.
Potassae nitratis  -  grs. vi.

Miscæ, fiat pulvis, hora somni sumendus; as a sudorific, in inflammatory fever.

R Calomel  -  -  grs. iv.
Pulv. antimon.  -  -  grs. viii.
Pulv. rhæi  -  -  grs. vii.
Syrup. simp. q. s.

Miscæ, ut fiant pilulæ v., one to be taken every two hours, at the commencement of ardent remittent fever in India. The mode of giving the antimonial wine has already been mentioned. The precipitated sulphuret of antimony was long considered a very useful medicine; of late years it is not so much trusted to, except when combined with mercury, and then it is prescribed with advantage in venereal cuticular impurities, given at the same time with sarsaparilla.

R Sulphur. antim. præcip.  -  grs. iij.
Pilulæ hydrargyr.  -  grs. iij.
Extract. lactucæ  -  grs. iij.

Fiant pilulæ iii., two to be taken at night and one in the morning, and continued for some time, in anomalous venereal affections. Of a somewhat similar nature to this are the pilulæ hydrargyri submuriatis composite (Lond.), commonly called Plummer’s pill, so frequently now ordered by Mr. Abernethy in secondary syphilis; the dose from grs. iv. to grs. xii., twice daily. The ointment used for raising a local
pustular eruption on the skin, is prepared by rubbing together $\frac{3}{4}$ of tartarized antimony and $\frac{3}{1}$ of hog's-lard.

For poisoning with antimony, I find recommended by Mr. W. Stowe, after vomiting and diluting well with large draughts of bland fluids, that decoctions of astringent vegetables should be drank freely.

See Article II. chap. ii. p. 498.

**Arsenic — Arsenicum.**

If to be given in substance as a tonic, Dr. Thomson thinks the best mode is by rubbing one grain of the white oxide with ten of sugar, and then beating the mixture with a sufficient quantity of crumb of bread, and making the whole into ten pills, one of which is a dose. I have noticed the use of the white oxide of arsenic in cancerous cases, sprinkled over the face of the sore. Much valuable information is to be found on the subject of arsenic in cancer, in Justamond's Treatise on Cancerous Affections, and still more in Le Febure's work (Remede pour Guerir le Cancer), published in 1775. Fowler's solution is made by boiling thirty-two grains of white arsenic, reduced to powder, and an equal quantity of subcarbonate of potass, in four ounces of water; adding to the solution, when cold, four ounces more of water and two drachms of spirit of lavender: this has been given to children in hooping-cough, in the quantity of from two to six drops; to adults, in doses of from ten to fifteen, three times in the day. What was called Jacobi's solution, was somewhat different from this, and rather weaker. Many able men have written on the use of arsenic: Friccius, Moliter, Duncan, Bradley, Simmons, &c. While some are
lavish in its praises, others, such as Monro, Baker, and De Haen, have condemned it, in consideration of its poisonous* nature. Pliny† notices three kinds of arsenic, and he died in A.D. 79; so does Avicenna‡, who died A.D. 1036. The first considered this mineral merely as a cauterity; and, in the days of the latter (for the Arabs borrowed nearly all from the Greeks), I presume, it was not much more prized. In cases of poisoning from arsenic, Mr. W. Stowe recommends vomiting to be excited or encouraged by large draughts of linseed tea; and, if the arsenic has been taken in solution, he advises lime water to be drank freely. Inflammatory symptoms to be combated by bleeding, fomentations, emollient glysters, &c., as circumstances may require. He concludes by saying, "no specific antidote yet known." See Toxicological Chart. In my paper on the lepra Arabum, in the Transactions of the Royal Asiatic Society (vol. i. part ii.), I have noticed that the Hindoos§ had used arsenic for this disease (kushita) for ages past; and in vol. ii. of the Asiatic Researches will be found a native formula for its administration, first made known to the world by Sir W. Jones.

* See Pearson's Practical Synopsis of Materia Medica, p. 400.
‡ Lib. ii. tract 2. c. 49. p. 102.
§ See an admirable paper in the Transactions of the Medical and Physical Society of Calcutta, on the kushita, or leprosy of the Hindoos, by the vice-president, Horace Hayman Wilson, Esq., vol. i. p. 1. It is replete with oriental lore, and brings forward several curious formulas from some of the early Hindoo writers, such as Charaka and Susruta, in which arsenic appears to have been prescribed for lepra.
COPPER — Cuprum.

At page 511., I have mentioned the dose of sulphate of copper, when ordered as an emetic; in very small doses it has been given, as a tonic, in epilepsy. Brande has the following formula:

℞ Cupri sulphatis    -    -    gran. iii.
Medullae panis    -    -    3i.
Fiat massa in pilulas xxiv. dividenda, quarum capiat æger unam ter in die.

Of the virtues of cuprum ammoniatum in epilepsy, I can speak from experience, in India; I ordered the following:

℞ Cupri ammoniat.    -    -    gran. i.
Confec. aromatic.    -    -    gran. xv.
Fiat bolus, bis in die sumendum; at the same time with sea-bathing.

℞ Cupri sulphat.    -    -    gran. ij.
Extract. cascarillae resinor.   gran. xvii.
Opii    -    -    -    -    gran. ij.
Syrup. zingib. q. s.
Utiant pilulae viii., one to be taken three times in the day; in epilepsy.

In cases of poisoning from copper, "large draughts of milk and water are to be taken to encourage vomiting; whites of eggs to be stirred up with water and drank freely. Inflammatory symptoms to be subdued on general principles, and the nervous affections to be relieved by anodynes and antispasmodics." Such is the treatment recommended by Mr. Stowe, in his Toxicological Chart; he further states,
that sugar is not a specific antidote in such cases, as Orfila at first promulgated.

See Article X. chap. ii. p. 522.

**Iron — Ferrum.**

℞ Ferri sulphatis - - gran. iij.
Pulveris rhæi, 
Pulveris aromat. āā - gran. iij.
Misce, fiat pulv., bis in die sumendus; in general debility.

℞ Ferri ammoniat. - - grs. v.
Pulv. cinnamom. compos. grs. xii.
Misce, fiat bolus, bis in die sumend.; in scrophula or chlorosis.

℞ Tincturæ ferri muriat. - fʒ ss.
Spiritus cinnamom. - fʒ iss.
Misce. Capiat aëger cochleare parvulum unum, vel alterum bis in die, ex cyatho aquæ fontanæ; in scrophula.

The tinctura muriatis ferri is a powerful antispasmodic*, in cases of dysury, given in the quantity of six or eight drops every quarter of an hour till it sickens. I have employed it often in India, in such cases, with the happiest effect.

℞ Ferri rubig. - - gran. viii.
Pulv. zingiber.
Pulv. rhæi, āā - gran. iij.
Confect. rosea gallicæ q. s.
Ut fiat bolus, bis in die sumendus; in amenorrhœa.

* Dr. F. Hamilton found the medical men of Barar ordering a preparation of iron, sahasrang (Hind.), lohachasma (Sans.), in hooping cough. MSS.
The rust of iron.—Mr. Brande says that this preparation of iron, the rubigo ferri (ferri subcarbonas), has lately been recommended in the treatment of the tic douloureux; and in cancer Dr. Thomson has found it to suspend the symptoms of that dreadful malady.*

See Article XIV. chap. ii. p. 532.

**LEAD†—Plumbum.**

℞ Liquoris plumbi acetatis — m xviii.
Aqua distillatæ — fʒviii.
Misce, fiat collyrium; for inflammation of the eyes, the bowels being previously well purged. Vel,

℞ Liquor. plumbi acetat.
Tincturæ opii, āā — ʒij.
Aquaæ rosæ — fʒxvi.
Misce, fiat collyrium; in ophthalmia.

℞ Plumbi acetatis,
Opii, āā — — gr. ss.
Confec. rosæ gallicæ q. s.
Fiat bolus, bis in die sumendus; in spitting of blood.

The ceratum plumbi acetatis is a valuable application for burns and scalds.

℞ Liquoris plumbi acetatis — ʒiss.
Spiritus tenuioris — ʃʒiss.
Aquaæ distillatæ — 0iss.
Misce, fiat lotio; for incipient phlegmon; or to this

* Englehart, of Gottingen, has lately, by a series of experiments, ascertained, that the red colour of the cruor of the blood is owing to the iron it contains; having deprived a portion of cruor of its iron, by means of chlorine, it became colourless.

† Dr. F. Hamilton found a preparation of lead, siskang (Hind.), mixed with honey, ordered by the medical men of Barar for difficult menstruation and gonorrhœa. MSS.
three or four fluid drachms of the acetic acid may be added, to render it still more discutient.

For poisoning with lead, Mr. Stowe recommends a weak solution of Glauber’s salt to be drank plentifully. Dr. Thomson seems to prefer castor-oil, combined with henbane, plentiful dilution with mucilaginous fluids, the warm bath, and mutton broth injections.

See Article XIX. chap. ii. p. 540.

**Mercury — Hydrargyrum.**

℞ Pilulæ hydrarg. — gran. v. vel vi.
Pulv. ipecac. — gran. ij.
Camphoræ — gran. iss.
Syrup. zingib. q. s.

Misce, ut fiant pilulæ duæ; one to be taken morning and evening, in hepatitis or syphilis, and to be continued till the mouth is affected; these seldom purge, but keep the bowels gently open.

℞ Hydrargyr. submuriat. — Ωij.
Camphoræ, åå — — Ωi.
Opii — — — — grs. viii.
Syrupi simpl. q. s.

Misce, ut fiant pilul. xl.; one to be taken three times in the day, in syphilis; and continued till the mouth is affected; avoiding fruit, wine, and all vegetables, excepting mealy potatoes.

℞ Pilulæ hydrarg. — — gran. iv.
Pilulæ scillæ comp. — gran. vi.
Pulv. ipecac. — — gran. ij.
Syrup. zingib. q. s.

Fiant pilul. tres, in die sumendæ; in hepatic obstruction, threatening dropsy.

TT 3
**Materia Indica.**

**Part I.**

℞ Hydrarg. oxymuriat. - grs. iv.
℞ Ammoniæ muriat. - grs. viii.
℞ Spiritus vinos. tenuior. - fʒij.

Solve; of this a tea-spoonful may be given twice daily in rice gruel, in confirmed constitutional syphilis.

℞ Hydrarg. submuriat. - ʒij.
℞ Sulph. antimon. præcip. - ʒi.
℞ Guaiac. resinæ - ʒi.
℞ Bals. copaib. q. s.

Ut fiant pilul. lx., capiat sæger tres, singulis noctibus; in venereal herpes; to be continued till the mouth is touched, using at the same time frequent tepid baths.

℞ Hydrarg. submur. - gran. iv.
℞ Pulv. jalap - gran. xv.
℞ Extract. colocyn. - gran. vi.

Fiant pilulae v.; to be taken early in the morning at the beginning of fever, or to carry off offending bile.

℞ Pilulæ hydrarg.
℞ Pulv. antimon. åã - gran. iiss.
℞ Opii - gr. ss.
℞ Syrup zingib. q. s.

Fiat pilula, hora somni sumenda; in venereal blotches, attended with weakness and diarrhœa.

The hydrargyri nitrico-oxydum (or red precipitate) is much used for the purpose of sprinkling over chancres to clean them; an ointment is prepared with it for similar purposes, and which also is often employed for inflammation of the tunica conjunctiva. When properly diluted, the unguent.
nitrat. hydrargyri is resorted to for some of those in- 
veterate cutaneous affections, often met with in India. 
The weaker sort (the unguent. nit. hydrarg. mitius, 
Edin.) is considered, when moderately diluted with 
lard, as a specific in psorothalmia, and in the pu- 
rulent ophthalmitia of infants. The unguentum hy- 
drarg. præcipitat. albi, is a common application for 
ching-carpan, or obstinate itch of infants, in India; 
though it is a safer practice, perhaps, not to repel such 
complaints by mercurials, but to moisten the parts 
with castor oil twice daily, and attend to the state of 
the first passages, correcting acidity, by frequent 
gentle doses of magnesia and rhubarb. The com- 
mon mercurial ointment, rubbed in to the quantity 
of 3ss., morning and evening, at the same time that 
the medicine is administered internally, is a treat- 
ment usually adopted in India, when it becomes an 
object to affect the mouth quickly; or double that 
quantity may be rubbed in, should the bowels be too 
weak to admit of the remedy being given internally, 
which is often the case in dysentery. Mercury, in 
India, provided there is sufficient reaction in the 
frame at the period of its being administered, is the 
most powerful and most useful of all medicines; 
and, in judicious hands, either cures, or gives a 
salutary check to many of the diseases to which 
Europeans are subject. But in all cases in which a 
solution of continuity is approaching, or putrescency 
threatens, it is decidedly contra-indicated: if given, 
for example, at the commencement of hepatitis, 
it will prevent suppuration; but if suppuration 
has taken place, mercury will retard the cure. In 
the advanced stages of typhus fever, it hastens death: 
had it been prescribed skilfully during the first days
of indisposition, the malady, perhaps, might never have assumed the typhoid type; so with dropsical affections; calomel, or the blue pill, will do much on such occasions, if resorted to in time, but if administered when the powers of assimilation are gone, it will certainly disappoint.

I can recognize in mercury no sedative property whatever, however great the dose; it may, indeed, act by weight, and so be hurried through the stomach, little changed and nearly inert; but its essential nature must still be the same. Might we not as well be told, that three or four glasses of brandy, if drank, will inebriate, but that a whole bottle will not have the same effect? Mercury I conceive to be the most universal stimulant and alterative* in the whole range of the Materia Medica, and as such seldom fails to do good where it is clearly indicated. Although the most valuable, yet is it also the most capricious! I knew an individual who had his mouth violently affected by three grains of calomel, taken for two nights following; yet a year afterwards, he took it for several weeks, without its producing a similar result. A fact which afforded me a salutary lesson through after-life, that this mineral ought to be dealt with charily. Children may take larger doses of calomel with impunity than grown up people, owing to the abundant mucus with which their intestines are lined; and those who are what is termed nervous†, men or women, will suffer infinitely more from the irritating influence of mercury, than those who are not. Mr.

* It is an old fashioned word, it is true; but where we cannot exactly explain the modus operandi, I know none more expressive.
† In such habits, it not unfrequently produces vertigo, tremour, and palpitation.
J. Annelsy, Dr. A. Cartwright, and several others, have strongly and ingeniously advocated the use of scrupulose doses of calomel; and they are right, if they have found benefit from that practice. I have had no reason to complain of frequently repeated small doses, by which means I found the weapon more within my own control. Five or six grains of calomel given at bedtime, will in all probability purge the patient towards morning; and if we administer it with that view, it is all well; but if given to produce a change in the habit, it is, I humbly conceive, a better plan, to order the same quantity divided into three distinct doses, to be taken during the day; as in this way, it is much less apt to run off by stool, from the stomach being kept in a continual state of excitement, by the repeated application of the stimulant; in the same manner, perhaps, as dysentery is relieved by nauseating doses of ipecacuanha, given at short intervals. With regard to the modus operandi of mercury, I have already said much under the article Mercury, at p. 540; so shall here briefly observe, that till such time as a certain degree of soreness of the mouth takes place, I have seldom seen any very lasting advantage derived from its use, whether in syphilis, acute rheumatism, remittent fever, hepatitis*, or dysentery; on the contrary, I have but too often found symptoms rendered worse; but the very day, nay, I will go farther, the very hour when the mouth becomes affected, I have invariably remarked, that the disease assumes a more favourable aspect; and this peculiarity is so forcibly impressed on my mind, that I should almost be inclined to look upon

* See Dr. James Johnson’s valuable Medico-Chirurgical Review for April 1826, p. 336.
a slight degree of ptyalism, under the circumstances
we alluded to, as a friendly notice from Dame Nature
herself, that we had gained the wished-for goal. I
shall ever remember one very marked instance, in the
case of a poor fellow, a private of his Majesty's 74th
regiment, who was in so miserable a state from dys-
entery, that I expected every hour to be his last; I
had quitted him late the preceding evening, when
his motions were so frequent, and tenesmus so dis-
abling, that he required the almost constant use of
the bed-pan; but what was my surprise in the morn-
ing, to find him sitting up in bed; and on being asked
how many motions he had during the night, to hear
him reply, "Oh! none since midnight; but I have got
a much worse complaint, so sore a mouth, that I can
scarcely speak;" he had been for two days rubbing
in 3ij. of strong mercurial ointment morning and
evening, and which fortunately had the effect I so
much desired, just in time to save him; the medicine
had exerted its alterative powers; a transfer of
humours had been brought about to a distant part,
and the bowels had in consequence been relieved by
the change!

To conclude; when I have spoken of mercury,
I meant mercury in all or any of the forms in which
it is commonly administered. Calomel, by being a
valuable purge, is, no doubt, peculiarly useful in
many cases; and, by its at the same time stimulating
the liver and biliary ducts, an increased secretion of
bile must naturally ensue from its being employed;
but I humbly conceive, whatever may have been,
certainly very ably, said by Mr. Annesly * respecting

* See his excellent observations on the use and abuse of ca-
لومل، في المجلد الأول (p. 211.) من تدفقات الطبيبة في سوسيتى مالتيكا.
the mechanical and chemical operation of calomel, that the happiest influence of that preparation must be by its effect on the general habit, simply as mercury; thereby changing for a time the nature of many of the secretions, rendering them evidently more fluent, and, consequently, removing organic congestion, dark viscid bile, &c. And, perhaps, the best of all proofs, in support of what I have here with much diffidence advanced, is our contemplating the extraordinary relief often given in cases of hepatitis, syphilis, acute rheumatism, and, most of all, in dysentery, when no calomel had been given at all, but the mercury rubbed in, in the form of an unguent.

See Article XX. chap. ii. p. 562.

Silver — Argentum.

The nitrate of silver is chiefly employed as a caustic, but of late years it has been found to be useful taken internally as a tonic and antispasmodic, and to be especially indicated in epilepsy (Med. Chir. Trans. vol. ix. p. 234.) and chorea; but Dr. A. T. Thomson is of opinion, that little advantage is gained by it, unless it is preceded by a course of purgatives.

\[ R \text{ Argenti nitriti} \quad - \quad \text{gran. i.} \]
\[ \text{Confectionis rosae} \quad - \quad \text{gran. x.} \]
Fiant pilulae sex, sumat aeger unam ter in die.

I have been informed, that the following prescription of Dr. Thomas's, has been given with the best effects in epilepsy. \( R \text{ Argenti nitritis grs. iiij.} \); solve terendo in aquae distillatae \( m \) aliquot, et adde
micae panis q. s.; fiat massa in pilulas viginti distribuenda; sumat æger unam vel duas bis terve in die.

See Article XXI. chap. ii. p. 568.

TIN — Stannum.

Tin is now known to have no medicinal property, beyond its mechanical effect in expelling worms; and, in that respect, I believe it to be far inferior to either the root of the pomegranate tree or oil of turpentine.

℞ Limatur. stanni,
Confection. cassiae, انيا − − 3i.
Misce, fiat electuarium, capiat æger magnitud. nucis moschatæ bis in die; this may be continued for three or four days, after which, a purge of the compound powder of scammony and rhubarb, or of calomel and rhubarb, may be taken to bring away the worm or worms.

℞ Pulv. scammoniae composit. (Lond.) gran. xii.
Pulv. rhæi − − − gran. xii.
Misce, fiat pulv.

℞ Pulv. rhæi − − − gran. xii.
Calomel − − − gran. v.
Misce, fiat pulvis.

* Dr. F. Hamilton found a preparation of tin, called tapasrak (Hind.), bangga (Sans.), ordered by the Vytiæns of Bahar to be given in milk, for gonorrhœa.
Zinc — Zincum.

℞ Zinci sulphat.
  Plumbi superacetat., āā - gran. iv.
  Aquaë distillat. - - fʒiv.
  Misce, fiat collyrium; in ophthalmia, after bleeding with leeches and purging: or an eye wash may be prepared with gr. i. of the sulphate of zinc and ʒij. or ʒiiss. of rose-water.

℞ Zinc. sulphat. - - gran. vi.
  Aquaë rose - - fʒv.
  Misturaræ camphor. - - fʒij.
  Misce, fiat collyrium.

℞ Zinc. sulphat. - - - ʒij.
  Aquaë rose - - ʒviii.
  Misce, fiat injectio; in gonorrhœa, should brisk purging and low diet have preceded.

℞ Zinci sulph. - - - gr. i.
  Decoct. cort. cascarillæ - fʒiiij.
  Syrup. simplic. - - fʒi.
  Misce, fiat haustus, ter in die sumendus; in hooping cough.

℞ Zinci oxydi - - gran. v.
  Extract. cascarillæ - gran. vi.
  Syrupi zingib. q. s.
  Fiant pilulæ tres, ter in die sumendæ; in epilepsy.

℞ Zinci sulphat. - - gran. i.
  Extract. gentianæ - gran. viij.
  Syrup. zingib. q. s.
  Fiant pilulæ duæ; in die sumendæ, cum fʒij. infusi anthemidis; in epilepsy.
To produce vomiting, the sulphate of zinc has been given to the extent of 3 ss., but from grs. x. to grs. xv. or 3 i. will generally excite it.

R Zinc. sulphat. - - 3 i.
Misturæ camphor.
Aquaæ roseæ, 3 a - f 3 viij.
Misce, fiat collyrium.

R Zinci sulphat. - - gran. xvi.
Unguenti adipis præpar. - 3 i.
Misce, fiat unguentum; to smear the edges of the eye-lids, in cases of venereal ophthalmia.

END OF THE FIRST VOLUME.