A

GENERAL VIEW

OF THE

WRITINGS

OF

LINNÆUS.

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LONDON:

PRINTED FOR T. PAYNE, AT THE MEWS-GATE;
AND B. WHITE, FLEET-STREET.

M.DCC.LXXXI.

ADVERTISEMENT.

AS the Writer of this volume could not, for very obvious reaſons, entertain the moſt diſtant intention of ſtanding forth the profeſſed Biographer of LINNÆUS, he wiſhes to preclude any undue expectations, by obſerving that, the few memoirs relating to the life of this celebrated Profeſſor, which will be found interſperſed in the firſt part of this *View*, were almoſt wholly collected from LINNÆUS's own writings, and other printed works; and ſerve, principally, to relieve the tediouſneſs of a bare account of books, and to connect in a better manner the ſeries and occaſion of his publications. He regrets that his ſources of intelligence have not been ſufficiently copious to enable him to render theſe memoirs more equal to his wiſhes, and more worthy the acceptance of the public. To thoſe who are converſant with the works of LINNÆUS, he is perfectly aware that theſe pages can afford but little amuſement and ſtill leſs information, and can have no merit in their eye, beyond that of recalling to their remembrance, a ſucceſſion of facts and obſervations, with which they were before acquainted. They will, however, concur with him in wiſhing to diffuſe the knowledge of the writings of ſo great a maſter, and in endeavouring to excite an emulation in younger minds, for that ſcience which they cultivate.

All the works of LINNÆUS, as far as they have come to the Author's knowledge, are noticed in the ſucceeding pages; but, as moſt of them were ſubſervient to his great object the SYSTEM *of* NATURE, the *outlines* of that work bear a principal part in this *View* of his writings.

The CLASSIFICATION *of* DISEASES, is but a ſmall part of his works; yet, as LINNÆUS was an early writer

on

on that ſubject, which has ſince excited the attention of many phyſicians, and is at this day not ſufficiently diſcuſſed, it hath therefore been exhibited more largely than many of his other writings.

The AMOENITATES ACADEMICÆ, although ſtrictly ſpeaking they are not LINNÆUS's own works, have yet ſo large a ſhare of his authority ſtamped upon them, are ſo intimately connected with his writings, and, it is preſumed, are ſo much leſs known than they deſerve to be, that it was judged proper to give a *brief* account of the *whole* collection.

The PAN SUECUS having been firſt preſented to the *Engliſh* reader ſeveral years ago, by the Author of this volume, in a periodical publication, is here ſubjoined, with additional obſervations, and ſome improvements in the general arrangement of the tables.

Few or no criticiſms on the *Linnæan* ſyſtem will be found in theſe pages. No ſyſtem yet invented can ſtand a rigorous examination through all its parts, and LINNÆUS was, perhaps, better acquainted than any other man with the defects of his own. The ſtudy of nature on ſcientific principles, notwithſtanding the manifold improvements of later years, may yet juſtly be conſidered as in its infancy, and all arrangements hitherto propoſed, have, in their turns, given way to others. At preſent the ſyſtem of LINNÆUS poſſeſſes the advantage of a general ſuperiority in the public approbation: how long it may enjoy this pre-eminence, time only can diſcover: in the mean while, it would be a more agreeable employment, to endeavour to ſtrengthen its baſis, ſupply its deficiences, and candidly correct its errors, than to *object* to thoſe anomalies and imperfections, which will moſt likely be ever inſeparable from *artificial* arrangements; and as to *natural* method, it is as yet ſo far unknown, that, in the *vegetable* kingdom Botaniſts themſelves are not agreed on what principles it ought to be eſtabliſhed.

A GENERAL VIEW OF THE WRITINGS OF THE LATE CELEBRATED LINNÆUS, &c.

CHARLES VON LINNÉ, the ſon of a *Swediſh* divine, was born May 24, 1707, at *Roeſhult*, in the province of *Smaland*, in *Sweden*; of which place his father had the cure, when this ſon was born, but was ſoon after preferred to the living of *Stenbrihult*, in the ſame province, where dying in 1748, at the age of 70, he was ſucceeded in his cure by another ſon. We are told, in the commemoration-ſpeech on this celebrated man, delivered in his *Swediſh* majeſty's preſence, before the royal academy of ſciences at *Stockholm*, that the anceſtors of this family took their ſirnames of LINNÆUS, *Lindelius*, and *Tiliander*, from a large *lime-tree*, or *linden-tree*, yet ſtanding on the farm where *Linnæus* was born; and that this origin of ſirnames, taken from natural objects, is not very uncommon in *Sweden*.

This eminent man, whoſe talents enabled him to reform the whole ſcience of natural hiſtory, accumulated, very early in life, ſome of the higheſt honours that await the moſt ſucceſsful proficients in medical ſcience; ſince we find that he was made *profeſſor* of *phyſic* and *botany*, in the univerſity of *Upſal*, at the age of 34; and ſix years afterwards, phyſician to his ſovereign, the late king *Adolphus*; who in the year 1753 honoured him ſtill farther, by creating him knight of the order of the *Polar Star*. His honours did not terminate here, for in 1757 he was ennobled; and in 1776 the preſent king of *Sweden* accepted the reſignation of his office, and rewarded his declining years by doubling his penſion, and by a liberal donation of landed property, ſettled on him and his family.

It ſeems probable, that his father's example firſt gave *Linnæus* a taſte for the ſtudy of nature; who, as he has himſelf informed us, cultivated, as his firſt amuſement, a garden plentifully ſtored with plants. Young *Linnæus* ſoon became acquainted with theſe, as well as the indigenous ones of his neighbourhood. Yet, from the ſtraightneſs of his father's income, our young naturaliſt was on the point of being deſtined to a mechanical employment: fortunately, however, this deſign was overruled. In 1717 he was ſent to ſchool at *Wexſio*, where, as his opportunities were enlarged, his progreſs in all his favourite purſuits was proportionably extended. At this early period he paid attention to other branches of natural hiſtory; particularly to the knowledge of inſects: in which, as is manifeſt from his *oration* on the ſubject, he muſt very

very early have made a great proficiency, ſince we find that he was not leſs ſucceſsful herein, than in that of plants, having given them an arrangement, and eſtabliſhed ſuch characters of diſtinction, as have been univerſally followed by ſucceeding entomologiſts.

The firſt part of his academical education, *Linnæus* received under profeſſor *Stobæus*, at *Lund*, in *Scania*, who favoured his inclinations to the ſtudy of natural hiſtory. After a reſidence of about a year, he removed in 1728 to *Upſal*. Here he ſoon contracted a cloſe friendſhip with *Artedi*, a native of the province of *Angermannia*, who had already been four years a ſtudent in that univerſity, and, like himſelf, had a ſtrong bent to the ſtudy of natural hiſtory in general, but particularly to *Ichthyology*. He was moreover well ſkilled in chemiſtry, and not unacquainted with botany, having been the inventor of that diſtinction in *umbelliferous* plants, ariſing from the differences of the *involucrum*. Emulation is the ſoul of improvement, and, heightened as it was in this inſtance by friendſhip, proved a moſt powerful incentive. Theſe young men proſecuted their ſtudies together with uncommon vigor, mutually communicating their obſervations, and laying their plans, ſo as to aſſiſt each other in every branch of natural hiſtory and phyſic.

Soon after his reſidence at *Upſal*, our author was alſo happy enough to obtain the favour of ſeveral gentlemen of eſtabliſhed character in literature. He was in a particular manner encouraged in the purſuit of his ſtudies by the patronage of

Dr. *Olaus Celſius*, at that time profeſſor of divinity, and the reſtorer of natural hiſtory in *Sweden*; ſince ſo diſtinguiſhed for oriental learning, and more particularly for his *Hierobotanicon*, or *Critical Diſſertations on the Plants mentioned in Scripture*. This gentleman is ſaid to have given LINNÆUS a large ſhare of his eſteem, and he was fortunate enough to obtain it very early after his removal to *Upſal*. He was at that time meditating his *Hierobotanicon*, and being ſtruck with the diligence of *Linnæus*, in deſcribing the plants of the *Upſal* garden, and his extenſive knowledge of their names, fortunately for him, at that time involved in difficulties, from the narrow circumſtances of his parents, *Celſius* not only patronized him in a general way, but admitted him to his houſe, his table, and his library. Under ſuch encouragement, it is not ſtrange that our author made a rapid progreſs, both in his ſtudies, and the eſteem of the profeſſors: in fact, we have a very ſtriking proof of his merit and attainments, inaſmuch as we find, that after only two years reſidence, he was thought ſufficiently qualified to give lectures occaſionally from the botanic chair, in the room of profeſſor *Rudbeck*.

In the year 1731, the royal academy of ſciences at *Upſal* having for ſome time meditated the deſign of improving the natural hiſtory of *Sweden*, at the inſtance particularly of profeſſors *Celſius* and *Rudbeck*, deputed LINNÆUS to make the tour of *Lapland*, with the ſole view of exploring the natural hiſtory of that arctic region; to which undertaking, his reputation, already high as a naturaliſt, and the ſtrength of his conſtitution, equally recommended

commended him. This tour had been made for the firſt time, with the ſame view, by the elder *Rudbeck*, in 1695, at the command of *Charles* XI; but unfortunately the whole fruit of that expedition, except two or three copies of the *Campi Elyſii*, periſhed in the dreadful fire of *Upſal*, in 1702.

As this expedition could not take place till the ſucceeding ſummer, LINNÆUS ſpent his winter with his friends and relations in the ſouth; and particularly paid a viſit, in January 1732, to his former preceptor *Stobæus*, at *Lund*; whom he left in February, to viſit his native province of *Smaland*, and returned to *Upſal* about the middle of April, to prepare for his journey. He left *Upſal* the 13th of May, and took his route to *Gevalia*, or *Gevels*, the principal town of *Geſtricia*, 45 miles diſtant from *Upſal*. Hence he travelled through *Helſingland*, into *Medalpadia*, where he made an excurſion, and aſcended a remarkable mountain, before he reached *Hudwickſwald*, the chief town of *Helſingland*. From hence he went through *Angermanland*, to *Hernoſand*, a ſea-port on the *Bothnic* gulph, ſeventy miles diſtant from *Hudwickſwald*. When he had proceeded thus far, he found it proper to retard his journey, as the ſpring was not ſufficiently advanced; and took this opportunity of viſiting thoſe remarkable caverns on the ſummit of mount *Skula*, though at the hazard of his life.

When LINNÆUS arrived at *Uma*, in *Weſt Bothnia*, about 96 miles from *Hernoſand*, he quitted the public road, and took his courſe through the woods weſtward, in order firſt to traverſe the moſt ſouthern parts of *Lapland*. Being now come to

the country that was more particularly the object of his enquiries, equally a ſtranger to the language and to the manners of the people, and without any aſſociate, he committed himſelf to the hoſpitality of the inhabitants, and never failed to experience it fully. He ſpeaks in ſeveral places, with peculiar ſatisfaction, of the innocence and ſimplicity of their lives, and their freedom from diſeaſes. In this excurſion, he reached the mountains towards *Norway*, and, after encountering great hardſhips, returned into *Weſt Bothnia*, quite exhauſted with fatigue. He ſeems to have been much ſtruck with the ſingular uſe that the *Laplanders* make of the *Pinguicula vulgaris*, which we call *Butterwort*, or Yorkſhire Sanicle: They receive the milk of the rein-deer upon the freſh leaves of this plant, which they immediately ſtrain off, and ſet aſide, till it becomes ſomewhat aceſcent, and the whole acquires, in a day or two, a conſiſtence equal to that of cream, without ſeparating the ſerum; and by this method it becomes an agreeable food. When thus prepared, a ſmall quantity of the ſame has the property of rennet, in producing the like change on freſh milk. But to return: Our traveller next viſited *Pitha* and *Lula*, upon the gulph of *Bothnia*, from which latter place he took again a weſtern route, by proceeding up the river of that name, and viſited the ruins of the temple of *Jockmock*, in *Lula-Lapland* or *Lap-Mark*; thence, he traverſed what is called the *Lapland Deſert*, deſtitute of all villages, cultivation, roads, or any conveniences; inhabited only by a few ſtraggling people, originally deſcended from the *Finlanders*, and who ſettled

ſettled in this country in remote ages, being entirely a diſtinct people from the *Laplanders*. In this diſtrict he aſcended a noted mountain called *Wallevari*, in ſpeaking of which he has given us a pleaſant relation of his finding a ſingular and beautiful new plant *(Andromeda tetragona)* when travelling within the arctic circle, with the ſun in his view at midnight, in ſearch of a *Lapland* hut. From hence he croſſed the *Lapland Alps* into *Finmark*, and traverſed the ſhores of the North ſea as far as *Sallero*.

Theſe journies from *Lula* and *Pitha*, on the *Bothnian* gulph, to the north ſhore, were made on foot, and our traveller was attended by two *Laplanders*; one his interpreter, and the other his guide. He tells us that the vigour and ſtrength of theſe two men, both old, and ſufficiently loaded with his baggage, excited his admiration, ſince they appeared quite unhurt by their labour, while he himſelf, although young and robuſt, was frequently quite exhauſted. In this journey he was wont to ſleep under the boat with which they forded the rivers, as a defence againſt rain, and the gnats, which in the *Lapland* ſummer are not leſs teazing than in the torrid zones. In deſcending one of theſe rivers, he narrowly eſcaped periſhing by the overſetting of the boat, and loſt many of the natural productions which he had collected.

Linnæus thus ſpent the greater part of the ſummer in examining this arctic region, and thoſe mountains, on which, four years afterwards, the

French philoſophers ſecured immortal fame to Sir *Iſaac Newton*. At length, after having ſuffered incredible fatigues and hardſhips, in climbing precipices, paſſing rivers in miſerable boats, ſuffering repeated viciſſitudes of extreme heat and cold, and not unfrequently hunger and thirſt; he returned to *Tornoa* in September. He did not take the ſame route from *Tornoa* as when he came into *Lapland*, having determined to viſit, and examine, the country on the eaſtern ſide of the *Bothnian* gulph: his firſt ſtage, therefore, was to *Ula*, in *Eaſt Bothnia*; from thence to *Old* and *New Carleby*, 84 miles ſouth from *Ula*. He continued his route through *Waſa*, *Chriſtianſtedt*, and *Biorneburgh*, to *Abo*, a ſmall univerſity in *Finland*. Winter was now ſetting in apace, he therefore croſſed the gulph by the iſland of *Aland*, and arrived at *Upſal* in November, after having performed, and that moſtly on foot, a journey of ten degrees of latitude in extent, excluſive of thoſe deviations which ſuch a deſign rendered neceſſary.

The *reſult* of this journey was not publiſhed till ſeveral years afterwards, during his reſidence in *Holland*. For the preſent he only gave in to the academy a *Florula Lapponica*, conſiſting of a very few pages in the *Acta Upſalienſia* for the years 1732 and 1734. In this little catalogue the plants are diſpoſed according to the ſyſtem which was afterwards called the *ſexual*; and which we ſhould not have mentioned here, but to prove how early *Linnæus* had laid the foundation of that method, which he afterwards wrought up to ſuch perfection.

In

In 1733 he viſited and examined the ſeveral mines in *Sweden*, and made himſelf ſo well acquainted with *mineralogy*, and the *docimaſtic* art, that we find he was ſufficiently qualified to give lectures on thoſe ſubjects, upon his return to the univerſity. The outlines of his ſyſtem on mineralogy appeared in the early editions of the *Syſtema Naturæ*; but he did not exemplify the whole until the year 1768.

In the year 1734 LINNÆUS was ſent by Baron *Reuterholm*, governor of *Dalekarlia*, with ſeveral other naturaliſts, into that province, to inveſtigate the natural productions of that part of the *Swediſh* dominions. Each gentleman had his particular department aſſigned; and they noted daily the obſervations made relating to geography, &c.; but particularly, and as their principal object, the economical and natural hiſtory, and mineralogy. A full account of theſe obſervations was intended to have been publiſhed, but the deſign was laid aſide. It was in this journey that our author firſt laid the plan of an excellent inſtitution, which was afterwards executed in a certain degree at leaſt, by himſelf, with the aſſiſtance of many of his pupils, and the reſult publiſhed under the title of *Pan Suecus*, in the ſecond volume of the *Amænitates Academicæ*.

After the completion of this expedition, it appears that LINNÆUS reſided for a time at *Faklun*, the principal town in *Dalekarlia*; where he tells us that he taught *mineralogy*, and the *docimaſtic* art, and practiſed phyſic; and where he was very hoſpitably treated by Dr. *More*, the phyſician of the

the place. It alſo appears, that he contracted at this time an intimacy with one of that gentleman's daughters, whom he married about five years afterwards, upon his ſettling as a *phyſician* at *Stockholm*.

In this journey he extended his travels quite acroſs the *Dalekarlian Alps* into *Norway*; but we have no particular account of his diſcoveries in that kingdom. From its ſituation, however, in the ſame parallels of latitude and of longitude, nearly, with *Sweden*, as well as from the face of the country, but little variety could be expected; and from the *Flora Norwegica* of Bp. *Gunner*, ſince publiſhed, the vegetable productions of nature appear to be nearly the ſame, except that the *Norway* coaſt abounds with *fuci* or ſea-wracks, not known in the *Baltic*.

In the year 1735, LINNÆUS travelled over many other parts of *Sweden*, ſome parts of *Denmark* and *Germany*, and fixed in *Holland*, where he chiefly reſided until his return to *Stockholm*, about the year 1739. He here took his doctor's degree in phyſic, in June 1735. How clearly the great *Boerhaave* ſaw his merit will appear hereafter. On the preſent occaſion he ſuſtained a *theſis* under the title of HYPOTHESIS NOVA *de febrium intermittentium cauſa*. It is an enquiry into the cauſes of the frequency of that diſtemper in *Sweden*, particularly in *Upland*, and the ſouth-eaſt parts of that kingdom; which he was inclined to attribute to a *local* cauſe, after the moſt minute ſcrutiny into the ſoil and ſituation of thoſe places where this diſtemper was ſo remarkably prevalent and obſtinate;

obſtinate; and finally propoſes, Whether it might not be owing to the ſtrong impregnation of the water with *argillaceous* particles? Whether or not he afterwards adhered to this opinion, we are uncertain, as it is but juſtice to obſerve, that he did not republiſh this tract himſelf, ſince it was placed at the head of the firſt volume of the *Amænitates*, printed at *Leyden*, as we believe, without his knowledge, by Dr. *Peter Camper*. In the mean time we may obſerve, that howſoever inſufficient this *hypotheſis* may be to ſolve the difficulties that have attended the ſearch into the remote cauſes of this diſeaſe; the advocates of the modern theory, relating to it, may think the author's facts, of its frequency in *low* ſituations, confirm and illuſtrate in no ſmall degree their own, according to which it is imputed to *miaſmata* ariſing from moiſt and marſhy ground.

In this year LINNÆUS alſo publiſhed the firſt ſketch of his *Syſtema Naturæ*, in a very compendious way, and in the form of tables only, in twelve pages *in folio*. By this it appears, that he had at a very early period of his life (certainly before he was 24 years old) laid the baſis of that great ſtructure which he afterwards raiſed, not only to the increaſe of his own fame, but to that of natural ſcience.

In 1736, LINNÆUS came into *England*, and viſited Dr. *Dillenius*, the late learned profeſſor at *Oxford*, whom he juſtly conſidered as one of the firſt botaniſts in *Europe*. He mentions with particular reſpect the civilities he received from him,

and

and the privileges he gave him of inſpecting his own, and the *Sherardian* collections of plants. It is needleſs to ſay, that he viſited Dr. *Martyn*, Mr. *Rand*, and Mr. *Miller*, and that he was in a more ſingular manner indebted to the friendſhip of Dr. *Iſaac Lawſon*. He alſo "contracted an intimate "friendſhip with Mr. PETER COLLINSON, which "was reciprocally increaſed by a multitude of "good offices, and continued to the laſt without "any diminution." Dr. *Boerhaave* had furniſhed him with letters to our great naturaliſt Sir HANS SLOANE; but, it is with regret that we muſt obſerve, they did not procure him the reception which the warmth of his recommendation ſeemed to claim.

Dr. *Boerhaave*'s letter to Sir *Hans Sloane*, on this occaſion, is preſerved in the Britiſh Muſeum, and runs thus—"LINNÆUS, *qui has tibi dabit literas, eſt* "*unice dignus te videre, unice dignus a te videri; qui* "*vos videbit ſimul, videbit hominum par, cui ſimile* "*vix dabit orbis.*"—This encomium, howſoever quaintly expreſſed, yet was in ſome meaſure prophetic of *Linnæus*'s future fame and greatneſs, and proves how intimately *Boerhaave* had penetrated into the genius and abilities of our author; and, ſtrained as this parallel might be thought, it is likely however that the opening of the *ſexual* ſyſtem, ſo different from *Ray's*, by which Sir *Hans Sloane* had always known plants, and particularly the innovations, as they were then called, which LINNÆUS had made in altering the names of ſo many *genera*, were rather the cauſe of that coolneſs with which he was received by our excellent naturaliſt.

Probably

Probably we have reaſon to regret this circumſtance; for otherwiſe LINNÆUS might have obtained an eſtabliſhment in *England*, as it has been thought he wiſhed to have done; and doubtleſs his opportunities in this kingdom would have been much more favourable to his deſigns, than in thoſe arctic regions where he ſpent the remainder of his days. In the mean time, we may juſtly infer the exalted idea that *Linnæus* had of *England*, as a land eminently favourable to the improvement of ſcience, from that compliment which, in a letter to a friend, he afterwards paid to *London*, when, ſpeaking of that city, he called it "*Punctum ſaliens in vitello orbis.*" However, the *Engliſh* naturaliſts may now congratulate themſelves on having adopted a moſt excellent diſciple of the *Linnæan* ſchool; who, with an illuſtrious aſſociate, ſhared the perils of a navigation round this globe, incited by thirſt of knowledge alone; and who now enjoys that general eſteem among us which is due to his extenſive ſcience, and to his ſingular liberality of mind and manners.

One of the moſt agreeable circumſtances that happened to LINNÆUS, during his reſidence in *Holland*, aroſe from the patronage of Mr. *Clifford*, in whoſe houſe * he lived a conſiderable part of his time, being now as it were the child of fortune:—*Exivi patriâ triginta ſex nummis aureis dives*—are his own words. With Mr. *Clifford*,

* The country ſeat and garden of Mr. *Clifford* was at *Hartcamp*, about three miles from *Haerlem*.

however,

however, he enjoyed pleaſures and privileges ſcarcely at that time to be met with elſewhere in the world; that of a garden excellently ſtored with the fineſt exotics, and a library furniſhed with almoſt every botanic author of note. How happy he found himſelf in this ſituation, thoſe only who have felt the ſame kind of ardour can conceive.

Whilſt in *Holland*, our author was recommended by *Boerhaave* to fill the place, then vacant, of phyſician to the *Dutch* ſettlement at *Surinam*; but he declined it, on account of his having been educated in ſo oppoſite a climate. He recommended, however, to that department a young German phyſician of great merit, who had the misfortune to fall a ſacrifice, partly to the climate, and partly perhaps to ill uſage from the governor, in half a year after his arrival: A circumſtance which LINNÆUS has very pathetically lamented in the *Flora Suecica*, N° 515, when treating of a plant to which he has given this gentleman's name.

Beſides being favoured with the particular patronage and friendſhip of *Boerhaave* and Mr. *Clifford*, as is above-mentioned, our author had alſo the pleaſure of being contemporary with, and of reckoning among the number of his friends, many other learned perſons, who have ſince proved ornaments to their profeſſion, and whoſe merit has moſt deſervedly raiſed them to fame and honour. Among theſe we may properly mention Dr. *John Burman*, profeſſor of botany at *Amſterdam*, whoſe name and family are well known in the republic of letters,

letters, to whom our author dedicated his *Bibliotheca Botanica*, having been greatly aſſiſted in compiling that work, by the free acceſs he had to that gentleman's excellent library; *John Frederick Gronovius*, of *Leyden*, editor of *Clayton's Flora Virginica*, and who very early adopted *Linnæus*'s ſyſtem; Baron *Van Swieten*, late phyſician to the Empreſs Queen; *Iſaac Lawſon*, before-mentioned, afterwards one of the phyſicians to the Britiſh army, who died much regretted at *Ooſterhout*, in the year 1747, and from whom *Linnæus* received ſingular and very important civilities; *Kramer*, ſince well known for an excellent treatiſe on the Docimaſtic Art; *Van Royen*, botanic profeſſor at *Leyden*; *Liëberkun*, of *Berlin*, famous for his ſkill in microſcopical inſtruments and experiments. On this occaſion it is not foreign to our plan to remark, that LINNÆUS, being preſent with ſeveral of theſe gentlemen, at a meeting when the latter was exhibiting the animalcules *in ſemine maſculino*, openly declared his opinion, that theſe *moleculæ* were not true animalcules; and he appears ever afterwards to have retained the ſame opinion relating to them. To theſe may be added alſo the names of *Albinus* and *Gaubius*, and of others, were it requiſite, to ſhew that our author's talents had very early rendered him conſpicuous, and gained him the regard of all thoſe who cultivated and patronized any branch of medical ſcience; and to which, doubtleſs, the ſingular notice with which *Boerhaave* honoured him, did not a little contribute.

Early in the year 1738, after LINNÆUS had left

Mr. *Clifford*, and, as it ſhould ſeem, when he reſided with *Van Royen*, at *Leyden*, he had a long and dangerous fit of ſickneſs; and upon his recovery, went to *Paris*, where he was properly entertained by the *Juſſieu's*, at that time the firſt botaniſts in *France*. The opportunity this gave him of inſpecting the Herbaria of *Surian* and *Tournefort*, and thoſe of the above-named gentlemen, afforded him great ſatisfaction. He had intended to have gone from thence into *Germany*, to viſit *Ludwig*, and the celebrated HALLER, with whom he was in cloſe correſpondence; but he was not able to compleat this part of his intended route, and was obliged to return without this gratification.

Our author did not fail to avail himſelf of every advantage, that acceſs to the ſeveral muſeums of this country afforded him, in every branch of natural hiſtory; and the number and importance of his publications, during this abſence from his native country, ſufficiently demonſtrate that fund of knowledge which he muſt have imbibed before, and no leſs teſtify his extraordinary application. As theſe works laid the foundation of his future fame, and diſtinguiſhed character, it will be incumbent on us to enumerate them, and give a brief account of each, as nearly as we can in the order of time in which they were publiſhed, before we accompany our author into *Sweden*; whither he returned to receive at length the reward of his merit.

The firſt of theſe was the SYSTEMA NATURÆ, *ſive regna tria Naturæ ſyſtematicè propoſita, per claſſes,*

claſſes, ordines, genera et ſpecies. Lugd. Bat. 1735. fol. pp. 14, in Latin, with the *Swediſh* names annexed. As this is little more than the general *outlines* of his work, we ſhall reſerve a fuller account of it till we come to the enlarged editions; in which it was fully exemplified by the introduction of the *ſpecies.*

FUNDAMENTA BOTANICA, *quæ majorum operum prodromi inſtar, theoriam Scientiæ Botanices per breves Aphoriſmos tradunt. Amſt.* 1736, 12°, pp. 35. The ſcience of botany is in this work reduced to 365 aphoriſms, or canons; and what *Sethus Calviſius* has ſaid of *Ptolemy*'s canon, *mutatis mutandis*, may be truly ſaid of this work.—*Omni auro pretioſior eſt, ſi dudum innotuiſſet, nec adeo in diverſas ſectas* BOTANICI *abiiſſent, ſed* RES BOTANICÆ, *multo melius ſe haberent.* It paſſed through ſeveral editions, and was publiſhed with a comment upon each aphoriſm in 1751, under the title of *Philoſophia Botanica*, hereafter to be noticed.

BIBLIOTHECA BOTANICA, *recenſens libros plus mille de plantis hucuſque editos, ſecundum Syſtema Auctorum naturale in claſſes, ordines, genera et ſpecies diſpoſitos, additis editionis loco, tempore, forma, lingua.* Amſt. 1736, 12°, pp. 153, and afterwards in 8°, 1751, much enlarged. Botanic writers are in this work diſtributed into 16 claſſes, and it is by no means ſo unentertaining as might be expected from the general idea of a catalogue merely; as the author has frequently ſubjoined ſhort characters of the books; and at the beginning of each claſs, as alſo in the orders or ſubdiviſions, takes occaſion to explain ſeveral of his terms uſed in his ſubſequent

writings. The preface contains a ſhort hiſtory of the riſe and progreſs of botany, and an acknowledgment of the aid the author received in the compilation of this work, by his free acceſs to the libraries of Mr. *Sprekelſen* at *Hamburgh*, Dr. *Gronovius* at *Leyden*, and particularly to thoſe of his patron Mr. *Clifford*, and Dr. *Burman*, profeſſor of botany at *Amſterdam*. Authors are claſſed in this work as follows:

1. *Patres.*
2. *Commentatores.*
3 *Ichniographi.*
4. *Deſcriptores.*
5. *Monographi.*
6. *Curioſi.*
7. *Adoniſtæ.*
8. *Floriſtæ.*
9. *Peregrinatores.*
10. *Philoſophi.*
11. *Syſtematici.*
12. *Nomenclatores.*
13. *Anatomici.*
14. *Hortulani.*
15. *Medici.*
16. *Anomali.*

Subjoined to the laſt edition, we have a biographical table, exhibiting, in chronological order, the names of 139 botanic authors, from the time of *Avicenna* in 981, to Mr. *Cateſby* in 1749, ſpecifying, wherever it was poſſible, the year of their birth and death.

The flowering of the *Plantain* or *Banana* (*Muſa paradiſiaca*) this year, a thing not ſeen in *Europe* before more than thrice, in the garden of our author's patron M. *Clifford*, produced a compleat hiſtory of that plant from LINNÆUS's pen, under the title of MUSA CLIFFORTIANA *florens Hartecampi* 1736 *prope Harlemum.* Lugd. Bat. 4°, pp. 46. This piece is drawn up with the utmoſt preciſion, according to the author's own *Methodus Demonſtrandi*, printed

printed at the end of the *Syſtema*, and is a model for *Monographers* in this way. It is embelliſhed with two plates, one repreſenting the plant at large, the other, the parts of fructification ſeparately.

GENERA PLANTARUM *eorumque Characteres naturales ſecundum numerum, figuram, ſitum, et proportionem, omnium fructificationis partium.* Lugd. Bat. 1737, 8°, pp. 384. In this work, which exhibits what LINNÆUS has called the *natural characters* of the *genera* of plants, the *claſſes* are eſtabliſhed upon the *number* or *ſituation*, or both conjointly, of the *ſtamina*, analogically conſidered as the male parts; and the *orders* or ſubdiviſions of the claſſes, upon the *piſtils*, analogous to the female parts: and the *genera* themſelves from the agreement of all the parts of fructification compared with each other, as they agree in *number*, *figure*, *ſituation*, and *proportion*. Hence the *Linnæan characters* of plants are applicable to any claſſical method founded on the parts of fructification alone, in which reſpect they have the advantage over thoſe of all foregoing writers, and will probably ſtand firm, even although the *claſſical* part of the ſyſtem ſhould be ſet aſide. This is to be conſidered as one of the capital of *Linnæus*'s works. He tells us, that before the publication of the firſt edition, he had examined the characters of 8000 flowers. Thoſe alone who have been accuſtomed to examine plants with a ſcientific view, can judge how arduous this undertaking muſt have been, and how great the application that he muſt neceſſarily have beſtowed thereon, and that at an early period of life. Neither can any others ſufficiently admire that accuracy with which

ſo great a number of flowers *have been* examined and compared, or ſee the aptitude of that aſſemblage of terms, which were invented by LINNÆUS, to expreſs the different *figure*, *ſituation*, and *proportion*, that exiſt in ſuch a variety of ſubjects. If this was a proper place to expatiate upon this ſubject, by extending the idea to all that LINNÆUS has done, reſpecting every other part of plants, as conſidered in their *ſpecific* diſtinctions, it muſt ſtill farther exalt the merit of the author, and place him above all praiſe. At the latter end of this work was given the general plan of a ſyſtem invented by LINNÆUS, and founded upon the different *kinds*, and *arrangement*, of the *calix* or cup of the flower, in plants: but this was omitted in the latter editions. Alſo a fragment of that *primum et ultimum* in botany, the *natural method*.

The firſt edition of this book contained 935 *genera*: the ſixth and laſt, at *Stockholm*, in 1764, hath extended the number to 1239, and the *Mantiſſæ* ſince to 1336. It has been thought by ſome, that the firſt idea of the *ſexual* method was received from the writings of *Jungius*, a learned profeſſor, firſt at *Helmſtadt*, and afterwards *rector* of the Gymnaſium at *Hamburgh*, where he died in 1657, and whoſe works contain an uncommon diſplay of original obſervations on the ſubject of plants; and prove him to have been a moſt accurate obſerver of nature. He has not only diſcriminated with peculiar nicety, the ſtructure, and ſeveral parts of plants, but he hath alſo, with equal judgment, ſhewn the impropriety of many of the old generical and ſpecifical diſtinc-

tions,

tions, and has given rules for forming them anew, that have been of the greateſt ſervice to his ſucceſſors in the ſcience, and of which they have not failed to avail themſelves. But *Jungius* did not, however, exhibit any plan, by which it appears that he laid the baſis either of the ſexual, or any other ſyſtem.

Before the concluſion of the ſame year (1737) our author publiſhed the COROLLARIUM GENERUM, *cui accedit* METHODUS SEXUALIS, in 8°; the former contained only the addition of ſixty new genera of plants; all which were taken into the next edition of the foregoing book; and the latter exhibits a brief view of the ſexual ſyſtem, as far as reſpects the *claſſes* and *orders*. Neither would it be of importance to mention a ſmall piece publiſhed in the ſame year, during his reſidence with Mr. *Clifford*, under the title of VIRIDARIUM CLIFFORTIANUM, were it not incumbent on us to mention all that came from our author's pen.

In this year, 1737, appeared likewiſe the reſult of the *Lapland* expedition, as far, at leaſt, as relates to the plants of that country; for we are now deprived of the expectation of ever ſeeing the *Lacheſis Lapponica*, intended to complete our author's hiſtory of this country through all its parts. This volume includes the plants of a tract of country not leſs than 100 *Swediſh* miles (nearly equal to 600 *Engliſh*) in length, and 50 in breadth, under the title of FLORA LAPPONICA, *exhibens Plantas per Lapponiam creſcentes, ſecundum Syſtema ſexuale, collectas in itinere impenſis Societatis regiæ Litterariæ et Scientiarum Sueciæ An.* 1732 *inſtituto, additis ſyno-*

nymis, et locis natalibus omnium, deſcriptionibus et figuris rariorum, viribus medicatis et œconomicis plurimarum. Amſt. 1737, 8°, pp. 372, tab. 12. This work is much more than a bare enumeration of ſynonyms; the preface contains an account of the author's journey, and his acknowledgment to the members of a literary ſociety, by whoſe munificence this work was adorned with the plates, on which are engraven 58 of the more rare, and chiefly *alpine* plants. This is preceded by additional *Prolegomena*, in which the *geographic* and *natural* deſcription of the country is ſet forth, and the difference between the *Alps* and the *Deſart* diſtinctly marked; concluding with ſome obſervations on *alpine* plants in general. The work is interſperſed with many very curious obſervations relating to the inhabitants, their ſimplicity of life and manners, their diſeaſes; the animals of the country; the medical and economical uſes of many of the plants; deſcriptions at large of ſuch as were not well deſcribed before; and critical obſervations, in a botanical way, upon others.

To inſtance briefly a few only of our author's obſervations. Under

N° 16. The dropſy very frequent in *Eaſt Bothnia*; owing to the intemperate uſe of ſpirits.

N° 22. The down of the *Cotton Graſs*, uſed for bedding among the poor, inſtead of feathers.

N° 62. Aſtoniſhing growth of the *Great Plantain*. The ſpikes 4 or 5 feet high. In other ſituations, the whole plant not an inch.

N° 80. The wretched inhabitants ſometimes obliged to make bread of the roots of the *Marſh Trefoil*.

Trefoil. The ſcurvy unknown in *Lapland*; although vegetable productions have ſcarcely any ſhare in the *Lapland* diet, which is almoſt wholly the recent fleſh of the rein-deer: a fact which Sir *John Pringle* has made good uſe of, among others, in his diſcourſe "On the means of preſerving the health of "mariners."

N° 101. Symptoms of the *Colica Lapponica*, (Sauvag. Noſol. II. p. 103) a moſt excruciating diſeaſe, for which the *Laplanders* uſe the root of *Angelica.*

N° 103. The deleterious effects of the *Cicuta viroſa*, Water Hemlock, largely diſcuſſed.

N° 136. The pernicious effects of the *Anthericum oſſifragum*, Lancaſhire Aſphodel, on ſheep.

N° 143, 144, 145. Manifold uſes of the black and red Whortleberries, and Cranberries.

N° 160. Various economical uſes of the *Andromeda polifolia*, Marſh Ciſtus.

N° 200. Obſervations on the gout, whether owing to the uſe of ſpirituous and fermented liquors. Reflections on the health and vigour of the *Laplanders.*

N° 311. The *Achillæa Millefolium*, Yarrow, uſed ſometimes in *Dalekarlia* inſtead of *hops*, and ſaid to render the drink very intoxicating.

N° 328. Singular economical uſes of the *Carices*, or Sedges, amongſt the *Laplanders.*

N° 341, 342. Uſes of the *Birch-tree*; and the *Dwarf Birch*, beyond almoſt all others. The thick woods of this tree frequently ſet on fire by lightning, and conſumed for miles. *Moxa* of the *Laplanders*

landers prepared from a part of this tree: their univerſal remedy in painful diſeaſes.

N° 345. The leaves of *Sparganium natans*, Burreed, preferred by horned cattle and horſes to other graſs. Obſervations on the immenſe number of *Water Fowl*, and *Waders*, in *Lapland*, and on their migration.

N° 395. Uſes of the *Polytrichum commune*, or Golden Maidenhair; and N° 415, thoſe of the *Sphagnum Paluſtre*, or Bog-Moſs, among the *Lapland* women; to which he has annexed ſome curious obſervations relating to the ſtate of the menſtrual evacuations in the ſex, in thoſe northern regions.

N° 437. Obſervations on the rein-deer, and their food, the *Lichen rangiferinus*.

N° 445. On the *Lichen iſlandicus*, on which M. *Scopoli* has of late written largely.

N° 517. In treating on the Agarics, he recites the baneful effects of the *Oeſtrus Tarandi*, Gad-fly, on the whole economy of the rein-deer. More largely diſcuſſed in the *Amœnitates*.——But to return:

In this work, moreover, our author has firſt exemplified, what he ever afterwards laboured to bring to its greateſt perfection, in all his writings, and particularly in the *Species Plantarum*, a work not publiſhed till ſixteen years afterwards, *the ſpecific names of plants*, not taken, as had been cuſtomary with former authors, from the colour of the flower, relative ſize of the plant, ſmell, taſte, place of growth, time of flowering, name of the diſcoverer, virtues, uſes, duration; none of which are ſufficiently

ſufficiently permanent: but from thoſe invariable and eſſential parts, which fully and clearly diſtinguiſh each ſpecies under the ſame genus, and in the compaſs of ten or twelve words convey ſuch an idea of the plant intended, as will more effectually diſtinguiſh it, than the *verboſe deſcriptions* of many foregoing authors. LINNÆUS has taken incredible pains with this part of his ſyſtem, which is certainly as difficult as any that leads to the perfection of the ſcience, ſince it depends upon a nice inſpection of *every ſpecies* belonging to each *genus*, and of every *actual variety* belonging to each *ſpecies*.

The plants of *Lapland* are but few, not amounting to more than 537 ſpecies; and in this number are included upwards of an hundred diſcovered by *Linnæus* in this journey, not known to be natives of *Sweden* before; and of which ſome were nondeſcripts: among the former, there ſeems to be a propriety in mentioning ſpecially the *Campanula ſerpyllifolia*, or thyme-leaved Bell-flower, which, as it turned out to be a new *genus*, was appropriated to our author by Dr. *J. Gronovius*, and engraved in this volume by the name of LINNÆA.

No part of LINNÆUS's writings had given more offence to the contemporary botaniſts, than the liberty he had taken in changing the *generic names* of plants, which had neceſſarily taken place in many inſtances, from the rules eſtabliſhed by the *Fundamenta*. Even DILLENIUS was by no means reconciled to this innovation. LINNÆUS, who had entertained an high opinion of our *Engliſh* profeſſor, having ſaid of him—*nullus eſt in Anglia qui genera*

genera curat, vel intelligit præterquam Dillenius— probably, therefore, dedicated to him his next publication, the CRITICA BOTANICA, *in qua Nomina Plantarum generica, et ſpecifica, et variantia examini ſubjiciuntur, ſelectiora confirmantur, indigna rejiciuntur, ſimulque doctrina circa Denominationem Plantarum traditur.* Lugd. Bat. 1737, 8°, pp. 270. This is a large comment upon the 7th, 8th, 9th, and 10th parts of the *Fundamenta*, from Aphoriſm 210 to 324 incluſive; in which he has amply explained all his reaſons for theſe alterations; and there were at that time many who ſaw the juſtice of his remarks. *Ludwig* ſays, when ſpeaking of this work—"*rigoroſus quidem, ſed ſæpiſſime fælix botanicorum cenſor eſt.*" The work is rendered very applicable to uſe, by two excellent indexes.

LINNÆUS printed, at the end of this volume, *Diſcurſus de introducenda in ſcholas et gymnaſia Hiſtoriæ naturalis lectione*, pp. 24, written by Dr. *Browallius*, who afterwards defended very ably the ſyſtem of *Linnæus* againſt profeſſor *Siegeſbeck* of *Peterſburgh.*

In 1737 was likewiſe publiſhed the moſt ſplendid of all our author's writings, the *Hortus Cliffortianus Plantas exhibens quas in Hortis tam vivis quam ſiccis, Hartecampi in Hollandia, coluit Vir Nob. et Gen. Georgius Clifford, J. U. D. reductis varietatibus ad ſpecies, ſpeciebus ad genera, generibus ad claſſes, adjectis locis plantarum natalibus, differentiiſque ſpecierum.* Amſt. 1737, fol. pp. 501, t. 32. As this book was printed at the expence of Mr. *Clifford*, it is ornamented with an elegant frontiſpiece, and adorned with ſome of the fineſt engravings of plants that

are

are extant, the drawings for which were made with all poſſible accuracy by the late Mr. *Ehret*. By the munificence of Mr. *Clifford*, many of the celebrated botaniſts received a preſent of this book. How rich this garden was in plants, the book will teſtify. They are arranged, as in all our author's ſucceeding works, in the ſexual method; the varieties are reduced to their ſeveral ſpecies, the natural places of the plants are particularly noticed, many new *genera*, and *ſpecies* under former genera, are introduced, with their deſcriptions at large, and curious obſervations interſperſed throughout the whole. And, what muſt have been more eſpecially acceptable to thoſe who began to reliſh our author's ſyſtem, was, the farther exemplification of his *ſpecific characters*, which the vaſt number of plants included in this work neceſſarily led to. Add to this, that from the copious number of ſynonyms, it is almoſt a *pinax* of every plant therein mentioned; and on this account, as well as others, will yet retain its value, though ſuperſeded in a great degree by the *Species Plantarum*. To the curious and critical botaniſt alſo it is no ſmall ſatisfaction now, to ſee in this volume, compared with later works, the progreſs of the author's own knowledge, manifeſt by the removes and alterations that better information enabled him to make. In the dedication our author enumerates thoſe patrons who have cultivated botanical gardens ſo greatly to the emolument of the ſcience: he gives a liſt of the *Cliffortian* library, and annexes two tables, with explanations of all the variety of leaves, according to his new method

of

of defining them. This addition was very neceſſary, as the number of plants ſynonymed in this volume amounts to near 2,500. We conclude with *Geſner's* opinion of this work, in a letter to the celebrated *Haller*: "*Opus ſane egregium* "*et acerrimi judicii, nec minoris eruditionis, quo dif-* "*ficulter botanicus carebit.—Mihi perplacet ab eo in* "*nominibus ſpecierum notas earum eſſentiales exhiberi,* "*quod ante vix quiſquam botanicus recte præſtitit.*"

The laſt book which LINNÆUS publiſhed of his own, during his ſtay in *Holland*, was the CLASSES PLANTARUM, *ſeu Syſtemata Plantarum omnia a fructificatione deſumta, quorum* 16 *univerſalia et* 13 *partialia, compendioſe propoſita ſecundum claſſes, ordines et nomina generica, cum clave cujuſvis methodi et ſynonymis genericis.* Lugd. Bat. 1738, pp. 656. This work is a very large illuſtration of the ſecond part of the *Fundamenta*, from aphoriſm 53 to 78, and contains a compendious and uſeful view of all the ſyſtems of botany, or methods of claſſing plants, both general and partial, from *Cæſalpinus*, in 1583, who is conſidered as the inventor, to LINNÆUS himſelf in 1735. To the generical name in every ſyſtem, he has added that by which it ſtands in his own, which is a great advantage in the uſe of this book. A new edition, with the requiſite additions, would be very acceptable to the public even now. The ſyſtems at large that are diſplayed in this book, are thoſe of *Cæſalpinus*, *Moriſon*, *Ray*, *Knaut*, *Herman*, and *Boerhaave*, founded on the fruit: *Rivinus*, *Ruppius*, *Ludwig*, and *Knaut*, on the number of petals in the flower: *Tournefort* and *Pontedera*, on the figure of the

ſame:

ſame: and of *Magnol* and LINNÆUS, on the cup of the flower. After theſe follow LINNÆUS's ſexual ſyſtem, and his fragments of the natural method. We ſay nothing of the arrangement of *particular* claſſes, ſuch are the *compoſite* flowers, the *umbelliferous* plants, the *graminaceous*, the *ferns*, &c. A very large index, referring to every *genus* in each ſyſtem, concludes the volume.

LINNÆUS, whilſt in *Holland*, ſuſtained a very ſevere loſs in the premature death of his friend and fellow ſtudent *Artedi*; with whom, as has been before obſerved, he had contracted the firmeſt friendſhip whilſt they reſided at *Upſal*; inſomuch that they had, in caſe of death, mutually bequeathed to each other their manuſcripts and collections in natural hiſtory. *Artedi* had been particularly aſſiduous in arranging anew, and deſcribing all ſuch fiſhes as had fallen under his own inſpection; and had taken a voyage to *England* in 1734, to give more perfection to his plan. Our author, after his death, procured, though with ſome difficulty, all *Artedi*'s papers, and put the finiſhing hand to them, and publiſhed them at *Leyden* in 1738, in octavo, under the title of *Petri Artedi, Sueci Medici,* ICHTHYOLOGIA: *ſive opera omnia de piſcibus, ſcilicet Bibliotheca Ichthyologica*; *Philoſophia Ichthyologica*; *Genera Piſcium*; *Synonymia Specierum*; *Deſcriptiones Specierum. Omnia in hoc genere perfectiora quam antea ulla. Poſthuma vindicavit, recognovit, cooptavit, et edidit, Carolus* LINNÆUS. In this work fiſhes are arranged in an entire new method, and which our author adopted with little or no variation, and continued through

through all the former editions of his *Syſtem* to the tenth; when he removed the *cetaceous* order into the claſs of the *mammalia*; and inſtead of retaining in the remaining orders the diſtinctions ariſing from the *bony* or *cartilaginous* texture of the *fins*; he eſtabliſhed them on the *ſituation* of the *ventral fins*, which he conſiders as analogous to the feet in other animals, as they are placed either before, underneath, or behind the *pectoral fins*.

In this work *Artedi* has exhibited an inſtance of genius, labour, and application, that cannot fail to excite the greateſt regret at his early death. He has given to *Ichthyology* that degree of perfection, which his friend afterwards extended through all the animal kingdom, and which muſt remain a laſting monument of his abilities. In particular, his deſcriptions of the indigenous fiſhes of *Sweden*, are ſcientific to a degree that had never before been ſeen; and we cannot ſufficiently admire the pains he muſt have taken to extricate the ſynonyms from every author on the ſubject. *Artedi*, after his return from *England*, was retained, at the recommendation of LINNÆUS, by *Seba* of *Amſterdam*, to complete that part of his *Theſaurus* relating to fiſhes, and was unfortunately drowned in one of the canals in that city. LINNÆUS, in a ſhort account of the author's life, has lamented his untimely deceaſe, in a manner which does no leſs honour to his friend than to his own feelings.

We muſt now accompany our author into *Sweden*, whither he returned about the latter end of

of the year 1738, or the beginning of the next, and ſettled as a phyſician at *Stockholm*, where he ſeems to have met with conſiderable oppoſition, and was oppreſſed with many difficulties; all of which at length he overcame, and got into extenſive practice; and, ſoon after his ſettlement, married the lady before ſpoken of. By the intereſt of Count *Teſſin*, who was afterwards his great patron, and even procured medals to be ſtruck in honour of him, he obtained the rank of phyſician to the fleet, and a ſtipend from the citizens for giving lectures in botany. And what at this time eſpecially was highly favourable to the advancement of his character and fame, by giving him an opportunity of diſplaying his abilities, was the eſtabliſhment of the *Royal Academy of Sciences* at *Stockholm*; of which LINNÆUS was conſtituted the firſt preſident, and to which eſtabliſhment the king granted ſeveral privileges, particularly that of free poſtage to all papers directed to the ſecretary. By the rules of the academy, the preſident held his place but three months, at the expiration of which, he made his ORATIO *de memorabilibus in Inſectis*, Oct. 3, 1739; in which he endeavours to excite an attention and enquiry into the knowledge of inſects, by diſplaying the many ſingular *phænomena* that occur in contemplating the nature of thoſe animals, and by pointing out, in a variety of inſtances, their uſefulneſs to mankind in particular, and to the economy of nature in general.

During all this time, however, LINNÆUS appears to have had his eye upon the botanic and medical

chair

chair at *Upſal*, at this time occupied by *Rudbeck*, who was far advanced in life. We learn indeed that he was ſo intent on purſuing, and perfecting, his great deſigns in the advancement of his favourite ſtudy of nature, that he had determined, if he failed in procuring the profeſſorſhip at *Upſal*, to accept the offer that had been made to him by *Haller*, of filling the botanic chair at *Gottingen*. However, in courſe of time, he obtained his wiſh. In the year 1741, upon the reſignation of *Roberg*, he was conſtituted joint profeſſor of phyſic, and phyſician to the king, with *Roſen*, who had been appointed in the preceding year on the death of *Rudbeck*. Theſe two colleagues agreed to divide the medical departments between them; and their choice was confirmed by the univerſity. *Roſen* took anatomy, phyſiology, pathology, and the therapeutic part. LINNÆUS, natural hiſtory, botany *materia medica*, the dietetic part, and the *diagnoſis morborum*.

During the interval of his removal from *Stockholm* to *Upſal*, in conſequence of this appointment, our profeſſor was deputed by the ſtates of the kingdom, to make a tour to the iſlands of *Oëland* and *Gothland*, in the *Baltic*, attended by ſix of the pupils, commiſſioned to make ſuch enquiries as might tend to improve agriculture, and arts, in the kingdom; to which the *Swediſh* nation had for ſome time paid a particular attention; awakened, as it were, by the deſolating wars of *Charles* the XIIth, to extend their commerce, and cultivate the arts of peace. The reſult of this journey was very ſucceſsful, and proved fully ſatisfactory to

the States, and was afterwards communicated to the public.

LINNÆUS, on his return, entered upon the profeſſorſhip, and pronounced before the univerſity his ORATION *de Peregrinationum intra Patriam neceſſitate*, Oct. 17, 1741; in which he forcibly diſplays the uſefulneſs of ſuch excurſions, by pointing out to the ſtudents that vaſt field of objects which their country held out to their cultivation; whether in geography, phyſics, mineralogy, botany, zoology, or economics; and by ſhewing the benefit that muſt accrue to themſelves and their country as rewards to their diligence. That animated ſpirit which runs through the whole of this compoſition, renders it one of the moſt pleaſing and inſtructive of all our author's productions. That intimate knowledge which LINNÆUS himſelf had acquired of his own country by his repeated travels (fraught as he was too with every requiſite for making uſeful obſervations) enabled him to point out with the utmoſt preciſion the moſt proper objects of inveſtigation, in every part of nature; and his love to his country gave a zeal to his wiſhes, that ſhewed him on this occaſion to great advantage; not to add, the aid ariſing from that ſelf-congratulation, which he muſt feel, having juſt gained, by his late appointment, the ſummit of his wiſhes.

The ITER ŒLANDICUM ET GOTLANDICUM, in 8°, pp. 284, were printed at *Stockholm*, in 1745, in the *Swediſh* language; as was alſo the ITER SCANICUM, in 1751, 8°, pp. 435. We cannot help regretting that theſe *Itinera* have not made

their appearance in the *Engliſh*, or ſome other language beſides that of *Sweden*; for though, in a country cultivated like ours, many hints, perhaps, might not be drawn from theſe volumes, of real importance to agriculture *here*; yet they are ſo replete with curious and philoſophical obſervations, that they could not fail to be an acceptable preſent to the public; as the general ſcope of theſe volumes is to adapt natural hiſtory to economical purpoſes. In the *Iter Gothlandicum et Œlandicum*, LINNÆUS's inſtructions were directed principally to theſe particulars:—He was to endeavour to find ſome kind of earth proper for making pottery-ware in imitation of the porcelaine of *China:* he was to notice every production of nature that might ſuperſede the neceſſity of the importation of any article, uſed either in phyſic or manufactures: and in fine, he was to have a regard to every part of natural hiſtory. In the execution of his plan, however, he went much farther than his commiſſion extended, having interſperſed a number of obſervations relating to the antiquities of theſe iſlands, the mechanic arts, to the manners of the people, their fiſhery, and various other articles. He was, as might reaſonably be expected, unſucceſsful in the firſt part of his commiſſion, ſince the two iſlands are almoſt entirely compoſed of limeſtone, or coral rocks, which abound in a remarkable degree in the *Baltic*.

As a proof of the little attention that had been paid to natural hiſtory in *Sweden*, we may obſerve, that

that our author in this journey diſcovered above an hundred plants, which before were not known to be indigenous; many of which were ſuch as are uſed in phyſic, and in dyeing. He pointed out to the natives ſeveral plants of great uſe in ruſtic economy, and ſhewed them the advantage of planting the Sea-reed graſs *(Arundo arenaria)* to arreſt the ſand, and form ſoil on the ſhores; to which it is extremely well adapted by the length of the roots. In the ITER ŒLANDICUM there occurs a curious remark in vegetation, confirming the annual increaſe of the wood in an oak-tree, in which was perfectly diſtinguiſhed the hard winters of 1578, 1687, and 1709, by the narrowneſs of the circles in thoſe years. He deſcribes the proceſs for making tar, as practiſed by theſe iſlanders; and further, interſperſes many obſervations relating to mineralogy in general; to iron in particular, with which *Sweden* abounds; deſcribes the iron mountain *Taberg*, (See *Phil. Tranſact.* vol. xlix. p. 30.) the alum mines of *Mockleby*; the *Poma chryſtallina*, or *aëtites marmoreus*, which illuſtrates the formation of chryſtals, *&c.*

In the ITER SCANICUM, performed in 1749, our author treats largely on the culture of marſhy grounds; on the uſeful and noxious herbs, for inſtance, the *Stakan*, ſuppoſed to be the *Phellandrium aquaticum*, or *Water Hemlock*, which it is believed renders horſes that eat it paralytic; on the *Gramen Mannæ*, or *Feſtuca fluitans*, the ſeeds of which are ſo particularly uſeful in fattening geeſe; on the *Agaricus muſcarius*, &c.

In 1743, on occaſion of conferring a degree on Dr. *J. Weſtman*, the profeſſor delivered his third ORATION *de Telluris habitabilis incremento:* an elaborate and ingenious defence of that hypotheſis, which Sir *Iſaac Newton*, and ſeveral other philoſophers, have inclined to, "That the pro-"portion of water on the globe of this earth is "conſtantly decreaſing." This leads the profeſſor alſo to diſcuſs the 132d ſection of the *Philoſophia—Initio rerum ex omni ſpecie viventium unicum ſexus par creatum fuiſſe ſuadet ratio.*—The viſible receſſion of the waters of the ſea in divers parts of the earth, particularly apparent in the *Baltic*, had inclined the *Swediſh* philoſophers to this opinion of Sir *Iſaac Newton*'s. The poſition of the *Philoſophia*, he thinks naturally deducible from the foregoing hypotheſis, and neceſſarily ſo from the *Moſaic* hiſtory. In ſolving the difficulties attending the latter part of the hypotheſis, he is led by his ſubject to enter largely into a part of the economy of nature, which renders his diſcourſe highly intereſting, independently of all conjectures relating to the main argument: this relates to the various ways in which vegetables are diſſeminated, and by which they find their way to every part of the globe. To this effect winds, rain, rivers, the ſea, animals, &c. are all ſubſervient, as well as the various ſtructure and properties of the ſeeds themſelves; in illuſtrating which laſt affair the profeſſor has taken great pains, and conſtructed tables of the genera, founded on theſe different properties of the ſeeds. In the introduction to this oration, our author turns the attention

attention of his readers to ſome of the more remarkable diſcoveries that had lately been made in natural hiſtory and philoſophy; ſuch were thoſe relating to the *Polype*, *Rattleſnake*, and the *Senega*, &c.; among others alſo, he mentions a remarkable fact that had been communicated by *Sauvages* of *Montpelier*, reſpecting the effect of the berries of the *Coriaria myrtifolia*, Spec. pl. 1467 (Myrtle-leaved Sumach) in occaſioning inſtant epilepſy.

The three orations of LINNÆUS are ſubjoined to the ſecond volume of the *Amœnitates Academicæ*, printed in 1752.

In 1745, the profeſſor publiſhed his FLORA SUECICA *exhibens Plantas per Regnum Sueciæ creſcentes, ſyſtematice cum differentiis ſpecierum, ſynonymis autorum, nominibus incolarum, ſolo locorum, uſu Pharmacopœorum*, 8°, Holm. pp. 392, 1745; and again, with many additions, in 1755, pp. 464. The firſt edition contains 1140 plants. In the ſecond they are increaſed, by his own, and the diſcoveries of his pupils, to 1296. No generical characters are introduced into this work, but references made to them as they ſtand in the *Genera Plantarum*, before ſpoken of. A number of ſelect *ſynonyma* is added to his own ſpecific name, under each plant; and not only the *Swediſh* names in general, but the *provincial* ones: highly worthy this of imitation in works of this kind, and quite neceſſary in ſo extenſive a kingdom. Many of the rare plants are deſcribed at large, and botanical criticiſms added to many others. In the laſt edition the author has interſperſed a great number

of curious obſervations relating to the economical and medical uſes of the plants; and has particularly noted thoſe that are capable of being applied to the purpoſes of dyeing. The author moreover never fails to mention *euporiſtic* medicines, which he ſeems to think, perhaps very juſtly, have not been attended to by phyſicians as they deſerve. The plan of this work has been a pattern for all ſucceeding writers of *local* catalogues, more eſpecially thoſe who have followed the *Linnæan* ſyſtem, and has been very little improved by any; perhaps excelled by none. The plants of *Lapland* are all included in this work; and the preface, beſides the account of *Swediſh* authors on botany, contains a curious diviſion of the ſeveral provinces of the kingdom, in reſpect to their different ſoils and ſituation, as adapted to particular plants, ſpecifying under each province the plants found therein.

In 1746 appeared the FAUNA SUECICA, *ſiſtens Animalia Sueciæ Regni: Mammalia, Aves, Amphibia, Piſces, Inſecta, Vermes; diſtributa per claſſes et ordines, genera et ſpecies*, &c. *Stockholm* 1746, 8°; and again, greatly augmented, in 1761, pp. 556. The firſt edition contained 1350 ſubjects, the latter comprehends not leſs than 2266. Neither in this work are any *claſſical*, *ordinal*, or *generical* notes given at large. The world had never ſeen ſo compendious, and it may be truly ſaid, at the ſame time, ſo complete a *zoology* before. Here, as in plants, the author has given to each animal a new ſpecific name, expreſſive, as far as poſſible, of its eſſential character. The *ſynonyms* are added,

or referred to, from almoſt every author on the ſubject, and almoſt every animal is moreover compendiouſly deſcribed. *Inſects* make a very conſiderable part of this catalogue; near 1700 ſpecies, all found in that kingdom, are enumerated, diſtinguiſhed, and methodized, in a manner entirely new, and which has been adopted by nearly every writer on the ſubject ſince. We ſhall ſpeak more fully of the claſſification in the abſtract intended to be given of the *Syſtema Naturæ*. A compendious manual of *Engliſh Zoology* on this plan, is a work much wanted; though we think it could not fail to enhance its value, if the tables of the genera were prefixed to each claſs, and the characters to each genus, as in the *Syſtem* of our author. Two plates, of ſome of the rarer birds chiefly, accompany this volume, on which are explained the technical terms uſed in *ornithology*. The number of each claſs of animals ſtands thus:

1. Mammalia - 53	4. Piſces - 77
2. Aves - - - 195	5. Inſecta - 1691
3. Amphibia - 25	6. Vermes - 198.

An accident having thrown into the hands of the profeſſor an *Herbarium*, conſiſting of five large volumes of plants, he diſcovered that it was the collection of the famous Dr. *Paul Herman*, which had been made in the iſland of *Zeylon*, by that gentleman, at the expence of the *Dutch* Eaſt India Company. This *Herbarium* had been loſt for upwards of half a century, until chance threw it into the hands of M. *Gunther*, apothecary to the king of *Denmark*, who ſent it to LINNÆUS, re-

queſting the profeſſor to examine it, and affix the names to the plants of this ſuperb collection. Its great value, as being collected by ſo eminent a man, induced our author to examine the whole with great attention; and he was thereby enabled to form many new *genera*, and ſettle many doubtful ſpecies. He publiſhed the reſult of his labour under the title of FLORA ZEYLANICA, *ſiſtens Plantas indicas Zeylonæ Inſulæ, quæ olim* 1670—1677 *lectæ fuere, à Paulo Hermanno Profeſſore Botan. Leydenſi; demum poſt* 70 *annos ab A. Gunthero orbi redditæ.* Holm. 1747, 8°, pp. 254, tab. 4.

This work is yet of uſe as a *pinax* of theſe plants, and as a *Linnæan* catalogue of *Burman*'s *Theſaurus Zeylanicus*, publiſhed in 1738, and illuſtrated with the figures of upwards of 200 of theſe plants. Many of the rare ſpecies are deſcribed, and a very copious number of ſynonyms added to ſeveral of the *Eaſt Indian* plants. The *Herbarium* conſiſted of about 660 plants, of which the true places in the ſyſtem are aſſigned to upwards of 400, and the remainder were too imperfect to admit of diſtinction. This volume is rendered valuable by a conciſe hiſtory of the progreſs of botany, from the reſtoration of learning in the 16th century; a natural hiſtory of the iſland, and its general produce; the life of Dr. *Herman*; a ſhort account of *J. Hartog*, who was ſent by Dr. *Sherard* to make collections in this iſland; and of *Burman*'s *Theſaurus Zeylanicus*. LINNÆUS authenticates this *Herbarium* to have been *Herman*'s, by ſhewing that the numbers, and

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the plants, anſwer to his *Muſeum Zeylanicum*, publiſhed in 1717.

We now ſee LINNÆUS fixed in the ſituation that was ſo well adapted to his character, his taſte, and abilities, and which ſeems to have been the object of his ambition, and center of his hopes. Soon after his eſtabliſhment, he laboured to get the Academical Garden, which had been founded in 1657, put on a better footing, and very ſoon effected it; procuring alſo a houſe to be built for the reſidence of the profeſſor. The whole had been in ruin ever ſince the fire in 1702, and at the time *Linnæus* was appointed profeſſor of botany, the garden did not contain above 50 plants that were exotic. His correſpondence with the firſt botaniſts in *Europe*, ſoon ſupplied him with great variety. He received *Indian* plants from *Juſſieu* of *Paris*, and from *Van Royen* of *Leyden*; *European* plants from *Haller* and *Ludwig*; *American* plants from the late Mr. *Collinſon*, Mr. *Cateſby*, and others; and variety of annuals from *Dillenius*: in ſhort, how much the garden owed to his diligence and care, in a few years, may be ſeen by the catalogue publiſhed under the title of HORTUS UPSALIENSIS *exhibens Plantas exoticas horto Upſalienſis Academiæ a ſeſe* (Linnæo) *illatas ab anno* 1742, *in annum* 1748, *additis, differentiis ſynonymis, habitationibus, hoſpitiis, rariorumque deſcriptionibus, in gratiam ſtudioſæ juventutis.* Holm. 1748, 8°, pp. 306, tab. 3. By this catalogue it appears that the profeſſor had introduced 1100 ſpecies, excluſive of all the *Swediſh* plants, and of varieties; which latter, in ordinary gardens, amount not unfrequently

to

to one third of the whole number. The preface contains a curious hiſtory of the climate at *Upſal*, and the progreſs of the ſeaſons through the whole year. From theſe obſervations we learn, that the greateſt degree of heat, in the ſummer of 1747, at *Upſal*, was on the ſecond day of *July*, when *Celſius*'s thermometer ſtood at 30 degrees above 0; that the greateſt degree of cold, on the 25th of *January* 1740, was 28 degrees below 0. In this thermometer the freezing point is 0, and boiling water 100. From ſeven years obſervations on the *leafing* of the oak, it was found never to puſh before the 6th of *May*, or to be retarded beyond the 22d.

About this period it was, that LINNÆUS made a remarkable diſcovery, relating to the generation of pearls in the *river Pearl-Muſcle* (Mya Margaritifera, Syſt. 1112.) This ſhell-fiſh muſt not be confounded with what is called the *Mother of Pearl Shell*, as that belongs to another genus, is a ſea-ſhell, and an inhabitant of the warmer countries only. The ſhell-fiſh in queſtion is found in *rivers*, in all the northern parts of the world; in *Norway* and *Sweden* it abounds; it is found in the rivers of the county of *Tyrone* in *Ireland*, and in thoſe of *Donegall*; in *Scotland*, the *Don* is ſaid to abound with it; and it is not unfrequent in the rivers of *England*. This fiſh will bear removal remarkably well; and it is ſaid, that in ſome places they form reſervoirs for the purpoſe of keeping it, and taking out the pearl, which, in a certain period of time, will be again renewed. From obſervations on the growth of theſe ſhells, and the number

ber of their annular *laminæ*, or ſcales, it is ſuppoſed the fiſh will attain a very great age; 50 or 60 years are imagined to be a moderate computation. The diſcovery turned on a method, which LINNÆUS found, of putting theſe muſcles into a ſtate of producing pearls at his pleaſure; though the final effect did not take place for ſeveral years: he ſays, that in 5 or 6 years after the operation the pearl would have acquired the ſize of a *Vetch*. We are unacquainted with the means by which he accompliſhed this extraordinary operation, but it was probably publiſhed at the time, and conſidered as important, ſince it is certain that the author was rewarded with a munificent *præmium*, from the States of the kingdom, on this account. We regret that we cannot ſpeak more fully on this head; but may obſerve, that it is probable, from a paper publiſhed many years afterwards in the *Berlin* Acts, that the method conſiſted in injuring the ſhell externally, perhaps by a perforation; as it has been obſerved, that theſe concretions in ſhell-fiſh are found on the inſide, exactly oppoſite to perforations and injuries made from without by *ſerpulæ*, and other animals.

From the time that LINNÆUS and *Roſen* were appointed profeſſors at *Upſal*, it ſhould ſeem that the credit of that univerſity, as a ſchool of phyſic, had been increaſing; and the fact indeed is certain, that numbers of ſtudents reſorted thither from *Germany*, attracted by the character of theſe two able men: and certainly in *Sweden* itſelf, many young men were invited to the

the ſtudy of phyſic, by the excellent manner in which it was taught, who otherwiſe would have engaged in different purſuits. We muſt not deviate into the line of *Roſen*'s department: ſuffice it to ſay, that theſe two eminent men, by their united zeal and abilities, failed not to exalt, together with their own fame, that of their univerſity. LINNÆUS, in teaching the *diagnoſis morborum*, had adopted the plan, with ſome alteration, of M. *Sauvages*'s Noſology, of which we ſhall be led to give ſome account hereafter. In the year 1749, he publiſhed, for the uſe of his ſtudents, MATERIA MEDICA, *Liber I. de Plantis digeſtus ſecundum genera, loca, nomina, qualitates, vires, differentias, durationes, ſimplicia, modos, uſus, ſynonyma, culturas, præparata, potentias, compoſita.* Holm. 1749, 8°, pp. 252. The compendious method in which this work is executed, and the ſeveral uſeful preliminary papers annexed, render it a very uſeful and inſtructive manual to ſtudents in medicine. A *materia medica* of the vegetable kingdom, in which every ſimple was aſcertained by ſo able a botaniſt as LINNÆUS, was a very conſiderable acquiſition to ſcience. In this volume are arranged 535 ſubjects, and ſeveral are for the firſt time reduced to their proper *genera*; ſuch are the *Ipecacuanha*, *Pareira brava*, *Coculi Indici*, and others. The method purſued in this volume is as follows. The author gives,

1. His own ſpecific character of the plant.

2. *C. Bauhine*'s ſynonym: or, if the plant was unknown to him, that of the firſt diſcoverer.

3. The country where it is produced. In the

the ſame line is expreſſed, by a ſingle epithet, whether it be an *herb*, *ſhrub*, or *tree:* whether it be *annual*, *biennial*, or *perennial:* alſo, whether it be *indigenous*; or if not, whether it thrives well by common cultivation in gardens, or requires defence from the cold of the winter in *Sweden*; or whether it will not endure that climate.

4. The *Swediſh officinal* name, what part is in uſe, or what preparation of it, if any; and the doſes of each.

5. The *ſenſible* quality of the plant; whether *bitter*, *aromatic*, *acid*, *aſtringent*, &c.; whether *fragrant*, *fœtid*, or *inodorous*; whether *gummy*, *reſinous*, or *milky*. Its reputed quality; whether *uncertain*, *well-known*, and *approved*; or whether to be cautiouſly uſed. Whether chiefly uſed in phyſic, or for culinary purpoſes.

6. Its reputed effects on the human body; whether *purging*, *emetic*, *diuretic*, &c.

7. The diſeaſes in which it is moſt frequently preſcribed.

8. The compound medicines into which it enters in the *Swediſh* diſpenſatory.

At the end of the volume is an *index morborum*, with the ſimples appropriated to each: and an *index virium*, adapted to a preceding claſſification, founded on their qualities or effects, either on the ſolids or fluids of the human body.

In the year 1749 was publiſhed the firſt volume of a collection of *Theſes* in 8°, under the title of *Amœnitates Academicæ*, *ſeu Diſſertationes variæ*, *phyſicæ*, *medicæ*, *et botanicæ*. This publication has been

been continued, from time to time, to the completion of the ſeventh volume in the year 1769. *Holm.* Theſe volumes, as ſoon as publiſhed, were conſtantly reprinted in *Germany* and *Holland.* As theſe academical diſſertations were ſuſtained under LINNÆUS in his profeſſorial character, and were ſelected by himſelf, they have been regarded as of equal authority nearly with his own writings; and many of them do in a particular manner extend and exemplify divers parts of his works, the ſubjects having been pointed out by himſelf, in many inſtances, for that purpoſe. For theſe reaſons we ſhall, in the courſe of this volume, give a very brief account of the purport of each diſſertation, ſince they contain a great variety of curious intelligence on the ſubjects of phyſic and natural hiſtory, every where digeſted in the moſt ſcientific taſte.

Whilſt LINNÆUS was meditating one of his capital performances, which had long been expected, and greatly wiſhed for, he was interrupted by a very long and painful fit of the gout, which left him in a very weak and diſpirited ſtate; and, according to the intelligence that his friends gave of him, nothing was thought to have contributed more to the reſtoration of his ſpirits, than the ſeaſonable acquiſition, at this juncture, of a collection of rare and undeſcribed plants.

Upon the recovery of his health, he publiſhed his book; PHILOSOPHIA BOTANICA *in qua explicantur fundamenta botanica cum definitionibus partium, exemplis terminorum, obſervationibus rariorum, adjectis*

jectis figuris æneis. Stockh. et Amſt. 1751, 8°, pp. 362, *tab.* 11. This muſt be conſidered as the inſtitutions of the *Linnæan* ſyſtem of botany, and is a work which none, who wiſh to be acquainted with the ſexual ſyſtem, can be without, as it is the author's own comment on his *Fundamenta*, firſt publiſhed in 1736, and which are comprized in 365 aphoriſms, divided into 12 chapters. The author's original intention was to have explained all theſe aphoriſms at large, in the manner that had been done in the *Bibliotheca Botanica*, *Claſſes Plantarum*, *Sponſalia Plantarum*, *Critica Botanica*, and *Vires Plantarum*; but he ſays his numerous avocations did not allow him requiſite time.

Ch. 1. Exhibits a ſyſtematical diſtribution of the principal botanical writers, and is that part which is treated of at large in the *Bibliotheca*.

Ch. 2. *Syſtemata.* A view of all the botanical ſyſtems, being a compend of the *Claſſes Plantarum*, but here brought down ſomewhat later, ſo as to comprehend the general view of *Van Royen*'s, *Haller*'s, and *Wachendorf*'s.

Ch. 3. *Plantæ.* Explains the terms uſed in deſcribing the different kinds of roots, ſtalks, and leaves of plants.

Ch. 4. *Fructificatio.* Deſcribes the parts of fructification, and defines all the terms uſed reſpecting their *number*, *figure*, *proportion*, *ſituation*, and *uſes*.

Ch. 5. Relates to the ſexes of plants, a ſubject which is more copiouſly treated in a paper called *Sponſalia Plantarum*, printed in the firſt volume of the *Amœnitates Academicæ*.

Ch. 6.

Ch. 6. *Characteres.* Rules and definitions for eſtabliſhing the characters of *claſſes*, *orders*, and *genera*.

Ch. 7. *Nomina.* Rules for rightly forming *generical* names, and thoſe of *orders* and *claſſes*.

Ch. 8. *Differentiæ.* Rules for eſtabliſhing the *ſpecific* characters of plants.

Ch. 9. *Varietates.* Rules for diſtinguiſhing varieties among plants.

Ch. 10. *Synonyma.* Rules relating to the right diſpoſition of *ſynonymical names* in botanic writings.

The four chapters laſt mentioned make the ſubject of the CRITICA BOTANICA, in which work every aphoriſm is much more largely explained than in the preſent.

Ch. 11. *Adumbrationes.* Rules for properly deſcribing and naming the *ſpecies*, and for giving their complete hiſtory in a ſcientific manner.

Ch. 12. *Vires.* Relates to the virtues of plants, as deducible from their agreement in their characters, as of the ſame *genus*, the ſame *natural order*, or *claſs*. The ſubject of this chapter is treated in a more comprehenſive manner in the *Vires Plantarum*, printed in the firſt volume of *Amœnitates Academicæ*. To give a few inſtances however as illuſtrations: — The Scammony, Mechoacan, Turbith, and Sea Bindweed, are all *ſpecies* of the genus *Convolvulus*, and all agree in poſſeſſing a purgative quality. The Mallow, Marſh-mallow, and Cotton-buſh, are ſo many diſtinct *genera*, under a natural order, called *columniferous*, and agree in being all mucilaginous.

Of the *umbelliferous* plants, ſuch as grow in *dry* places are aromatic, and conſidered as ſudorifics and carminatives: thoſe growing in *watery* places, on the contrary, are moſtly of a quality to be juſtly ſuſpected, and not a few of them quite *noxious*. Plants of the *papilionaceous* claſs are all excellent food for cattle. The *ſyngeneſious*, commonly *bitters*. The *coniferous* claſs, all evergreens and *reſinous*, are conſidered as diuretics.

Ten explanatory plates are added to this volume, on which are deſcribed the different leaves, and their ſituations on the ſtalk, *&c.* different ſtalks, roots, flowers, *&c.* The firſt part of theſe plates, relating to the leaves, had been given introductory to the *Hortus Cliffortianus*. Some new terms in botany, which have been invented ſince the publication of the *Philoſophia*, may be found in a paper under the title of *Termini Botanici*, in the 6th volume of the *Amœnitates*.

In this work of LINNÆUS it is difficult to determine, whether we ought moſt to admire the genius of its author in his inventive power, or that exquiſite ſcientific arrangement which he has given to the whole; and which, both together, conſtitute this a moſt excellent performance.

At the end of the volume we meet with ſeveral curious fragments: ſuch are,

1. Directions to botanic pupils.
2. The method of conſtructing an *herbarium*.
3. Method of conducting botanical excurſions.
4. Method of laying out a botanic garden.
5. Plan for naturaliſts in travelling and con-

ſtructing their journal; with an enumeration of all thoſe ſubjects that demand their attention.

6. Idea of a compleat botaniſt. Some of the principal botaniſts are here enumerated.

7. A compend of the philoſophy of vegetation.

In 1753, appeared the Profeſſor's "*Opus* "*maximum et æternum*," the SPECIES PLANTARUM *exhibentes Plantas rite cognitas, ad genera relatas, cum differentiis ſpecificis, nominibus trivialibus, ſynonymis ſelectis, locis natalibus, ſecundum ſyſtema ſexuale digeſtas.* Tom. II. *Holm.* 8°, 1753, pp. 1200; and a ſecond time in 1762, pp. 1684. To give this work its utmoſt perfection, had been the author's object for many years, and to this all his other botanic productions are in ſome meaſure only preparatory; eſpecially the *local* catalogues; as the rightly aſcertaining the *ſpecies* is the great object of all method. In this work *Linnæus* takes in every plant that had come ſufficiently under his *own* inſpection; ſeldom admitting any on the authority of others; and whereſoever he has done it, the plant is diſtinguiſhed by a proper mark. The plan of this work is, in general, agreeable to that of all his other local catalogues; no other part of the ſyſtem being exemplified except the *ſpecies*: and as it is entirely botanical, none of the uſes of the plants are here introduced. Every plant has its *ſpecific* name, conſtructed according to the rules eſtabliſhed in the eighth part of the *Philoſophia Botanica*, with a reference to all, or any of his own works, in which it has been mentioned before;

fore; and the ſynonym is given, if it be different from the preſent. Then follow the ſynonyms of the beſt authors, and conſtantly, where the plant is at all rare, or newly-diſcovered, there is a reference to the beſt figures. The country in which the plant grows is then added, and frequently a ſymbol, expreſſive of its duration, whether annual, biennial, or perennial.

In this work, for the firſt time, the profeſſor has given to each plant, what he calls a *trivial* name: that is, a ſingle epithet, which may be expreſſive, as far as poſſible, of the *eſſential ſpecific* difference, among the ſpecies of the genus: this, however, can take place but rarely; in other inſtances it is expreſſive of ſome, the moſt ſtriking and obvious difference; and not ſeldom it is a local term; or the name of the firſt diſcoverer. The latter method, could it have taken place, would have had the advantage of conveying, ſomewhat like a chronological hiſtory of each plant, and at the ſame time perpetuating due credit to the diſcoverer. Theſe *trivial* names are printed in the margin, to catch the eye inſtantly, which is a great advantage. The invention of trivial names, the hint of which was probably borrowed from *Rivini*, by aſſiſting the memory, has much promoted the knowledge of plants, and muſt be conſidered as a capital improvement. Their uſe in ſpeaking of plants, and forming compendious catalogues, has been acknowledged by every botaniſt ſince the introduction of them.

In the preface the author gives an ample account of the aſſiſtances he received, and of the

pains he had taken, to bring this work to its preſent ſtate. To this end, he ſpecifies, the countries he had travelled over; the many botanic gardens he had viſited; the various excellent *herbaria* that he had examined, in *Sweden*, *Holland*, *England*, and *France*; the names of his pupils educated under him, and their various peregrinations; from all which he reaped great advantages, as from theſe he received various new plants: and, finally, he acknowledges the many liberal communications of ſeeds and ſpecimens, ſent to him from all parts of the world by the firſt botaniſts of the time.

As this work contains all the plants of the known world which had come to *Linnæus*'s knowledge, or rather inſpection; which, at the publication of theſe volumes, appear to have amounted to about 7,300 ſpecies, all varieties excluded, the profeſſed botaniſt has only to regret, that it could not have been extended by the author himſelf, to a compleat *pinax*, and *hiſtory* of every plant therein deſcribed.

In this year alſo LINNÆUS publiſhed MUSEUM TESSINIANUM, *opera Ill. Comitis C. G.* TESSIN, *Regis Regnique Senatoris*, &c. &c. *collectum.* Holm. 1753, fol. pp. 90. tab. 12. This is a deſcription of the cabinet of LINNÆUS's firſt patron and great friend *Count Teſſin*, at that time preceptor to the Prince Royal, now King of *Sweden*, who had ſpared no expence in collecting a rich muſeum, principally conſiſting of ſubjects in mineralogy, and particularly abounding in foſſils of the figured or extraneous kind. The work is in *Swediſh* and *Latin*;

and the tables repreſent ſeveral ſcarce and very valuable *figured foſſils*, not to be ſeen elſewhere.

The petrifactions or figured foſſils in this work, are arranged in four orders, founded on the different modes of the formation of them.

1. *Foſſilia*, commonly ſo called; ſhells, corals, animal remains, unchanged, except by being deprived more or leſs of the connecting animal gluten.

2. *Redintegrata.* Earthy, ſtony, or chryſtalline foſſils, formed within any cruſtaceous or teſtaceous body, as in a mould; thus retaining the caſt, without the external coat.

3. *Impreſſa.* Impreſſions only: as of fiſhes and capillary plants, or ferns, *&c.*

4. *Tranſubſtantiata.* Perfect petrifactions, in which the original organic parts are perfectly filled up with ſtony particles, and retaining the exact ſtructure, externally and internally, of the original body.

In 1754 was publiſhed MUSEUM REGIS ADOLPHI *Suecorum, &c. in quo Animalia rariora, imprimis et exotica Quadrupedia, Aves, Amphibia, Piſces, Inſecta, Vermes deſcribuntur et determinantur, Latine et Suetice.* Fol. 1754, pp. 135. tab. 33. This ſplendid volume is frequently referred to by our author in his *Syſtema*, on account of the figures of ſo many of the rarer ſerpents, and fiſhes, here engraven. Of the former there are 48 ſpecies, and of the latter 32; ſpecimens of which are all preſerved in ſpirits in the royal muſeum, in the palace of *Ulrickſdahl.*

The fame which our author had now acquired

by his *Syſtema Naturæ*, of which a ſixth edition, much enlarged, had been publiſhed at *Stockholm*, in 1748, in 8°, pp. 232, with eight tables, explanatory of the claſſes and orders; and which was alſo republiſhed by *Gronovius* at *Leyden*; had brought, as it were, a conflux of every thing rare and valuable in every branch of nature, from all parts of the globe, into *Sweden*. The king and queen of *Sweden* had their ſeparate collections of rarities; the former at *Ulrickſdahl*, as hath juſt been mentioned; the latter, very rich in exotic inſects and ſhells, procured at a great expence, at the palace of *Drottningholm*. Theſe our author was employed in arranging and deſcribing. Beſides theſe, the *muſeum* of the royal academy of *Upſal* had been augmented by a conſiderable donation from the king, whilſt hereditary prince, in 1746; by another, from Count *Gyllenborg*, the year before; by a third, from *M. Grill*, an opulent citizen of *Stockholm*. The contents of theſe three collections are given in the firſt volume of the *Amœnitates Academicæ*. We mention them here only to ſhew that LINNÆUS now began to enjoy ample reſources in every branch of natural hiſtory at home; beſides that many ingenious men, who had been educated under him, were now diſperſed into various quarters of the globe; and that from their letters he received great intelligence and ſatisfaction. Seeds and ſpecimens of plants were ſent him from *Siberia*, by *Gmelin*; from *America*, by Dr. *Mitchel* and Governor *Coldingham*; from *England*, by Mr. COLLINSON; Mr. *Ellis*; as alſo from his friends in *Holland*, and various other parts of

of *Europe*. And thus it will be ſeen, that he began ſcarcely to feel the diſadvantages of his northern ſituation.

We ſhall now alſo begin to ſee the profeſſor in a more elevated rank and ſituation in life. His reputation had already procured him honours from almoſt all the Royal Societies in *Europe*. Into the *Imperial Academy*, he had been very early received, and diſtinguiſhed, according to the cuſtom of that inſtitution, with a claſſic name, having moſt aptly been called DIOSCORIDES *ſecundus*: and in the year 1753 he received this honour from the Royal Society of *London*; and his own ſovereign, truly ſenſible of his merit, and greatly eſteeming his character and abilities, favoured him with a mark of his diſtinction and regard, by creating him a KNIGHT of the POLAR STAR. It was now no longer *Laudatur et alget*. His emoluments kept pace with his fame and honours; his practice in his profeſſion became lucrative, and we find him ſoon after poſſeſſed of his country houſe and gardens at *Hammarby*, about five miles from *Upſal*. He had moreover received one of the moſt flattering teſtimonies of the extent and magnitude of his fame, that perhaps was ever ſhewn to any literary character, the ſtate of the nation which conferred it, with all its circumſtances, duly conſidered. This was an invitation to *Madrid*, from the king of *Spain*, there to preſide as a naturaliſt, with the offer of an annual penſion for life of 2000 piſtoles, letters of nobility, and the perfect free exerciſe of his own religion. An offer not readily parallelled in the hiſtory of modern

times! That he did not accept of it is certain, having, after the moſt perfect acknowledgments of the ſingular honour done him, returned for anſwer, "that, if he had any merits, they were "due to his own country."

In the year 1755, the Royal Academy of Sciences at *Stockholm* honoured our profeſſor with one of the firſt premiums, agreeably to the will of Count *Sparre*; who had decreed two gold medals, of ten ducats value each, to be annually given by the academy, to the authors of ſuch papers, in the preceding year's *Stockholm* Acts, as ſhould be adjudged moſt uſeful in promoting agriculture particularly, and all branches of rural œconomy. This medal bore on one ſide, the arms of the Count, with this motto—*Superſtes in Scientiis amor* FREDERICI SPARRE.—LINNÆUS obtained it in conſequence of a paper *de Plantis, quæ Alpium Suecicarum indigenæ, magno rei œconomicæ et medicæ emolumenta fieri poſſint*, and the ultimate intention was to recommend theſe plants, as adapted to culture in *Lapland*. This paper was inſerted in the *Stockholm* Acts for 1754. Vol. XV.

LINNÆUS alſo obtained the *præmium centum aureorum*, propoſed by the Imperial Academy of Sciences at *Peterſburgh*, for the beſt paper written to *eſtabliſh*, or *diſprove*, by *new* arguments, the doctrine of the ſexes of plants. On this occaſion the profeſſor wrote his DISQUISITIO *de quæſtione ab Acad. Imper. Scient. Petrop. in annum* 1759 *pro præmio propoſita:* SEXUM PLANTARUM *argumentis et experimentis novis, præter adhuc jam cognita, vel corroborare vel impugnare, præmiſſa expoſitione hiſtorica et phyſica*

omnium

omnium Plantæ partium, quæ aliquid ad fœcundationem et perfectionem ſeminis, et fructus conferre creduntur; ab eadem Academia die 6 Sept. 1760, in conventu publico præmio ornata. Petrop. 1760, 4°, pp. 32.

Apart from all foregoing arguments, facts, and experiments, brought in ſupport of this queſtion, the profeſſor has in this little tract ſufficiently proved, by a ſeries of *new* facts, that the duſt of the *Antheræ*, analogically called the male parts, is abſolutely neceſſary to be ſhed on the *ſtigma* or female part, in order to render the ſeed fertile. His theory of vegetation, prefixed to this paper, is explained more at large in the *Prolepſis Plantarum*, printed in the 6th volume of the *Amœnitates*.

It was, if poſſible, an additional glory to LINNÆUS to have merited this premium from the *Peterſburgh* academy; inaſmuch as a profeſſor of that ſociety, a few years before, had with more than common zeal, although with a futility like that of the other antagoniſts of our author, endeavoured to overturn the whole *Linnæan* ſyſtem of botany, by attempting to ſhew that the doctrine of the ſexes of plants, had no foundation in nature, and was unſupported by facts and experiments.

The great character of LINNÆUS, and that of his colleagues, particularly of *Roſen*, in the medical departments, and their united endeavours, had very conſiderably raiſed the credit of the univerſity of *Upſal*, as we have before obſerved. It is certain, that the number of ſtudents are, at this time, nearly double what they are ſaid to have been in accounts written 30 and 40 years

40 years ago. The emulation excited among the ſtudents amply rewarded thoſe gentlemen for their pains, by the vaſt harveſt of uſeful information flowing in, particularly on the ſubjects of natural hiſtory, from their pupils, now diſperſed in every part of the world. Many of theſe young men, after being properly grounded in the principles of phyſic, had, with an ardour which nothing but the ſtrongeſt love of ſcience could inſpire, voluntarily undertaken the moſt diſtant and perilous voyages, ſupported by the munificence of particular patrons or ſocieties, to gratify their taſte in the purſuits of natural hiſtory, and other uſeful knowledge. Several of theſe young men periſhed, from change of climate, or various other cauſes, and much of the fruit of their labour was loſt with them. Such was the fate of *Ternſtröem*, at *Pulicandor*, in 1745; of *Haſſelquiſt*, who went into *Ægypt* and *Paleſtine*, and died at *Smyrna*, in 1752; of *Loefling*, who died in *Cumana*, in 1756. Of the firſt of theſe we have no remains. The papers of *Haſſelquiſt* were redeemed by the queen of *Sweden*, and publiſhed by LINNÆUS, under the title of ITER PALÆSTINUM, in 1757, in 8°; and thoſe of *Loefling*, under the title of ITER HISPANICUM, in 1758; to each of which is prefixed a ſhort account of the author. We have alſo the fruit of *Kalm*'s journey in *N. America*, and of the voyage of *Oſbeck* and *Toren*, who both went chaplains to *Swediſh Eaſt India* ſhips. Theſe are here mentioned particularly, as they are all tranſlated, and publiſhed ſince in the *Engliſh* language. We yet deplore the more recent fate of *Forſkal*, and his unfortunate

unfortunate aſſociates, in *Arabia*, and the more ſo, ſince his poſthumous pieces, publiſhed at *Copenhagen* in 1775, are ſufficient to convince us, that the fruit of that expedition would have been rich and large, had it not been ſo unfortunately blaſted.

There were alſo ſeveral others, who made leſs remote journies for the ſame purpoſe; ſuch were *L. Montin*, who viſited *Lula-Lapmark* in 1749; *M. Kæhler*, who travelled into the ſouthern part of *Italy* in 1752; Dr. SOLANDER, who viſited *Pitho-Lapmark*, and *Torno-Lapmark*, in 1753, where he made ſeveral diſcoveries, and brought back divers rare plants, and other ſubjects in natural hiſtory, which had eſcaped the diligence of his great maſter; *D. Rolander*, who viſited *Surinam* and *St. Euſtatia*, in 1755; *A. R. Martin*, who ſearched *Greenland* in 1758, as *C. Alſtroëmer* did the ſouthern parts of *Europe* in 1760. We do not mention others, who re-viſited the iſle of *Gothland* in 1752 and 1760, after *Linnæus*'s own tour into that place.

The travels of theſe gentlemen afforded great ſources of information, and furniſhed materials for our author, that proved very favourable to the laſt editions of his *Syſtema Naturæ*, and *Species Plantarum:* inſomuch, that we ſhall ſee him exemplifying, in a much more perfect and detailed manner, his *Syſtem of Nature*.

This work, as far as reſpected the *vegetable* kingdom, had been ſeparately and largely exhibited, as before mentioned, in the *Genera Plantarum*, and the *ſpecies* given in the ſeveral *Floræ* of

our

our author, and finally in the *Species Plantarum*. As yet, however, although it had paſſed through nine editions, little more had appeared in the *animal* kingdom than the generical characters, with a ſingle ſpecific name; inſomuch that the ninth edition at *Leyden*, in 1756, was contained in a ſmall octavo of 226 pages. This it muſt be obſerved notwithſtanding, was only a republication of the author's ſixth edition in 1748. The ſcheme therefore cannot be conſidered as perfected by the author, until the publication of the 10th edition, in 1758, the firſt part of which, relating to the animal kingdom, makes a volume of 821 pages; and the ſame part, in the 12th and laſt edition, is augmented by the addition of new ſubjects to 1327 pages. This work therefore, publiſhed in two volumes at *Stockholm*, in 1766 and 1767, is to be conſidered as having received the author's finiſhing hand, as far as poſſible, ſince he profeſſes to deſcribe only ſuch *animals* as had fallen under his own inſpection, except in ſome inſtances, where his dependence upon other authority rendered it juſtifiable. The title of this enlarged edition runs thus:

SYSTEMA NATURÆ *per regna tria Naturæ ſecundum claſſes, ordines, genera et ſpecies, cum characteribus, differentiis, ſynonymis, locis.* Holm. 1766, I. 1767, II. 1768, III.

TOM. I. *The* ANIMAL KINGDOM.

In this volume, after a philoſophical hiſtory of the animal kingdom in general, our author proceeds to the eſtabliſhment of the claſſical characters;

racters; previous to which, he preſents us with the *natural* diviſion of animals, ariſing from their different *internal ſtructure*; an arrangement partly eſtabliſhed by *Ariſtotle*, and of which our own great naturaliſt Mr. RAY has made conſiderable uſe, in the introductory part of his *Synopſis Animalium*. By this diviſion all the animal kingdom naturally falls into ſix claſſes, as follow: animals having the

HEART furniſhed with

Two ventricles and auricles: — — *Blood* warm and red.	Viviparous.	MAMMALIA.
	Oviparous.	BIRDS.
One ventricle and auricle: — — *Blood* cold and red.	Reſpiration voluntary.	AMPHIBIA.
	Breathing by Gills.	FISHES.
One ventricle, without auricle: — *Sanies*, cold and colourleſs.	Antennated.	INSECTS.
	Tentaculated.	VERMES.

He then gives the *natural* characters at large of each claſs, taking in with the foregoing internal ſtructure, all the differences ariſing from the *lungs*, or other organs of reſpiration, as *gills:* from the *maxillæ*, jaws or mandibles: the organs of *generation:* thoſe of *ſenſation:* the *tegument*s, or outward covering: and the *fulcra*, or legs, wings, &c. Our plan does not admit of introducing theſe at large.

At the head of each claſs is given a conciſe and moſt inſtructive *deſcription* of the *claſſical* character; ſo methodically conſtructed, as to include at the ſame time an explanation of all the *terms* appertaining

appertaining to that claſs, concluding with a general mention of the beſt authors thereon.

After this, our author proceeds to the eſtabliſhment of the *natural* characters of each *order* of the claſs reſpectively. Theſe alſo we muſt omit, as inconſiſtent with our compendious view of the ſyſtem, and more eſpecially the latter claſſes of this kingdom, where the ſubjects are ſo numerous: but in the four firſt claſſes we propoſe to give the *artificial* generical characters as they ſtand at the head of each order.

Claſs I. MAMMALIA.

This claſs comprehends not only all the animals which we call *Quadrupeds* (the *Lizard* genus, or rather the *reptiles Pedati*, excepted) but alſo the *cetaceous* order, or Whales, Cachalots, and Porpeſſes. This arrangement of Whales with Quadrupeds, which did not take place in the firſt editions of this work, has not been reliſhed by ſome very reſpectable Zoologiſts who wrote before LINNÆUS; but our author thinks himſelf fully juſtified on account of the agreement of theſe animals in the *ſtructure of the heart*, in the reſpiration by means of *lungs*, in their having *moveable eyelids*, *ears*, in being *viviparous*, in being furniſhed with *teats*, and in other particulars, by which they differ ſo materially from *fiſhes*, as to more than balance that ſingle agreement in living in the ſame *element*.

The MAMMALIA are divided by our author into ſeven *orders*; the diſtinctions of which are, in this *artificial* arrangement, principally eſtabliſhed on the

the difference in the *number*, situation, and form, of the three kinds of teeth, namely, the *primores* or *incisores*, called *fore-teeth*, or *cutting* teeth; the *laniarii* or *canini*, called dog-teeth, *canine*, or lacerating teeth; and the *molares*, double teeth or *grinders*. LINNÆUS, notwithstanding, does not entirely neglect the *feet*, as will appear from his description of the *natural* characters of the *orders*, as well as from the following *systematic* arrangement, of this class.

1. *Digitated.*

Fore-teeth, none —	BRUTA.	2.
Fore-teeth, two. Canine none	GLIRES.	4.
Fore-teeth, four. Canine single	PRIMATES.	1.
Fore-teeth, 6, 2, 10. conical. Canine single	FERÆ.	3.

2. *Hoofed.*

Fore-teeth, above and below -	BELLUÆ.	6.
Fore-teeth, none above —	PECORA.	5.

3. *Destitute of hoofs* or *claws.*

Teeth, various; in the different genera — —	CETE.	7.

We shall give the *characters* as they stand at the head of each ORDER; and then enumerate the *genera*, adding to the latter only the abbreviated characters.

I. PRIMATES. Animals furnished with fore-teeth, or cutting teeth: four above; parallel. Two pectoral teats.

II. BRUTA. No fore-teeth.

III. FERÆ. Six, sharp fore-teeth in the upper jaw. One canine tooth on each side.

There are exceptions in this order. The *Didelphis*

delphis hath 17. The *Sorex* hath 19. And the *Erinaceus* 20.

IV. GLIRES. Two fore-teeth in each jaw, cloſe together; but remote from the grinders. No canine teeth.

V. PECORA. No fore-teeth in the upper jaw: ſix or eight in the lower jaw, very remote from the grinders. Hoofed feet: inguinal teats.

VI. BELLUA. Fore-teeth truncated. Hoofed feet.

VII. CETE. Breathing apertures on the head. Pectoral fins. Tail placed horizontally. No claws.

Abbreviated *generic* characters.

I. PRIMATES.

Howſoever the pride of man may be offended at the idea of being ranked with the beaſts that periſh, he nevertheleſs ſtands as *an animal*, in the ſyſtem of nature, at the head of this *order*; and as ſuch is here deſcribed, with his ſeveral varieties obſervable in the different quarters of the globe, in a manner, and with an accuracy, peculiar to our author, and which we may venture to ſay, is no where elſe to be met with. But man is not left by LINNÆUS, to contemplate himſelf merely as ſuch; but he is led to the conſideration of what he ought to be, as an *intelligent and moral being*, in a comment on the *Grecian* Sage's dictate, KNOW THYSELF: by the true application of which, he cannot but be ſufficiently elevated above every humiliating idea which can otherwiſe ariſe from ſuch an aſſociation.

2. SIMIÆ.

2. SIMIA. *Ape.* Canine teeth, ſeparate.
33 ſpecies.
a. Without tails. *True Apes.* 3.
b. With ſhort tails. *Baboons.* 6.
c. With long tails. *Monkeys.* 24.

3. LEMUR. *Maucauco.* Fore-teeth below 6.
5 ſpecies. *Mongoz, Black Maucauco, Ringtailed M.* &c.

4. VESPERTILIO. *Bat.* Fore-toes elongated, and connected by membranes, performing the office of wings.
Vampyre, Common Bat, Long-eared, &c. 6 ſpecies.

II. BRUTA.

5. ELEPHAS. *Elephant.* Tuſks and grinders only: long proboſcis.

6. TRICHECHUS. *Walrus.* Tuſks above only; grinders formed of a rugged bony ſubſtance; hinder feet formed into fins.
The *Morſe*, the *Manati.*

7. BRADYPUS. *Sloth.* Grinders only; firſt grinders long; body hairy.
2 ſpecies.

8. MYRMECOPHAGA. *Ant-eater.* No teeth; body hairy.
4 ſpecies.

9. MANIS. *Manis.* No teeth; body ſcaly.
2 ſpecies.

10. DASYPUS. *Armadillo.* Grinders only; body cruſtaceous.

6 ſpecies.

III. FERÆ

11. PHOCA. *Seal.* Fore-teeth above 6; below 4.

3 ſpecies. *Urſine, Leonine, Common.*

12. CANIS. *Dog.* Fore-teeth 6; and 6: middle ones above; lobated.

Faithful, with all its varieties. *Wolf, Hyæna, Fox, Arctic Fox, Jackal*, &c. 9 ſpecies.

13. FELIS. *Cat.* Fore-teeth 6; and 6: lower ones, equal: tongue very rough.

Lion, Tyger, Panther, Cat, Lynx, &c. 7 ſpecies.

14. VIVERRA. *Civet.* Fore-teeth 6; and 6: middle ones below ſhort.

6 ſpecies. *Ichneumon* or *Mungo, Coati Mondi, Civet, Genet*, &c.

15. MUSTELA. *Weeſel.* Fore-teeth 6; and 6: lower ones cloſe together; 2 placed inwards.

Sea-Otter, Otter, Leſſer Otter, the Glutton, Martin, Pole-cat, Ferret, Sable, Stoat, or *Ermine.* "The Glutton is "thought by Mr. *Pennant* "to be the ſame animal with "the *Urſus Luſcus*, or Quick-"hatch,

" hatch, of *Linnæus.*" 11 ſpecies.

16. URSUS. *Bear.* Fore-teeth 6; and 6: upper ones hollowed.
Black Bear, White Bear, Badger, Raccoon, Quick-hatch or *Wolverene, (the ſame animal called Glutton.)*

17. DIDELPHIS. *Opoſſum.* Fore-teeth above 10; below, 8.
Virginian, Philander, Seba's Murine, Dorſigerous.

18. TALPA. *Mole.* Fore-teeth 6 above; 8 below. 2 ſpecies.

19. SOREX. *Shrew.* Fore-teeth 2 above; 4 below.
Creſted, Minute, the leaſt of all quadrupeds; weighs 1 drachm. *Water, Murine, Fœtid* or common.

20. ERINACEUS. *Hedgehog.* Fore teeth 2 above, 2 below.
Common, American, Aſiatic.

IV. GLIRES.

21. HYSTRIX. *Porcupine.* Body covered with quills.
Canada, Long-tailed.

22. LEPUS. *Hare.* Fore-teeth above, double.
Common Rabbet, Cape Rabbet, Braſilian Rabbet.

23. CASTOR. *Beaver.* Fore-teeth above truncated, and hollowed.

Common, Muſk, Zibet.

24. MUS. *Rat.* Fore-teeth above ſubulated.

21 ſpecies. *Cavy*, called *Guinea Pig, Aguti, Javan, Earleſs, Lemming, Marmot, Earth Rat, Water R. Common R. Mouſe, Dormouſe, Jerbua*, &c.

25. SCIURUS. *Squirrel.* Fore-teeth above, cuneated; below, compreſſed.

Common, Black, Grey, Palm, Striated, Glis, Flying, Java, Flying Cat. 11 ſpecies.

26. NOCTILIO. *Noctule.* Fore-teeth, below bilobated; fore-toes elongated, and connected by membranes, performing the office of wings.

American. 1 ſpecies.

V. PECORA.

27. CAMELUS. *Camel.* No horns; ſeveral canine teeth on each ſide.

Camel, Bactrian or Dromedary, *Glama, Pacos.*

28. MOSCHUS. *Muſk.* No horns; canine teeth ſingle on each ſide; upper ones ſtanding out of the mouth.

Tibet Muſk, Guinea Muſk, an Antelope of Mr. *Pennant, Pigmy Muſk.*

29. CERVUS,

29. CERVUS. *Deer.* Horns ſolid, branched, deciduous; no canine teeth.

Camelopard, Elk, Stag, Rein Deer, Buck, Roebuck, Guinea.

30. CAPRA. *Goat.* Horns hollow, erect; no canine teeth.

Tame Goat, Wild Goat, Chamois, Rock Goat, Gazell, Egyptian Antelope of Mr. *Pennant, Common Antelope, Bezoar, Dorcas, Ammon*, &c. 12 ſpecies.

31. OVIS. *Sheep.* Horns hollow, bending backwards; no canine teeth.

Ram and its varieties; *Guinea, Cretan*; theſe two are alſo varieties, according to Mr. *Pennant.*

32. BOS. *Ox.* Horns hollow, extending outwards; no canine teeth.

Bull; *Bonaſus*, the ſame in a wild ſtate, according to *Mr. Pennant*; *Biſon, Grunting, Buffalo, Dwarf or Indian.*

VI. BELLUÆ.

33. EQUUS. *Horſe.* Fore-teeth 6 above, and 6 below.

Horſe, Aſs, Zebra.

34. HIPPOPOTAMUS. *Hippopotame.* Fore-teeth above 6, below 4.

River Horſe. Mr. *Pennant* deſcribes this animal as having

4 cutting teeth only above and below.

35. Sus. *Hog.* Fore-teeth above 4, below 6.
Common; *Guinea*, conſidered as a variety; *Pecary*; *Capybara*, *Thick-noſed Tapiir of Pennant*; *Babyrouſſa*.

36. Rhinoceros. Fore-teeth 2 above, and 2 below.
One-horned. Variety with two horns. See Dr. *Parſons* on this ſubject, Phil. Tranſ. *vol.* xlii. p. 523, and *vol.* lvi. p. 32. *Linnæus* thinks this may be removed into the order of *Bruta*.

VII. CETE.

37. Monodon. *Narwal.* Two long ſtrait teeth in the upper jaw, perforating the lip.
Sea Unicorn.

38. Balæna. *Whale.* Horny laminæ in the upper jaw.
Whalebone Whale, *Fin-fiſh*, *Hump-backed* or *Pike-headed*, *Round-lipped.*

39. Physeter. *Cachalot.* Teeth in the lower jaw only.
Round-headed, *Spermaceti*, *Crooked-toothed*, *Plane-toothed.*

40. Delphinus. *Dolphin.* Teeth in both jaws.
Porpeſs, *Dolphin*, *Grampus.*

This

This part of the ſyſtem, taking in a few ſpecies deſcribed in the *appendix* of the third Tome, and in the *Mantiſſa* of 1771, contains about 230 ſpecies. Mr. *Pennant*, in his *Synopſis of Quadrupeds*, and our learned friend *Profeſſor* MARTIN, in his *Elements of Natural Hiſtory*, by including ſome animals that were unknown to LINNÆUS, and giving the rank of ſpecies to ſeveral that were conſidered by our author as varieties, have extended the number of *Mammalia* to 289 ſpecies.

Claſs II. AVES. BIRDS.

Theſe are divided by LINNÆUS into ſix *orders*, the diſtinctions of which are chiefly taken from the *beak*, but in ſome genera it has been neceſſary to call in the *tongue*, *nares* or *noſtrils*, and, in ſome inſtances, the *feet*, and other parts. We ſhall give the characters of the *orders* as they ſtand at the head of each; and ſubjoin the *abbreviated generical* characters, enumerating the number of ſpecies under each genus.

I. ACCIPITRES. RAPACIOUS. Birds having the upper mandible of the *beak* furniſhed on each ſide with an angular proceſs.

II. PICÆ. PIES. Birds having the *beak* ſomewhat compreſſed on the ſides and convex on the upper part.

III. ANSERES. WEB-FOOTED. Birds having a ſomewhat obtuſe *beak*, cloathed with a thin ſkin; gibbous at the baſe underneath, wide at the end; the *faux* or edges of the baſe denticulated; the *feet* palmated or webbed, and formed for ſwimming.

IV. GRALLÆ. WADERS. Birds having the *beak* ſubcylindrical, and rather obtuſe; the *tongue* entire and fleſhy; the *thighs* naked for ſome ſpace above the knees.

V. GALLINÆ. GALLINACEOUS. Birds having the upper *mandible* convex, or arched, and receiving the edges of the lower; *noſtrils* half covered, by means of a convex, ſomewhat cartilaginous membrane; the *rectrices*, or tail-feathers, more than twelve; the *feet* cloven, but the toes connected by a membrane as far as to the firſt joint.

VI. PASSERES. PASSERINE. Birds having a conical acuminated *beak*; the *noſtrils* ovated, open, and naked.

Abbreviated *generic* characters.

I. ACCIPITRES.

41. VULTUR. *Vulture.* Beak hooked; head naked.
Condor, *Harpy*, *King* of *Vultures*, &c. 8 ſpecies.

42. FALCO. *Eagle.* Beak hooked, and bordered with a cere at the baſe.
Eagles, *Hawks*, *Buzzards*, *Sparrow-hawk.* 32 ſpecies.

43. STRIX. *Owl.* Beak hooked; *capiſtrum*, or feathers of the forehead, thrown over the beak.
Horn Owls, *Grey Owl*, *Screech Owl*, *Little Owl*, &c. 12 ſpecies.

44. LANIUS.

44. LANIUS. *Butcher-bird*, or *Skrike*. Beak nearly ſtrait; upper mandible on each ſide, near the end, notched, and furniſhed with a denticle.

26 ſpecies.

II. PICÆ.

a. Feet with three toes before, and one long one behind, formed for walking.

66. TROCHILUS. *Honey-ſucker*. Beak incurvated, filiform, forming a tube at the extremity.

22 ſpecies.

65. CERTHIA. *Creeper*. Beak incurvated, acuminated.

25 ſpecies, 1 only *Engliſh*.

64. UPUPA. *Hoopee*. Beak incurvated, ſomewhat obtuſe.

3 ſpecies, 1 *Engliſh*.

48. BUPHAGA. *Beef-eater* of Mr. *Pennant*. Beak ſtrait, quadrangular.

1 ſpecies.

60. SITTA. *Nut-hatch*. Beak ſtrait; cuneated at the end.

3 ſpecies, 1 *Engliſh*.

52. ORIOLUS. *Oriole*. Beak ſtrait, conic, very acute. *Golden Thruſh*, &c. 20 ſpecies, all exotic.

51. CORACIAS. *Roller*. Beak cultrated (*ſharp* or *cutting*)

cutting) incurved at the end.

6 ſpecies, 1 *Engliſh*.

53. GRACULA. *Grackle*. Beak cultrated, equal, naked at the baſe.

Mino of *Edwards*, *Saulary*, *Mair-bird* of *America*, &c. 8 ſpecies.

50. CORVUS. *Crow*. Beak cultrated; capiſtrum reverſed.

Raven, *Crow*, *Rook*, *Royſton-Crow*, *Jack-Daw*, *Jay*, *Nut-cracker*, *Mag-pye*, *Corniſh Chough*, &c. 19 ſpecies.

54. PARADISÆA. *Paradiſe-bird*. Beak ſub-cultrated; capiſtrum or forehead covered with down.

Manucodiata of *Edwards*, *Ray*, &c. 3 ſpecies.

b. Feet with two toes before, and two behind, formed for climbing.

46. RAMPHASTOS. *Toucan*. Beak ſerrated; tongue fringed on the edges.

8 ſpecies, all *American*.

55. TROGON. *Curucui*. Beak ſerrated, hooked at the end.

3 ſpecies, all *American*.

45. PSITTACUS. *Parrot*. Beak covered with the cere; tongue fleſhy.

Maccaws, *Parrots*, *Parroquets*, *Lory*. 47 ſpecies.

49. CROTOPHAGA. *Tick-eater*. Beak rough, upper mandible

mandible angulated on each ſide.

Ani of *Braſil.* 2 ſpecies.

59. PICUS. *Woodpecker.* Beak angulated; tongue vermiform.

21 ſpecies.

58. YUNX. *Wryneck.* Beak ſmooth; tongue vermiform.

Engliſh. 1 ſpecies only.

57. CUCULUS. *Cuckow.* Beak ſmooth; noſtrils marginated.

22 ſpecies, all exotic except one.

56. BUCCO. *Barbet* of Mr. *Pennant.* Beak ſmooth, emarginated, and hooked at the end.

1 ſpecies.

c. Feet, with the middle and exterior toe joined together, nearly the whole length.

47. BUCEROS. *Horn-bill* of Mr. *Pennant.* Beak ſerrated, furniſhed with a protuberance, or horn, at the baſe of the upper mandible.

4 ſpecies.

62. ALCEDO. *Kingfiſher.* Beak trigonal, ſtrait.

15 ſpecies, all exotic except one.

63. MEROPS. *Bee-eater.* Beak incurvated, ſomewhat compreſſed.

7 ſpecies.

61. TODOS. *Tody,* Mr. *Pennant.* Beak linear, ſtrait, and ſomewhat depreſſed.

American. 2 ſpecies.

III. ANSERES.

III. ANSERES.

a. Beak denticulated.

67. ANAS. *Duck.* Beak furniſhed with membranaceous denticles, and nail at the end.
Swan, Burrow-duck, Gooſe, Duck, Mallard, Tufted Duck, &c. 45 ſpecies.

68. MERGUS. *Merganſer.* Beak furniſhed with ſubulated denticles and nail.
Gooſeander, Smew, Leſſer Dun Diver, &c. 6 ſpecies.

74. PHAETON. *Tropic Bird.* Beak cultrated. 2 ſpecies.

73. PLOTUS. *Darter* of Mr. *Pennant.* Beak ſubulated.

b. Beak edentulous.

78. RHYNCOPS. *Skimmer* of Mr. *Pennant.* Upper mandible much ſhorter than the lower.
Sea Crow of *Ray.* 2 ſpecies; nearly allied to the *Gull* genus.

71. DIOMEDEA. *Albatroſs.* Lower mandible truncated.
Albatroſs, Black-legged Penguin. 2 ſpecies.

69. ALCA. *Auk.* Beak wrinkled tranſverſely.
Auks, Puffin, &c. 5 ſpecies.

70. PROCELLARIA. *Petrel.* Noſtrils ſuperincumbent,

bent, and ſubcylindrical.

Storm-finch, *Fulmar*, *Shear-Water*, &c. 6 ſpecies.

72. PELECANUS. *Pelecan.* Face entirely naked round the baſe of the beak.

Pelecan, *Corvorant*, *Shag*, *Gannet*, *Booby*, &c. 8 ſpecies.

76. LARUS. *Gull.* Beak gibbous under the apex.

Gulls, *Herring Gull*, *Arctic Gull*, &c. 11 ſpecies.

77. STERNA. *Tern.* Beak ſubulated, compreſſed at the apex.

7 ſpecies.

75. COLYMBUS. *Diver*, Beak ſubulated, ſomewhat compreſſed on the ſides.

Guillemots, *Divers*, *Grebes*, &c. 11 ſpecies.

IV. GRALLÆ.

a. Four-toed.

79. PHÆNICOPTERUS. *Flaming.* Beak incurvated, as if broken; denticulated: feet webbed.

80. PLATALEA. *Spoonbill.* Beak flattened, and wide at the end.

3 ſpecies.

81. PALAMEDEA. *Screamer* of Mr. *Pennant.* Beak acutely hooked at the end.

Anima and *Cariama* of *Braſil.*

82. MYCTERIA.

82. MYCTERIA. *Jabiru.* Lower mandible thick, and turned upwards.
American. 1 ſpecies.

85. TANTALUS. *Ibis.* Beak arcuated; throat pouched.
Ibis of *Ægypt*, *Guara*, &c. 7 ſpecies.

84. ARDEA. *Heron.* Beak ſtrait, ſharp-pointed.
Demoiſelle, *Crane*, *Stork*, *Heron*, *Egret*, *Bittern*, *White Heron*, &c. 26 ſpecies.

89. RECURVIROSTRA. *Avoſet.* Beak ſubulated, thin, depreſſed, and recurved.
1 ſpecies.

86. SCOLOPAX. *Curlew.* Beak ſtrait, round, rather obtuſe at the end.
Curlew, *Whimbril*, *Woodcock*, *Snipes*, *Stone Plover*, *Godwit.* 18 ſpecies.

87. TRINGA. *Sand Piper.* Beak roundiſh obtuſe; hinder toe very ſhort, and placed high.
Ruffe, *Lapwing*, *Knot*, *Purr*, &c. 23 ſpecies.

91. FULICA. *Coot.* Beak riſing at the forehead and baſe.
Coot, *Water Hen*, &c. 7 ſpecies.

92. PARRA. *Jacana.* Beak at the baſe and the forehead carunculated.
Chavary of *Jacquin*, &c. 5 ſpecies.

93. RALLUS.

93. RALLUS. *Rail.* Beak ſomewhat carinated; body compreſſed.
Land Rail, Water Rail, Small Spotted Rail, &c. 10 ſpecies.

94. PSOPHIA. *Trumpeter.* Beak ſomewhat arched or convex; noſtrils ovated.
American.

83. CANCROMA. *Boat-bill* of Mr. *Pennant.* Upper mandible very gibbous.
Tamatia of *Braſil.* 2 ſpecies.

b. Three-toed, formed for running.

90. HÆMATOPUS. *Oyſter-Catcher.* Beak ſomewhat compreſſed, ending in a wedge.
Sea Pie. 1 ſpecies.

88. CHARADRIUS. *Plover.* Beak round, obtuſe.
Sea Lark, Dotterel, Sanderling, Green Plover, Long-legged Plover. 12 ſpecies.

95. OTIS. *Buſtard.* Upper mandible convex or arched; tongue emarginated or bifid.
4 ſpecies.

96. STRUTHIO. *Oſtrich.* Beak conical; wings unfit for flying.
Oſtrich, Caſſowary. American.

V. GALLINÆ.

97. DIDUS. *Dodo.* Beak ribbed and ſulcated acroſs

the upper mandible; face naked.

Hooded Swan of *Ray*. 1 ſpecies only.

98. PAVO. *Peacock*. Head creſted; beak naked.

Pea-cock, Chineſe Two-ſpurred Pea-cock, &c. 3 ſpecies.

99. MELEAGRIS. *Turkey*. Head covered with caruncles.

Turkey, Quan, Horned Pheaſant of *Bengal*.

100. CRAX. *Curaſſo*. Cere inveſting the whole baſe of the beak.

Cuſhew Bird, Curaſſo, &c. 5 ſpecies.

101. PHASIANUS. *Pheaſant*. Legs and knees naked.

Common Cock, Pheaſant, Painted, &c. 6 ſpecies.

103. TETRAO. *Grous*. Naked papilloſe membrane above the eyes.

Cock of the Wood, Black Game, White Game, Partridge, Quail, &c. 20 ſpecies.

102. NUMIDA. *Pintado*. Carunculated wattles, hanging from each ſide of the face.

Guinea Hen.

VI. PASSERES.

a. With thick beaks. *Craſſiroſtres*.

109. LOXIA. *Groſs-beak*. Beak conical and ovated.

Groſs-bill, Groſs-beak, Pine Bull-finch,

finch, Bull-finch, Cardinal, Green-finch, &c. 48 ſpecies.

112. FRINGILLA. *Chaffinch.* Beak conical and acute.

Chaffinch, Brambling, Gold-finch, Canary-bird, Red Pole, Sparrow, &c. 39 ſpecies.

110. EMBERIZA. *Bunting.* Beak ſubconical; lower mandible the broader, a little inflexed and narrowed in on the ſides.

Sea Lark, Bunting, Yellow Hammer, Reed Sparrow, &c. 24 ſpecies.

b. With the upper mandible incurved at the end. *Curviroſtres.*

118. CAPRIMULGUS. *Goatſucker.* Beak incurved, depreſſed, ciliated about the baſe; noſtrils tubular. 2 ſpecies.

117. HIRUNDO. *Swallow.* Beak incurved, depreſſed.

Chimney Swallow, Marten, Sand Marten, Swift, Pratincole of *Kramer.* 12 ſpecies.

115. PIPRA. *Manakin.* Beak incurved, ſubulated. 13 ſpecies, chiefly *S. American*; a beautiful genus of birds!

c. With the upper mandible emarginated, or notched near the apex. *Emarginatiroſtres.*

107. TURDUS. *Thruſh.* Beak notched, ſubulated, compreſſed at the baſe.
Miſſel-bird, Field-fare, Red-wing, Throſtle, Black-bird, Ring-ouſel, Roſe-coloured Ouſel, &c. 28 ſp.

108. AMPELIS. *Chatterer.* Beak notched, ſubulated, depreſſed at the baſe.
Silk-tail of *Ray*, *Pompadour* of *Edwards*, &c. 7 ſpecies.

111. TANAGRA. *Tanager.* Beak notched, ſubulated, conic at the baſe.
24 ſpecies, moſtly *American.*

113. MUSCICAPA. *Fly-catcher.* Beak notched, ſubulated, baſe ciliated, or briſtled.
Pied Bird of Paradiſe of *Ray*, &c.
21 ſpecies.

d. With ſtrait, entire, ſmall, ſlender beaks. *Simpliciroſtres.*

116. PARUS. *Titmouſe.* Beak ſubulated; capiſtrum reverſed; tongue truncated.
Ox-Eye, Blue Titmouſe, Colemouſe, Black Cap, Leaſt Butcher Bird, &c. 14 ſpecies.

114. MOTACILLA. *Warblers.* Beak ſubulated; tongue jagged; claw of the

the hind toe moderately long.

Nightingale, Hedge-Sparrow, Sedge-bird, White Throat, Wheat Ear, Black Cap, Red Start, Robin, Wren, Golden-creſted Wren, &c. 49 ſpecies.

105. ALAUDA. *Lark.* Beak ſubulated; tongue bifid; claw of the hinder toe very long.

Sky-Lark, Tit-Lark, Wood-Lark, &c. 11 ſpecies.

106. STURNUS. *Starling.* Beak ſubulate, but flatted at the apex, and marginated.

Starling, Water Ouſel, &c. 5 ſpecies.

104. COLUMBA. *Pigeon.* Beak rather arched, or convex; noſtrils gibboſe, and half covered with a membrane.

Wood Pigeon, and its deſcendant the Common, *Ring Dove, Turtle Dove, Migratory*, &c. 40 ſpecies.

The *ſpecific* characters in the claſs of *birds* are deduced from a great variety of particulars. In ſeveral, as in the *Falcon* genus, the colour of the *cere*, or naked tunic that ſurrounds the baſis of the *beak*, and the colour of the legs, aſſiſt in diſtinguiſhing the ſpecies. The *colour* of the bird in general is ſubject to great variation in different countries, as well as in the ſame country at dif-

ferent ſeaſons in the year, as is more particularly ſeen in the arctic regions; not to mention that of the ſexes in almoſt all kinds. Our author therefore does not truſt to this, wherever a more permanent mark can be found. It muſt, however, be confeſſed, that in too many inſtances, it is neceſſary to truſt entirely to this diſtinction, howſoever unſtable. The form of the *tail*, as it happens to be *even*, *cuneated*, or *forked*, is an excellent and firm note; in the *Parrot* genus its length, as *ſhorter* or *longer* than the body, is of great ſervice. In others, the *colour* of the *beak*, a *naked* or *creſted head*, contribute to form the note of diſtinction. And in fine, nature has ſtamped upon others ſome peculiarity, which points them out immediately; as, the *receptacle* of the lower mandible, in the *Pelican*; two long *tail-feathers*, in the *Tropic-bird*; the direction of the mandibles in the *Croſs-beak*, &c. Among the common marks, none more frequently occur than the differences of colour in the *quill-feathers* and thoſe of the *tail*. This claſs comprehends upwards of 930 ſubjects.

Claſs III. AMPHIBIA.

This claſs is ſo called by LINNÆUS, not becauſe all the ſubjects of it are, ſtrictly ſpeaking, capable of living either in air or water; but principally from their power of ſuſpending or performing the function of reſpiration in a more arbitrary manner than other animals. This claſs is divided into four *orders*:

I. REPTILES. REPTILES. Amphibious animals breathing through the mouth by means of lungs

lungs only; and furniſhed with four feet.

II. SERPENTES. SERPENTS. Amphibious animals breathing through the mouth by means of lungs only; deſtitute of feet, fins, and ears.

III. MEANTES. GLIDERS. Amphibious animals breathing by means of gills and lungs; furniſhed with arms and claws.

IV. NANTES. BREATHING FISHES. Amphibious animals breathing at will by means of gills and lungs. The rays of the fins cartilaginous.

Abbreviated *generic* characters.

I. REPTILES.

119. TESTUDO. *Tortoiſe.* Body covered with a ſhell.

Coriaceous Tortoiſe, Green Turtle, Hawkſbill Turtle, Common Grecian or *African Tortoiſe, Teſſelated Tortoiſe*, &c. 15 ſpecies.

121. DRACO. *Dragon.* Body winged.

Flying Lizard, of *Bontius*, p. 57. 2 ſpecies.

122. LACERTA. *Lizard.* Body naked, furniſhed with a tail.

a. With a *compreſſed* tail:

Among theſe is the *Crocodile.*

b. With a *verticillated* tail:

The Lizard, *Stellio.*

c. With a *round imbricated* tail: *ſhorter* than the body.

The *Chamæleon*, the *Geeko*, the *Skink.*

d. With a *round imbricated* tail, *longer* than the body.

The *Iguana*, the *Guernſey* Lizard.

e. With the body ſmooth: four toes on the fore feet.

Common Swift, *Water Eft* or *Newt*, *Salamander*. 49 ſpecies.

120. RANA. *Frog*. Body naked: no tail.

Surinam Toad, *Common Toad*, *Surinam Frog-fiſh*. See Phil. Tranſ. *vol.* li. p. 653. *Common Frog*, *Tree Frog*, *Bull Frog* of *America*. See *Kalm* ii. 170, &c. 17 ſpecies.

II. SERPENTES.

123. CROTALUS. *Rattleſnake*. Body and tail underneath cloathed with ſmall ſhields; tail terminating in a horny rattle.

Rattleſnake, &c. 5 ſpecies, all *American*, and all venomous.

124. BOA. *Serpent*. Body and tail underneath cloathed with ſmall ſhields; no rattle.

Gigantic Serpent, or *Conſtrictor*. *Vide* Adanſon's *Senegal*, p. 274. *Hog-noſed Snake* of *Cateſby*, 2. t. 56, &c. 10 ſpecies; not furniſhed

furniſhed with venomous fangs.

125. COLUBER. *Viper.* Body underneath cloathed with ſmall ſhields; tail cloathed with ſcales.

True Viper of Egypt, Horned Viper. See Phil. Tranſ. *vol.* lvi. t. 14. *Berus*, or *Engliſh Viper*, *Natrix* or *Common Snake*, *Naja* or *Hooded Serpent* of *Kæmpf.* p. 565; *Black Snake*, Kalm ii. p. 202. 97 ſpecies, of which 18 are known to have venomous fangs.

126. ANGUIS. *Snake.* Body and tail underneath cloathed with ſcales only.

Javan fourfooted Snake, an anomaly; *Common Slow Worm*, &c. 16 ſpecies.

127. AMPHISBÆNA. *Annulated Snake.* Body and tail compoſed of annular ſegments.

2 ſpecies, both *American.*

128. CÆCILIA. *Tentaculated Snake.* Body and tail wrinkled; not ſcaly; upper lip furniſhed with two feelers.

2 ſpecies.

III. MEANTES.

SIREN. *Siren.* Body biped, and furniſhed with a tail.

Lizard Siren or *Mud Inguana* of *Carolina*. See Phil. Tranſ. *vol.* lvi. 189, t. 9. For this uncommon animal LINNÆUS was obliged to form a new order. See *Syſt. Nat.* tom. I. *addend.*

IV. NANTES.

a. Such as have ſeveral branchial holes on each ſide.

129. PETROMYZON. *Lamprey.* Seven branchial apertures on each ſide of the neck.

Lamprey, Leſſer, Lampern.

130. RAJA. *Ray.* Five branchial apertures on each ſide the neck underneath.

Torpedo, Skate, Sharp-noſed Ray, Rough Ray, Sting Ray, Thornback. 9 ſpecies.

131. SQUALUS. *Shark.* Five branchial apertures on the ſide of the neck.

Picked Dog-fiſh, Angel-fiſh, Balance-fiſh, Tope, Dog-fiſh, White Shark, Blue Shark, Saw-fiſh, &c. 15 ſpecies.

132. CHIMÆRA. *Chimera.* Single branchial aperture, dividing into four within.

2 ſpecies.

b. Such as have a ſingle branchial hole on each ſide.

133. LOPHIUS.

133. LOPHIUS. *Fiſhing-frog.* Two ventral fins; mouth furniſhed with teeth.

Toad-fiſh. 3 ſpecies.

134. ACIPENSER. *Sturgeon.* Two ventral fins; no teeth.

Sturgeon, Strelet or *Cavear-fiſh, Huſo.*

139. CYCLOPTERUS. *Lump-fiſh.* Two ventral fins nearly uniting into one orbicular fin.

3 ſpecies.

135. BALISTES. *Old Wife Fiſh.* Single ventral fin, or *carene.*

Sea Unicorn, Old Wife Fiſh, &c. 8 ſpecies.

136. OSTRACION. *Bonyſkin Fiſh.* No ventral fins; body entirely cloathed with a bony covering.

Triquetrous Oſtracion, Three-horned, Four-horned, &c. 9 ſpecies.

137. TETRODON. *Sun-fiſh.* No ventral fins; belly rough or murieated.

Ocellated Sun-fiſh, Common Mole or *Sun-fiſh,* &c. 7 ſpecies.

138. DIODON. *Porcupine-fiſh.* No ventral fins; body ſet with acute moveable ſpines.

Sphærical, Oblong. 2 ſpecies.

140. CENTRISCUS, *Trumpet-fiſh.* Ventral fins united; a long moveable ſpine on the back, near the tail.

Scolopax

Scolopax of *Geſner*, &c. p. 838.
2 ſpecies.

141. SYNGNATHUS. *Pipe-fiſh.* No ventral fins; body articulated.
Needle fiſh, *Pipe-fiſh*, *Hippocampus* or *Sea-horſe*. 7 ſpecies.

142. PEGASUS. *Dragon-fiſh.* Two ventral fins; upper mandible or beak denticulated, or ciliated.
Flying Dragon of *Amboina*, &c. 3 ſpecies.

This part of the Syſtem contains upwards of 290 ſubjects.

In the REPTILES order, the ſpecific characters of the *Teſtudo* genus are deduced principally from the difference in the *ſhells*, and the *feet*; which in the *Turtles* are pinniform, and in the *Tortoiſes* digitated. In the *Lacerta* genus, from the *tail*, *head*, *toes*, and various other parts; and in the *Rana*, from the diverſity in the *make of the body*, and number of the *claws* on the fore or hinder feet.

In the SERPENTES order, the ſpecific diſtinctions have ever been matter of great difficulty with naturaliſts, as they were commonly taken from the *colour*, which is ſubject to an almoſt infinite variation. Hence it has happened that *Seba*, depending on the *colours* alone, hath, in the opinion of our author, figured the *Boa Conſtrictor*, or Gigantic Serpent, ten times, as ſo many diſtinct ſpecies; and the *Coluber Naga*, or Hooded Viper, fourteen. LINNÆUS at length diſcovered a much

more certain and permanent note, upon which his *ſpecific* characters are ſolely founded: it was firſt exemplified in the *Amphibia Gyllenborgiana*, and he has ſince retained it in all his works, ſenſible however that it is yet liable to failure: this ariſes from the number of the ſmall *ſhields* and *ſcales*, or *rings* and *rugæ* of the belly and tail; and the proportion thoſe numbers bear to each other in the different ſpecies; for example, in our *Common Viper* the *ſhields* of the *belly* are uſually about 146, and the *ſcales* of the *tail*, that is all below the anus, about 39 or 40; the *ſhields* in our *Common Snake* about 170, and the *ſcales* about 60.

In the NANTES the ſpecific characters are ſhort, but very various in the different *genera*, as to the parts of the animal from which they are deduced: in the *Petromyzon* and *Raia*, from the *mouth*, *fins*, *teeth*, &c.; in the latter very much from the *body* itſelf: in the *Squalus*, from a variety of particulars: in the *Acipenſer*, from the *cirri* or beard, and the *dorſal ſhields*, or *ſquamæ*: in the *Baliſtes*, from the fins and tail: in the *Oſtracion*, from the different *angulated form* of the *body*: in the *Tetrodon*, from differences in the body chiefly; and in the remaining *genera*, from the form of the body, and the differences in the fins.

Claſs IV. PISCES. FISHES.

In the earlier editions of the *Syſtema Naturæ*, our author, in the diſtribution of FISHES, had followed the method of his friend and fellow collegian *Artedi*; whoſe *Ichyology* he had publiſhed during

during his reſidence in *Holland*, in 1738. This method, which took in the CETACEOUS order, now among the MAMMALIA, and the NANTES, now referred to the AMPHIBIA, was eſtabliſhed on the ſtructure or rather *ſituation* of the *tails* in the *cetaceous* order; and in others, on the difference in the gills, and the *rays* of the *fins*, whether *cartilaginous* or *bony*. In the two laſt editions, another diſpoſition is attempted: after having diſmiſſed the *cetaceous* order to the MAMMALIA, and the CHONDROPTERYGII or Cartilaginous Fiſhes, and the *Branchioſtegi* to the NANTES, our author forms four *orders* of the *bony* fiſhes (which reſpire by means of gills only) from the *ſituation* of the *ventral* fins; which he analogically conſiders as the *feet* of the animal, according as they are placed either *before*, *under*, or *behind* the *pectoral* or gill fins, or as in one order wanting the *ventral* fins.

I. APODES. APODAL. Fiſhes deſtitute of ventral fins.

II. JUGULARES. JUGULAR. Fiſhes having the ventral fins placed before the pectoral fins.

III. THORACICI. THORACIC. Fiſhes having the ventral fins placed underneath the pectoral fins.

IV. ABDOMINALES. ABDOMINAL. Fiſhes having the ventral fins placed on the abdomen behind the pectoral fins.

Abbreviated

Abbreviated *generic* Characters.

I. APODES.

143. MURÆNA. *Eel.* Apertures of the gills placed behind the pectoral fins.
Sea Serpent, Eel, Conger Eel, &c. 7 ſpecies.

144. GYMNOTUS. *Gymnote.* Back deſtitute of any fin.
Carapo of Braſil, Electric Eel, Beaked, &c. 5 ſpecies.

145. TRICHIURUS. *Needle-tail.* Subulated tail without any fin.
Mucu of the *Braſilians.*

147. AMMODYTES. *Lance.* Head much ſlenderer than the body.
Sand Eel.

146. ANARCHICAS. *Wolf-fiſh.* Grinding teeth rounded.
Sea Wolf. In the foſſil ſtate frequent, called *Bufonites.*

148. OPHIDIUM. *Snake-fiſh.* Body enſiform.
Bearded Ophidion, Beardleſs Ophidion.

149. STROMATEUS. *Pampus.* Body ovated.
Pampus of *Sloane.* 2 ſpecies.

150. XIPHIAS, *Sword-fiſh.* Upper mandible terminating in an enſiform beak.
Sword-fiſh of all authors.

II. JUGULARES.

II. JUGULARES.

151. CALLIONYMUS. *Dragonet.* Breathing ſpiracles on the hinder part of the head.

The Harp, &c. 3 ſpecies.

152. URANOSCOPUS. *Star-gazer.* Mouth flat, opening upwards.

Scabrous. 1 ſpecies.

153. TRACHINUS. *Weever.* Anus near the breaſt.

Draco of the old authors. 1 ſpecies.

154. GADUS. *Cod.* Pectoral fins ſlender, and ending in a point. With

a. Three dorſal fins, and the jaw bearded.

Haddock, *Torſk*, *Cod-fiſh*, *Bib*, *Whiting*, *Pout*, *Poor*.

b. Three dorſal fins; jaw not bearded.

Whiting, *Cole-fiſh*, *Pollack*, &c.

c. Two dorſal fins only.

Hake, *Ling*, *Burbot*.

d. One dorſal fin.

Mediterranean. 17 ſpecies.

155. BLENNIUS. *Blenny.* Ventral fins of two rays, ſmall, and not prickly.

Creſted, *Gattorugine*, *Smooth*, *Spotted*, *Viviparous.* 13 ſpecies.

III. THORACICI.

156. CEPOLA. *Cepole.* Mouth opening upwards, body enſiform.

Tænia, &c. 2 ſpecies.

157. ECHENEIS.

157. ECHENEIS. *Sucking-fiſh.* Top of the head flat, marginated, and tranſverſely ſulcated.

Remora, *Naucrates*. 2 ſpecies.

158. CORYPHÆNA. *Dolphin.* Anterior part of the head very obtuſe or truncated. *Dolphin* of mariners.

River Dolphin, *Parrot-fiſh*, &c. 12 ſpecies.

159. GOBIUS. *Goby.* Ventral fins united into one ovate fin.

Black Goby, *Spotted Goby*. 8 ſpecies.

160. COTTUS. *Bull-head.* Head broader than the body.

Pogge, *Feather Laſher*, *Miller's Thumb*, &c. 6 ſpecies.

161. SCORPÆNA. *Scorpen.* Head ſet with prickles or beards.

Porcus, *Scrofa*, *Horrida* or *Tover-fiſh*.

162. ZEUS. *Doree.* Upper lip projecting, or fornicated by means of a tranſverſe membrane.

Doree, *Silver-fiſh* of *Brown*, &c. 4 ſpecies.

163. PLEURONECTES. *Plaiſe.* Both eyes on the ſame ſide of the head. With the eyes,

a. On the right ſide.

Holibut, *Plaiſe*, *Flounder*, *Dab*, *Sole*.

b. On

b. On the left ſide.

The *Pearl*, the *Turbot*, &c. 17 ſpecies.

164. CHÆTODON. *Pilot fiſh.* Teeth very fine, thick ſet, very numerous, and flexile.

Jaculator-fiſh. Vide Phil. Tranſ. *vol.* liv. t. 9. *Pilot-fiſh*, &c. 23 ſpecies.

165. SPARUS. *Gilt-head.* Teeth very ſtrong; fore teeth ſharp; grinders cloſe ſet, and obtuſe.

Sea Bream, &c. 26 ſpecies.

166. LABRUS. *Wraſſe.* Connecting membrane of the dorſal fin extending beyond the extremity of each ray, in the form of filaments.

Wraſſe, Bimaculated, &c. 41 ſpecies.

167. SCIÆNA. *Cavalhas.* A groove in the back to receive the dorſal fin.

Umbra, Jaculatrix. Vide Phil. Tranſ. *vol.* lvi. p. 186, t. 8. f. 6. All *Mediterranean.* 5 ſpecies.

168. PERCA. *Pearch.* The gill-covers jagged or ſerrated.

Pearch, Baſſe, Sea Pearch, Ruffe. 36 ſpecies.

169. GASTEROSTEUS. *Stickle-back.* Body at the tail carinated on each ſide; ſpines on the back

back diſtinct from the fins.

Three-ſpined Common Stickle-back, *Ten-ſpined*, &c. 11 ſpecies.

170. SCOMBER. *Mackrel.* Body towards the tail carinated on each ſide; ſpurious fins, in moſt ſpecies, near the tail.

Mackrel, *Bonet*, *Tunny*, *Horſe Mackrel*, &c. 10 ſpecies.

171. MULLUS. *Surmullet.* Head and body covered with large deciduous ſcales.

Red, *Striped*, *Beardleſs.*

172. TRIGLA. *Gurnard.* Several diſtinct appendages placed at the pectoral fins.

Piper, *Gurnard*, *Red Gurnard*, *Tub-fiſh*, &c. 9 ſpecies.

IV. ABDOMINALES.

173. COBITIS. *Loche.* Body nearly of an equal width quite to the tail.

Loche, *Sand Loche* or *Foſſil Loche.* See Phil. Tranſ. vol. xliv. p. 451, t. 2. f. 1, &c. 5 ſpecies.

174. AMIA. *Mud-fiſh.* Head rough, bony, and denudated.

175. SILURUS. *Sheat.* The firſt ray of the dorſal and pectoral fins dentated.

Sheat-fiſh, Callichthys; *Piſo* ſays, "In dry ſeaſons this fiſh "travels over ſmall tracts of "land in ſearch of freſh-"water." 21 ſpecies.

176. TEUTHIS. *Liver-fiſh.* Head anteriorly flat, and as if truncated.

2 ſpecies.

177. LORICARIA. *Helmet-fiſh.* Body inveſted as with a ſhelly cruſt, ſet with points.

2 ſpecies.

178. SALMO. *Salmon.* Poſterior dorſal fin adipoſe, and without rays.

a. Trouts; body variegated; teeth manifeſt.

Salmon, Grey, Salmon Trout, Trout, Char.

b. Smelts; dorſal and anal fin oppoſite.

Smelt, Saurus.

c. Teeth ſcarcely perceptible.

Gwiniad, Umber.

d. With four branchioſtegous rays only.

29 ſpecies.

179. FISTULARIA. *Tobacco-pipe Fiſh.* Very long cylindrical beak or mandible, with the mouth at the end.

Tabacaria, Chinenſis.

180 ESOX;

180. ESOX. *Pike.* Lower jaw the longeſt; punctated.
Pike, Sea Pike, &c. 9 ſpecies.

181. ELOPS. *Sean-fiſh.* Branchioſtegous membrane double; exterior one ſmall, of five rays.
Saurus of *Sloane,* t. 251. 1.

182. ARGENTINA. *Argentine.* Vent placed very near to the tail.
So called from the ſilvery ſkin of the air-bladder. 2 ſpecies.

183. ATHERINA. *Atherine.* The lateral line ſilvery.
2 ſpecies.

184. MUGIL. *Mullet.* Inferior mandible carinated inwards.
Mullet, Albula of *Cateſby.*

185. EXOCETUS. *Flying-fiſh.* Pectoral fins nearly the length of the body.
2 ſpecies.

186. POLYNEMUS. *Finger-fiſh.* Several diſtinct proceſſes or appendages placed with the pectoral fins.
Paradiſe-fiſh of *Edwards,* &c.
3 ſpecies.

187. MORMYRUS. *Mormyre.* Branchial aperture linear, and no cover to the gill.
Caſchive of the *Arabians,* &c. 2 ſpecies.

188. CLUPEA. *Herring.* Belly ſharp or keel form, and ſerrated.

Herring, *Sprat*, *Shad*, *Anchovy*, &c. 11 ſpecies.

YPRINUS. *Carp.* Three branchioſtegous rays.

a. Jaw bearded or cirroſe.
Barbel, *Carp*, *Gudgeon*, *Tench*.

b. Tail fin entire.
Caraſſe, *Chub*.

c. Tail fin trifid.
Gold-fiſh.

d. Tail fin bifid.
Minnow, *Dace*, *Roach*, *Rud*, *Bleak*, *Bream*.

The claſs of Fiſhes contains about 400 ſpecies, but very great additions have been made to this claſs by later diſcoveries: among which thoſe made by Dr. *Forſkal*, in *Arabia*, are not the leaſt, as appears by his fragments lately publiſhed.

Great pains were taken by *Artedi*, and ſince by *Gronovius*, and our author, to diſtinguiſh the ſpecies by the *number* of the *rays* in the *fins*; and although, from repeated obſervations, they are found to agree in many ſpecies very remarkably; yet, in others, they vary ſo much as not to eſtabliſh a ſufficient character. At preſent, in this ſyſtem, the ſpecifical characters are taken from a great variety of particulars; amongſt which, however, the *number* of the *rays* in the *fins* is frequently the moſt diſtinctive, and whether ſo or not, it is ſubjoined to moſt ſpecies, and uſually, as they have been obſerved by different authors. The *form* of the *tail*, the *cirri*, or beard at the *mouth*, the *length* of the *jaw*, the *ſpots* and

lines

lines on the body, &c. all conſpire in their turn to the ſame end.

Claſs V. INSECTA. Insects.

No part of the ſyſtem of nature has undergone a greater change than this claſs; neither does our author ſtand more unrivalled, than in the excellent arrangement he has given to this branch of natural hiſtory; which, before his time, was nearly without method. It comprehends 87 GENERA, diſpoſed into ſeven *orders*, founded, in moſt of them, on the differences obſervable in the *number* and *texture* of the *wings*. Our intended brevity will not permit a detail of the *genera*, in the ſucceeding parts of the ſyſtem; we muſt, therefore, now that we are deſcended to the inferior parts of the animal kingdom, only give the definitions of the ſeveral *orders*, with a few obſervations. The firſt order is called,

I. Coleoptera. Inſects having the wings covered with two cruſtaceous caſes, divided by a longitudinal ſuture.

This order is the moſt numerous; it contains almoſt all thoſe inſects which go under the general name of *Beetles:* and includes upwards of 900 ſpecies, ranked under 30 genera. Among theſe are the Chafers, Stag-beetles, Leather-eaters, Carrion-beetles, Tortoiſe-beetles, Lady-flies, Honey-beetles, Weevils, Muſk-beetles, Glow-worm, Spring-beetles, Water-beetles, Bliſter-beetle, Rove-beetle, Earwig, and ſeveral other *genera*.

II. Hemiptera. Half-winged inſects; having the ſhells or caſes ſemi-cruſtaceous, not divided by

a ſtraight ſuture, but incumbent on each other in the margin. The beak curved inwards.

This order contains about 350 ſpecies, under 12 *genera*; among theſe are the Cock-roach, Camel-cricket, Locuſts and Common Crickets, Lanthorn-fly, Flea-locuſt, Boat-fly, &c. Bug, a numerous genus; Aphis, or Currant-louſe; Cochineal-inſect, and others.

III. LEPIDOPTERA. Inſects with four wings, imbricated or cloathed with fine ſcales or feathers: tongue ſpiral, and coiled up; body hairy.

This order contains only three *genera*; but the ſpecies are very numerous, nearly 800. The Butterflies, Hawk-moths, and the Moths or *Phalenæ*. Of the latter, LINNÆUS enumerates 460 ſpecies. This being the moſt beautiful tribe of inſects, has been much ſought after, and later entomologiſts have conſiderably increaſed this number.

IV. NEUROPTERA. Inſects with 4 naked, tranſparent, or reticulated wings; tail in moſt kinds without a ſting.

Upwards of 80 ſpecies in 7 *genera*; among theſe are the Dragon-fly, May-fly, Spring-fly, Pearl-fly, Scorpion-fly, &c.

V. HYMENOPTERA. Inſects with 4 membranaceous wings, excepting ſome few ſpecies, which are deſtitute of wings; females with the tail armed with a ſting.

This is a numerous order; it contains 320 inſects in 10 *genera*; among theſe are the Saw-fly or *Tenthredo*, Tailed-waſp, Ichneumon-fly, Ichneumon-waſp, Waſp, Bee, Ant, and Golden Wall-fly, &c.

VI. DIPTERA.

VI. DIPTERA. Inſects with two wings; niſhed alſo with a balance or club behind e. wing.

This order, under 10 *genera*, contains near 270 ſpecies, among which are the Gad-flies, Gnats, Common Fleſh-fly, Waſp-fly, Horſe-fly, Bee-fly, and others.

VII. APTERA. Inſects without wings, in either ſex.

This order contains 290 ſpecies under 14 *genera*, and falls eaſily into three diviſions.

1. With 6 legs: The Sugar-mite, Ground-flea, Death-watch, Louſe, Common Flea.

2. With 8 to 11 legs: The Tick-ſpiders, Scorpion, Crab, King-crab, and Millepede.

3. With numerous legs: The Centipede and Gallyworm.

In forming the *genera* under each of theſe orders, the *antennæ* hold a principal rank, and particularly in the COLEOPTERA; but the author does not truſt to them alone; the *elytra* or outward caſes, the head, the *roſtrum* or mouth, the thorax, and tail; and indeed in almoſt every *genus*, ſome or other of them are called in to aſſiſt in forming the character.

In the HEMIPTERA, the *roſtrum* gives a note of primary uſe; but here the *antennæ*, *wings*, and *feet* come in alſo.

In the LEPIDOPTERA, the *antennæ* and wings form the character.

In the NEUROPTERA, the mouth, wings, and tail.

In the HYMENOPTERA, the mouth, the wings, and the ſting.

In the DIPTERA, the mouth or *proboſcis* alone.

In the APTERA, the eyes, the tail, and the number of the feet, &c.

Claſs VI. VERMES.

The ſixth and laſt claſs contains the VERMES, which are divided into five orders. LINNÆUS very early adopted the new ſyſtem of *Peyſonnel*, *Juſſieu*, and ſome others, in introducing the corals and corallines into the animal kingdom, under the names of LITHOPHYTA and ZOOPHYTA. This ſyſtem has had great light thrown upon it by the late excellent Mr. ELLIS, in his hiſtory of Corallines, and ſeveral papers printed in the Philoſophical Tranſactions.

As this is by far the moſt anomalous of all the claſſes, the characters of the orders are very various.

I. INTESTINA. Animals ſimple, naked, deſtitute of limbs.

This order includes 7 *genera*; among which are the Guinea-worm, Aſcarides, Earth-worm, Gourd-worm, Leech, &c. It contains but 24 ſpecies.

II. MOLLUSCA. Animals ſimple, naked, not included in a ſhell, but furniſhed with limbs.

This order includes 18 *genera*, containing 110 ſpecies. Among theſe rank the common naked Snail, Sea Hare of *Rondeletius*, *Doris*, Sea Mouſe, *Nereis*, *Aſcidia*, *Actinia*, or Sea Anemone, *Tethys*, Cuttle-fiſh, Sea Lungs, or Blubbers, Star-fiſh, and *Echinus*, called Sea Hedge-hog, and others.

III. TESTACEA.

III. TESTACEA. Animals, generally of the foregoing order, but included in a ſhell.

This order takes in the whole tribe of ſhells, conſiſting of upwards of 800 ſpecies, under 36 *genera*, and diſpoſed in a method entirely new. The three firſt *genera* are the *multivalves*, the next fourteen *bivalves*, and the remainder *univalves*.

IV. LITHOPHYTA. Compoſite animals, affixed to, and fabricating a fixed calcareous baſe, called *Coral*.

This order contains 59 ſpecies, under four *genera*: the *Tubipora*, red tubular Coral; *Madrepores* or Brain Stones; *Millepores*; and another called *Cellepore*.

V. ZOOPHYTA. Animal compoſite, reſembling a flower, and ſpringing from a vegetating ſtem.

This order contains 14 genera, of which nine are fixed, and the other locomotive: amongſt the former rank the *Iſis* or red Coral, Sea Fan, *Alcyonium*, Sponge, Corallines, &c.: among the latter, the Polype, Sea Pens, *Tænia*, *Furia*, and laſtly the aſſemblage of chaotic, or microſcopical *Animalcula*. The ſpecies under this order are 156.

The *generical* diſtinctions among the INTESTINA ariſe from the diverſity of the body of the animal, almoſt ſolely.

In the MOLLUSCA, from the body and feelers, called *tentacula*, and from other parts.

In the TESTACEA, the included animal, the general differences between the ſhells themſelves, but principally the *cardo* or hinge in the bivalves, and

and the *aperture* in the univalves, furniſh the generic note.

In the LITHOPHYTA, the inhabitant animal, and the form of the coral itſelf: and in the ZOOPHYTA, the animal, and the very different forms of the fabrifications, lay a foundation for the generic notes.

After having thus exhibited a view of the *Claſſes*, it remains that we give a general account of the method purſued in treating on each ſpecies. To this end it muſt be obſerved, that throughout the whole *ſyſtem*, the *claſſical* character, that of the *order*, and the *generical* note, always make a part in the deſcription of each *ſpecies*. After theſe, our author begins with his own *ſpecific* name for the animal, eſtabliſhed upon the moſt eſſential difference obſervable between that and every other ſpecies of the *genus*; and here it muſt be allowed, that he has, in general, happily ſucceeded, by giving, in the ſpace of two or three lines, a diſtinction that more immediately points out the animal ſought for, than the long and laboured deſcriptions of many foregoing authors. If the *ſpecific* name is the ſame that is adopted in any of his former writings, he refers to it. He has, however, in many parts of this enlarged edition, formed new names to animals noticed in the former edition, and in the *Fauna Suecica*. Where indeed the eſſential or ſpecific diſtinction is the point in view, this muſt frequently be the caſe, ſo long as new ſpecies continue to come in; for, as the eſſential character of each *ſpecies* reſults

from

from the moſt careful compariſon of the whole *genus*, the introduction of a new one muſt, in many inſtances, ſo claſh with the old, as to require, perhaps, a total alteration in every *ſpecific* name of the *genus*.

After his own ſpecific name, he gives the *ſynonyms*, and page of the moſt reputed and authentic writers in each claſs; and particularly refers to thoſe who have beſt figured his ſubject; then the *locus natalis*, and in many inſtances, more eſpecially among the *Mammalia* and *Aves*, a ſhort but comprehenſive hiſtory reſpecting the nature, economy, and uſes of the animal. To every animal the author has affixed his *trivial* name, expreſſive, moſt commonly, of place where it is found, of its colour, form, or ſome quality or attribute, deſcriptive, as far as may be, of the animal; or, in a great variety of caſes, where the ſubject has been well known by a ſingle term, he retains that as his *trivial* name. To inſtance in the Partridge and Quail, which both belong to his *genus* eſtabliſhed under the name *Tetrao:* he therefore calls the former *Tetrao Perdix*, and the latter *Tetrao Coturnix*.

It has been objected to LINNÆUS's claſſification in various parts of his ſyſtem, that he has thrown together ſubjects too different in their general appearance and economy, by keeping too cloſely to *one* character; to inſtance particularly in the MAMMALIA, by confining himſelf to the teeth. To this it may be anſwered, in general, that if *only* quadrupeds were to be claſſed, no ſyſtem needed

needed to have been built, as their number is ſo ſmall: but when it is recollected, that *all Nature* was under his eye, and that therefore the ſubjects were almoſt infinite, it became neceſſary to form the baſis of every great diviſion or claſs, *as far as poſſible, on one ſimple foundation.* And perhaps it is the obſervance of this rule that has given LINNÆUS's ſyſtem ſo greatly the advantage over all foregoing writers. For, as nature does not ſeem to have obſerved *any* ſyſtem, ours muſt be artificial, and will ever have its anomalies. As an artificial ſyſtem therefore, that muſt have the preference, which will moſt readily lead to the ſubject under inveſtigation; in which caſe it is of ſmall importance where it is placed, and how far removed from others with which it ſeems to bear a ſimilar and general appearance.

We ſhall cloſe this brief view of the arrangement of animals, by exhibiting the number of ſubjects enumerated, all of which are ſynonymed by the author, in the 12th edition of his *Syſtem.*

Mammalia	219	Inſects	3075
Birds	931	Vermes	1163
Amphibia	291	Various, from the Mantiſſæ	140
Fiſhes	398		
	Total	6217.	

With the firſt tome of the *Syſtema Naturæ* is intimately connected a work of the profeſſor's, publiſhed under the title of MUSEUM *Ludovicæ Ulricæ* REGINÆ, *in quo animalia rariora exotica, imprimis inſecta*

inſecta, et conchylia deſcribuntur et determinantur prodromi inſtar editum. Holm. 1764, 8°, pp. 720. This was drawn up, and publiſhed, by order of the queen of *Sweden*, who had conſtructed a copious and rich cabinet of natural hiſtory, at the palace of *Drottningholm*; the ſubjects of which, as hath been obſerved, LINNÆUS had been appointed to arrange. The great expence her majeſty had beſtowed in procuring, particularly inſects and ſhells, had given this collection an advantage that proved very favourable to our author, by throwing in his way a multitude of fine and very expenſive objects, which otherwiſe, probably, he could have had no opportunity of deſcribing; and theſe were, fortunately, all collected before the publication of the enlarged editions of the *Syſtem*.

In this work the *exotic* inſects and ſhells only are introduced; of the former, 436; and of the latter, 434, with twenty-five of the *Molluſca*. The inſects chiefly conſiſt of the large and beautiful *Lepidoptera*; and the ſhells abound with all their elegant varieties. Theſe are deſcribed at large, with all that preciſion, brevity, and accurate arrangement of the ſeveral parts, which every where manifeſts itſelf ſo happily in our author's writings. Both in *entomology* and *conchology* a new language is introduced; and theſe deſcriptions may well ſtand as models for future writings.

Annexed to this work is the ſecond part, or rather only the *prodromus*, of the MUSEUM ADOLPHI *Frederici* REGIS, *in quo animalia rariora, imprimis et exotica, aves, amphibia, piſces deſcribuntur.* 1764, pp. 110.

110. In this additional volume are deſcribed at large 156 ſubjects of the animal kingdom, all belonging to the firſt four claſſes; and all acquired ſince the publication of the firſt part in 1754. Throughout the whole *Syſtem*, LINNÆUS has referred to theſe books for deſcriptions at large to all the exotics: and nothing could be more acceptable to the critical zoologiſt, than to ſee the plan of this volume perfected through the whole hiſtory of animals.

TOM. II. The VEGETABLE KINGDOM.

The ſecond part of the *Syſtema Naturæ*, relating to vegetables, in all the editions prior to the tenth, was very compendiouſly exhibited; the author having, after his *Clavis Claſſium*, only given the names of the *genera*, with their *eſſential* or abbreviated characters, without touching at all on ſpecific diſtinctions, which were reſerved for the preſent enlarged edition of the Syſtem, and for the SPECIES PLANTARUM, a work before ſpoken of. This volume contains upwards of 560 pages; and in the twelfth edition of 1767, by the acceſſion of new materials, is enlarged to 731. It contains, in a moſt compendious manner, a view of the whole vegetable kingdom, as far as the ſubjects thereof had come under our author's own inſpection, diſpoſed according to that ſyſtem of which LINNÆUS had been the inventor, founded, as to the claſſical part, upon the *ſexes* of plants; a ſyſtem now almoſt univerſally received. It is in this branch

of the ſtudy of nature, that this great naturaliſt has ſo diſtinguiſhed himſelf. From him *botany* boaſts a new *æra*; and HALLER, one of the firſt writers of this age, in the ſame line of ſcience, and who alone might dare to rival him, has, with a liberality of mind becoming a great man, allowed this ſuperiority to LINNÆUS.

Before we proceed to a particular account of this part of the ſyſtem, it may not be improper to premiſe ſome obſervations on *methods* of *botany* in general, before our author wrote. It is needleſs to urge the neceſſity of *method* in the ſtudy of nature, as it is the very ſoul of ſcience; and, amidſt ſuch a multitude of objects which the vegetable kingdom affords, all attempts towards the acquiſition of knowledge without it, muſt end in uncertainty and confuſion. We have ſufficient proofs of this in the writers upon plants before the invention of ſyſtems, and ſee and deplore the want of them, in the loſs of many valuable articles, not only in the *Materia Medica*, but in the *Materia Pictoria*, and *Tinctoria* of the antients. Articles, the virtues and properties of which appear to have been well aſcertained, are now loſt to us, for want of a more ſcientific arrangement of the ſubjects, and accuracy in the deſcriptions of them.

Botanic writers choſe very different methods of arranging plants, not only before, but ſince, the invention of ſyſtematic botany. The *alphabetic* has been much followed, eſpecially in local catalogues. Some have diſpoſed the plants according to *the time of flowering*; as *Pauli*, in his *Quadripartitum*

Quadripartitum Botanicum, publiſhed in 1639; *Beſler*, in the *Hortus Eyſtettenſis*, 1640; and *Dillenius*, in the *Catalogus Giſſenſis*, 1719. Others have arranged them according to the *different places of their growth*; as the authors of the *Hiſtoria Lugdunenſis*, in 1587: and ſome according to their *virtues in medicine*. Others again, obſerving that numbers of vegetables agreed with each other in their general habit and appearance, or had a certain harmony and proportion in the form and diſpoſition of their roots, leaves, flowers, or fruit; in their particular mode of growing, flowering, or foliation, ſaw that they naturally fell as it were into claſſes, agreeable to ſuch diſtinctions. Hence their diviſion of trees, into *pomiferæ*, *pruniferæ*, *bacciferæ*, *nuciferæ*, *glandiferæ*, &c.; of herbs, into *bulboſæ*, *ſiliquoſæ*, *umbelliferæ*, *verticillatæ*, *papilionaceæ*, &c. Theſe were ſo many *claſſes* or *orders*, which nature had ſo characterized that they could not eſcape their notice; and, could all the ſubjects of the vegetable kingdom be *properly reduced* to ſuch combinations, and the whole chain *properly connected*, we ſhould then ſee what is meant by the NATURAL METHOD, that *ultimum et deſideratum* of botany, of which our author ſays, however, "*Nec ſperare fas eſt, quod* "*noſtra Ætas ſyſtema quoddam naturale videre queat,* "*et vix ſeri nepotes.*" Nevertheleſs the beſt writers of the laſt century, ſuch were *John* and *Caſpar Bauhine*, endeavoured to preſerve the above-mentioned arrangement, although it was in a rude manner. In this they were followed by our own countrymen *Gerard* and *Parkinſon*, but as they

they eſtabliſhed no preciſe definitions to their claſſes, ſo in their ſubdiviſions, or chapters, they paid little or no regard to the minuter parts of diſtinction, taken from the fructification; hence, nothing like *generical notes* can be diſcovered in their methods: ſo that the only reſource, in finding many of their plants, was, to read over their long and tedious deſcriptions, which, after all, were frequently inſufficient to diſtinguiſh the plant ſought for.

That great naturaliſt *Conrade* GESNER, who died in 1565, in his 50th year, appears to have been the firſt who thought, with any preciſion, of a method of claſſing plants from the *flower*, or *fruit*; but he only ſlightly touches thereon in his epiſtles; he lived not to bring any thing to perfection in this way. It was reſerved for *Cæſalpinus*, phyſician to Pope *Clement* VIII. to be the firſt author who arranged plants in a true ſyſtematic manner, in his *Libri de Plantis*, publiſhed in 1583, in which he eſtabliſhes the characters principally *from the fruit*. It is wonderful, that after his time, though ſo many eminent botaniſts flouriſhed, among whom were the two *Bauhines*, no one ever thought of purſuing the plan he laid down, until *Moriſon* and *Ray*, who both publiſhed, nearly together, their ſeparate ſyſtems, founded alſo upon diſtinctions principally drawn from the fruit. Since their time, others have laboured to bring their ſyſtems to perfection; as *Knaut* in *Germany*; *Paul Herman*, and *Boerhaave*, in *Holland*; and *Dillenius*, late profeſſor at *Oxford*, had ſtill far-

ther perfected Mr. *Ray*'s method, as is evident from the arrangement he has given to the *Britiſh* plants, in the third edition of that author's *Synopſis*.

Several elegant ſyſtems have alſo been formed from the *flower*, as the baſis of the *claſſical* character; in conſidering which, both the *regularity* and *irregularity*, as well as the *number* of the *petals*, have been made the principal diſtinction. *Rivini*, at *Leipſic*, in 1690, was the firſt who took the flower as the foundation of his method, as did *Ruppius* in 1718. But no one carried this method to ſuch perfection as *Tournefort*, in 1694, who forms his *claſſical* character from the *figure* of the *flower*, and eſtabliſhes his *orders* or ſubdiviſions on the different *ſituation* of *the fruit*, whether above or below the *empalement* or *receptacle*.

Beſides theſe methods, in which the authors have conſidered one part only, either *flower* or *fruit*, as the baſe of their ſyſtems, ſeveral others have been conſtructed of late years, in which vegetables have been arranged, as far as poſſible, according to what have been called the *natural claſſes*; the foundations of which take in a numerous ſet of characters, ariſing from a combination and agreement in the *habit* of the plants, as well as their *harmony* in the eſſential *parts of fructification*. Among theſe, that of *Van Royen*, late profeſſor at *Leyden*, is among the moſt elegant attempts towards this *ultimum* in botany. This is exhibited in the *Prodromus Floræ Leydenſis*, 1740. He is followed by *Gmelin*, in the *Flora Sibirica*,

1747,

1747, &c. Theſe authors, as alſo *L. Gerard*, in his *Flora Gallo-provincialis*, Paris 1761, preſerve the *natural generical characters* of LINNÆUS almoſt entire through their ſyſtems; and the latter writer has, with ſome variations, taken the *orders* of a *natural method*, conſtructed by *B. Juſſieu*, for his *claſſes*. HALLER alſo planned, and brought to great perfection, a method of this kind, as is exhibited in his *Enumeratio Stirpium Helvetiæ*, 1742, and in the *Hortus Gottingenſis*, 1753, which he has ſince ſtill more elaborated, in a work of infinite labour and merit, the *Hiſtoria Stirpium Helvetiæ*, 3 tom. fol. 1768.

LINNÆUS himſelf very early attempted a *natural* method; but it is evident he thought there were too many links wanting in the chain, to render it the readieſt guide to botanical ſcience; ſince he ſoon deſerted it, although he continued to improve it to the laſt: however he only reduced the *genera* into *orders*, but did not venture ſo far as to form the *claſſical* part of a ſyſtem on that plan. The preſent learned and indefatigable profeſſor Dr. HOPE, at *Edinburgh*, whoſe zeal and ſucceſs in cultivating and diffuſing the principles of the *Linnæan* ſyſtem are well known, has conſtructed perhaps the moſt elaborate attempt of this kind that the botaniſts have ever ſeen. We join with many others in wiſhing that he may be enabled to give it all that perfection which may encourage him to preſent it to the public.

Methods have alſo been formed from the different ſpecies and arrangement of the *calyx*, or cup

of the flower in plants. Profeſſor *Magnol*, of *Montpelier*, publiſhed in 1720 on this plan; and LINNÆUS himſelf in 1737, but he did not purſue it.

Every method of arrangement hath its advantage in ſome reſpect or other; and it is ſurely rather to be regretted, howſoever the *flower* may claim the preference, that a method founded in the diſtinctions of the *fruit*, ſhould not alſo have as it were a ſecondary place in common uſe; for, as all artificial methods are only ſuppoſed to be ſo many *ſuccedanea* to the *natural* one, a due attention to each might tend to illuſtrate the natural claſſes, to connect them, and reduce the anomalies, and ſo far pave the way to the accompliſhment of that ſcheme, which, however, will yet by many be conſidered as quite impracticable in botany.

LINNÆUS was the firſt who conſtituted the *ſtamina* and *piſtils* as the baſis of an artificial method of arranging plants; and he tells us, in his CLASSES PLANTARUM, he was led to this by conſidering the great importance of theſe parts in vegetation. They alone are the eſſentials neceſſary to fructification; all other parts, except the *anthera* and *ſtigma*, being wanting in ſome flowers; and the preſent philoſophy of botany regards the former as the *male*, and the latter as the *female* organs of generation in plants. As ſuch indeed they muſt be conſidered *analogically*, and in a philoſophical view; yet, perhaps, the *Linnæan* ſyſtem, admirable as it is, would not have been leſs acceptable had the claſſical terms been expreſſive only

only of *number* and *ſituation*, without regard to the offices of the parts in framing the terms. *Ludwig*, of *Leipſic*, who has endeavoured to combine the ſyſtems of *Rivinus* and LINNÆUS, by taking his *claſſes* from the method of the former, and his *orders* from that of the latter, has avoided this mode of expreſſion, in ſubſtituting the terms *monantheræ*, *monoſtylæ*, &c. &c.

The author begins the new and enlarged edition of the *Syſtema Vegetabilium* of 1767, by premiſing a compendious view of the philoſophy of vegetation, and then proceeds to what he calls *Delineatio Plantæ*, ſomething analogous to what he had entitled, in the editions prior to the 10th, *Methodus Demonſtrandi Vegetabilia*. Here he introduces all the terms he makes uſe of in deſcribing plants, and, by a methodical and apt diſpoſition of them, really explains them at the ſame time. After this, he gives the *Clavis et Characteres Claſſium*, and then comes to the ſyſtem itſelf.

The prerogative of any artificial ſyſtem in botany, *is ſuppoſed* to conſiſt in its keeping together, as much as poſſible, the *genera*, in what are called the *natural claſſes* or orders, and thus ſo far approaching to the ſyſtem of nature. All *artificial* ſyſtems being founded on *ſome*, or *other*, or *all* the parts of *fructification*, without regard to *habit*, will be found in many inſtances to break the order of the *natural* claſſes, and disjoin *genera*, which nature ſeems to have claſſed. The more ſimple and uniform the claſſical characters of any ſyſtem are, the more they are likely to interfere in this reſpect; nevertheleſs, it is pleaſing to obſerve, how

well many of the *natural* claſſes are kept together in the *Linnæan* ſyſtem; the characters of which enjoy the advantage of being very ſimple, and eaſy to retain in the memory, and of being founded on the parts of plants as little ſubject to variation as any whatever: yet, like all other methods, it has its defects; of which no one was more ſenſible than the author himſelf. There are many inſtances of particular ſpecies that break through the *generical* and claſſical characters of the ſyſtem itſelf: but for theſe defects there is no other remedy, at preſent, than that which our author has applied, in the volume under conſideration, and which ought ever, in arrangements of this kind, to be rigidly obſerved. Wherever theſe *anomalies* take place, they are mentioned among the *fictitious* characters, under the claſs and order to which the *number* of *ſtamina* or *piſtils* entitle them to a place.

The *ſexual* ſyſtem briefly is as follows:—All known plants are divided into 24 CLASSES; the characters of which are eſtabliſhed upon the *number*, or different ſituation, or arrangement of the *ſtamina* or male organs; and the ORDERS, or ſubdiviſions, of theſe claſſes, as far as poſſible, on a ſimilar number, ſituation, or arrangement, of the *piſtils*, or female organs.

The firſt twenty claſſes contain what the author calls *hermaphrodite* flowers, or ſuch as have the *ſtamina* and *piſtils* both within the ſame *cup* or *petals*, or ſtanding on the ſame *receptacle*, where thoſe are wanting. Of theſe twenty, the firſt *ten* claſſes proceed in an uninterrupted ſeries, from MONANDRIA

DRIA to DECANDRIA; the plants of each having as many ſtamina as the title expreſſes.

The 11th claſs is DODECANDRIA, as there are no plants yet diſcovered which have only eleven ſtamina.

The 12th, ICOSANDRIA; ſuch plants as have about 20 ſtamina, or more; but always ariſing from the *calyx* or *corolla*, and not from the *receptacle*.

The 13th, POLYANDRIA; ſuch as have from twenty to even a thouſand ſtamina; but always ariſing from the *receptacle*.

The 14th claſs, DIDYNAMIA; ſuch as have *four* ſtamina, two long and two ſhort. The eſſential character of this claſs does not conſiſt in the *number* of ſtamina, otherwiſe the plants might be referred to the *tetrandria* claſs; but, in having two of the ſtamina ſhorter than the other, one piſtil only, and an irregularly-ſhaped corolla.

The 15th, TETRADYNAMIA; plants with *ſix* ſtamina, four long and two ſhort.

The 16th, MONADELPHIA; ſuch as have the ſtamina not diſtinct at the baſe, but united into one body.

The 17th, DIADELPHIA; ſuch as have the ſtamina united at the baſe into two bodies.

The 18th, POLYADELPHIA; ſuch as have the ſtamina united at the baſe into ſeveral bodies.

The 19th, SYNGENESIA; ſuch as have the *antheræ*, but not the filaments, coaleſcing together, ſo as to form a tube or cylinder, through which the piſtil is commonly tranſmitted.

The 20th, GYNANDRIA; ſuch as have the ſtamina ſpringing from the piſtil itſelf.

The 21ſt, MONOECIA; ſuch as have ſeparate male and female flowers on the ſame plant.

The 22d, DIOECIA; ſuch as have ſeparate male and female flowers on ſeparate plants.

The 23d, POLYGAMIA; ſuch as have conſtantly, beſides hermaphrodite flowers, others, either male or female, on the ſame plant.

The 24th, CRYPTOGAMIA; containing thoſe plants the mode and organs of whoſe fructification are not yet ſufficiently aſcertained; heretofore called imperfect plants.

The ſecondary part of the ſyſtem, the ORDERS, or ſubdiviſions of the foregoing claſſes, are eſtabliſhed on the *number* of the *piſtils* or female parts, through a conſiderable part of the ſyſtem; but in other parts, from various characters. Thus,

The arrangement from number is purſued no farther than through the firſt thirteen claſſes: that is, ſo long as the *claſſical* character, uninterruptedly, depends on the *number* of *ſtamina*, ſo long the *orders* likewiſe depend on the *number* of *piſtils:* but, when *ſituation* or different *arrangement* take place, the *orders* are moſt commonly founded on other diſtinctions, which we ſhall briefly ſpecify.

The 14th claſs, or *Didynamia*, is divided into GYMNOSPERMIA and ANGIOSPERMIA: the former having four naked ſeeds; the latter having the ſeeds incloſed in a ſeed-veſſel.

The 15th, *Tetradynamia*, has two orders, according

ding to the ſize and ſhape of the *pod* or *ſhale*; SILICULOSA, ſhort; and SILIQUOSA, long.

The orders in the three next claſſes, *Monadelphia*, *Diadelphia*, and *Polyadelphia*, are formed from the NUMBER of the *ſtamina*.

Thoſe of the *Syngeneſia* claſs are ſix: in five of which the plants are POLYGAMIÆ, and in the remaining one MONOGAMIÆ; and the differences in the orders of the former, ariſe from the different ſtructure or ſex of the *floſcules*, conſtituting the whole flower.

In the 20th claſs, *Gynandria*, the arrangement of the orders ariſes from the NUMBER of the *ſtamina*, as in the 16th, 17th, and 18th claſſes.

In the 21ſt and 22d claſſes, the *Monoecia* and *Dioecia*, the claſſical characters of the foregoing parts of the ſyſtem are adopted as characters of the *orders*, as far down as to the *Monoecia* claſs itſelf. Thus the firſt order of thoſe claſſes contains MONANDROUS plants, and the laſt GYNANDROUS.

The 23d, the *Polygamia* claſs, is divided into three orders, as the plants are MONOECIOUS, DIOECIOUS, or TRIOECIOUS.

The 24th and laſt claſs, *Cryptogamia*, is divided into four orders, containing the FILICES, MUSCI, ALGÆ, and FUNGI.

Some

Some Examples of Plants, throughout all the Claſſes and Orders of the Linnæan Syſtem; ſpecifying alſo the Number of Genera under each Order, and the Number of Species in each Claſs, ſynonymed in the Species Plantarum.

Cl. 1. MONANDRIA. 34 ſpecies.

Monogynia. 11 Genera; among which are, *Canna*, Indian Reed, Glaſs-wort, Mares Tail.

Digynia. 4 Gen. Star-wort, Berried Orach.

2. DIANDRIA. 186.

Monogynia. 29 Gen. Jaſmine, Privet, Roſemary.

Digynia. 1 Genus. Vernal Graſs.

Trigynia. 1 Genus. Pepper.

3. TRIANDRIA. 412.

Monogynia. 29 Gen. Valerian, Saffron, Iris.

Digynia. 29 Gen. Moſt of the Graſſes and Grain, Sugar-cane.

Trigynia. 11 Gen. Blinks, *Minuartia*, *Polycarpon*.

4. TETRANDRIA. 335.

Monogynia. 61 Gen. Teaſel, Scabious, Madder.

Digynia. 6 Gen. Purſley Piert, Dodder.

Tetragynia. 7 Gen. Holly, Pondweed, Pearlwort.

5. PENTANDRIA. 976.

Monogynia. 138 Gen. Comfrey, Campanula, Henbane, Buckthorn, Ivy, Periwincle.

Digynia. 170 Gen. Gentian, Carrot, Hemlock.

Trigynia. 16 Gen. Elder, *Viburnum*, Chickweed.

Tetragynia. 2 Gen. Graſs of Parnaſſus.

Pentagynia. 9 Gen. Flax, Sun-dew.

Polygynia. 1 Gen. Mouſe-tail.

6. HEXANDRIA.

6. HEXANDRIA. 330.

Monogynia. 56 Gen. Narciſſus, Lilly, Tulip.
Digynia. 2 Gen. Rice, *Atraphaxis.*
Trigynia. 9 Gen. Dock, Colchicum.
Tetragynia. 1 Gen. *Petiveria*, or Henweed.
Polygynia. 1 Gen. Water Plantain.

7. HEPTANDRIA. 6.

Monogynia. 2 Gen. Horſe Cheſnut, *Trientalis.*
Digynia. 1 Gen. *Limeum.*
Tetragynia. 1 Gen. *Saururus*, or Lizard's Tail.
Heptagynia. 1 Gen. *Septas.*

8. OCTANDRIA. 169.

Monogynia. 31 Gen. Indian Creſſes, Heath.
Digynia. 4 Gen. *Mœhringia, Weinmannia.*
Trigynia. 5 Gen. Knotweed, Mangrove-grape.
Tetragynia. 3 Gen. *Paris*, Moſchatel.

9. ENNEANDRIA. 19.

Monogynia. 4 Gen. Bay, *Anacardium.*
Trigynia. 1 Genus. Rhubarb.
Hexagynia. 1 Gen. *Butomus*, or Flowering Ruſh.

10. DECANDRIA. 425.

Monogynia. 50 Gen. Rue, Bead-tree, Arbutus.
Digynia. 12 Gen. Saxifrage, Soap-wort, Pink.
Trigynia. 11 Gen. Bladder Campion, Catchfly.
Pentagynia. 14 Gen. Sedum, Lychnis, Cockle.
Decagynia. 2 Gen. *Phytolacca*, or Pokeweed.

11. DODECANDRIA. 131.

Monogynia. 20 Gen. Aſarabacca, Spiked Willow-herb.
Digynia. 2 Gen. Agrimony, *Heliocarpus.*
Trigynia. 2 Gen. Dyers Weed, Spurge.
Pentagynia. 1 Gen. *Glinus.*

Dodecagynia.

Dodecagynia. 1 Gen. Houſe-leek.

12. Icosandria. 218.

Monogynia. 10 Gen. Myrtle, Almond, Plumb.
Digynia. 1 Gen. White-thorn and White Beam-tree.
Trigynia. 2 Gen. Service-tree and Quicken-tree.
Pentagynia. 6 Gen. Apple-tree, Medlar, Drop-wort.
Polygynia. 9 Gen. Roſe, Strawberry, Cinquefoil.

13. Polyandria. 269.

Monogynia. 35 Gen. Poppy, Lime-tree, *Ciſtus.*
Digynia. 4 Gen. Peony, *Calligonum.*
Trigynia. 2 Gen. Lark-ſpur, Aconite.
Tetragynia. 3 Gen. Bug-wort.
Pentagynia. 3 Gen. Columbine, *Nigella.*
Hexagynia. 1 Gen. Water-aloe.
Polygynia. 18 Gen. Anemone, *Ranunculus.*

14. Didynamia. 465.

Gymnoſpermia. 35 Gen. Mint, Hore-hound, Thyme.
Angioſpermia. 62 Gen. Eyebright, Toad-flax, Acanthus.

15. Tetradynamia. 215.

Siliculoſa. 14 Gen. Creſſes, Scurvy-graſs.
Siliquoſa. 17 Gen. Muſtard, Rhadiſh, Kale.

16. Monadelphia. 181.

Pentandria. 4 Gen. *Hermannia, Melochia.*
Decandria. 3 Gen. European Geraniums.
Endecandria. 1 Gen. *Brownæa,* or Porto Bello Roſe.
Dodecandria. 1 Gen. *Pentapetes.*
Polyandria. 17 Gen. Mallow, Hibiſcus.

17. Diadelphia.

17. DIADELPHIA. 512.

Pentandria. 1 Gen. *Monnieria.*

Hexandria. 2 Gen. Fumitory.

Octandria. 2 Gen. Milk-wort.

Decandria. 27 Gen. Broom, Furze, Lupin, Peaſe.

18. POLYADELPHIA. 37.

Pentandria. 2 Gen. *Monſonia*, Cacao, or Chocolate.

Icoſandria. 1 Gen. Orange-tree.

Polyandria. 7 Gen. St. John's Wort.

19. SYNGENESIA. 905.

Polygamia equalis. Florets all hermaphrodite. 40 Gen. Lettuce, Dandelion, Thiſtle, Hemp, Agrimony.

Polygamia ſuperflua. Florets of the diſk, hermaphrodite; of the radius, female. 37 Gen. Groundſel, Tanſy, Aſter, Chamomile.

Polygamia fruſtranea. Florets of the diſk, hermaphrodite; of the radius, neutral. 7 Gen. Sun-flower, *Rudbeckia*, *Centaurea*, Knapweed.

Polygamia neceſſaria. Florets of the diſk, male; of the radius, female. 13 Gen. Marigold.

Polygamia ſegregata. Florets in ſeparate cups, within a common calyx. 6 Gen. Globe Thiſtle.

Monogamia. Simple flower. 7 Gen. Cardinal-flower, Violet, Balſam.

20. GYNANDRIA. 200.

Diandria. 9 Gen. Orchis, Satyrium.

Triandria. 4 Gen. *Ferraria*, *Siſyrinchium.*

Tetrandria. 1 Gen. *Nepenthes.*

Pentandria. 3 Gen. *Ayenia*, Paſſion-flower.

Hexandria. 2 Gen. Birthwort.
Decandria. 2 Gen. *Helicteres.*
Dodecandria. 1 Gen. *Cytinus.*
Polyandria. 8 Gen. Arum, Graſs-wrack.

21. MONOECIA. 290.

Monandria. 5 Gen. Horned Pond-weed, *Elaterium.*
Diandria. 2 Gen. *Anguria,* Ducks-meat.
Triandria. 12 Gen. Bur-weed, Sedge, Sea Laurel.
Tetrandria. 8 Gen. Birch, Box, Nettle, Mulberry.
Pentandria. 9 Gen. *Xanthium,* Amaranthus.
Hexandria. 2 Gen. *Zizania, Pharus.*
Heptandria. 1 Gen. *Guettarda.*
Polyandria. 13 Gen. Arrow-head, Oak, Haſel.
Monadelphia. 15 Gen. Pine-tree, Cypreſs, *Ricinus.*
Syngeneſia. 6 Gen. Gourd, Cucumber, Bryony.
Gynandria. 2 Gen. *Andrachne.*

22. DIOECIA. 157.

Monandria. 1 Gen. *Najas.*
Diandria. 3 Gen. *Valliſneria,* Willow.
Triandria. 5 Gen. Berry-bearing Heath.
Tetrandria. 5 Gen. Miſſelto, Gale, Sea Buck-thorn.
Pentandria. 12 Gen. Spinach, Hemp, Hops.
Hexandria. 6 Gen. Black Bryony, Poplar.
Enneandria. 2 Gen. Mercury, Frog-bit.
Decandria. 4 Gen. *Schinus,* Myrtle-leaved Sumach.
Dodecandria. 2 Gen. Moon-ſeed, Cretan Hemp.
Polyandria. 1 Gen. *Cliffortia.*
Monadelphia. 6 Gen. Juniper, Yew.
Syngeneſia. 1 Gen. Butcher's Broom.
Gynandria. 1 Gen. *Clutia.*

23. POLYGAMIA. 163.

Monoecia. 22. Gen. White Hellebore, Orach, Maple.

Dioecia. 10 Gen. *Gleditſia*, Aſh-tree, Tupelo.

Trioecia. 2 Gen. Fig-tree, Carob.

24. CRYPTOGAMIA. 657.

Filices. 18 Gen. Horſe-tail, Adders Tongue, Fern.

Muſci. 11 Gen. Wolfs-Claw Moſs, Goldilocks.

Algæ. 12. Gen. Liverwort, Byſſus, Fucus.

Fungi. 10. Agarics, Muſhrooms, Morels.

App. PALMÆ. 11.

9 Gen. Date, Coco-nut, Cabbage-palm.

The GENERA are eſtabliſhed upon the aſſemblage of all the parts of fructification compared together, according to their *number*, *figure*, *proportion*, and *ſituation*. Of theſe we have ſpoken before, as they conſtitute a large volume in octavo, to which we refer.

But, beſides theſe NATURAL CHARACTERS, or GENERA at large, our author has invented, for brevity's ſake, two other kinds of characters, which he calls FACTITIOUS and ESSENTIAL. The former ſerve to diſtinguiſh each genus from other *genera* of the ſame *artificial* order only, by enumerating the moſt remarkable differences: theſe greatly facilitate the labour of a young botaniſt. The ESSENTIAL characters, could they be rendered perfect, are deſigned to diſtinguiſh the *genera* from each other in the *natural* orders; but they are not complete as yet, except in a few inſtances; and poſſibly

poſſibly they exiſt but in a ſmall number: nevertheleſs, they are attempted through the whole ſyſtem, to ſave the trouble of turning over the *natural characters* at large.

As this volume was intended to contain all the plants hitherto known, conſequently the *natural* characters could not be introduced; but the *fictitious* and *eſſential* ones are placed, the former at the head of each *claſs*, and the latter before each *genus*. With each generical name the author refers to the number where it is exhibited at large, in the laſt edition of the *Genera Plantarum* in 1764, and to the page of the *Species Plantarum* of 1762, where the ſpecies are detailed and the *ſynonyms* added; as he gives in this volume only the ſpecific name invented by himſelf.

In forming the laſt branch of the ſyſtem, the SPECIFIC names, LINNÆUS has done more than all the writers on the ſubject had done before him, and taken the utmoſt pains to fix them upon diſtinctions as permanent and invariable as poſſible. This is indeed the ultimate object of all method; and on this plan he has given new *ſpecific* names to all the plants that have come to his knowledge: names, not taken (as had been cuſtomary before) from that of the diſcoverer, the likeneſs of the plant to other ſpecies, place of growth, time of flowering, its ſize, the colour of the flower, or of the plant, ſmell, taſte, or virtues in medicine, or any other ſuch vague, indefinite, or mutable circumſtance; but from ſome remarkable difference in the root, trunk, ſtalk,

ſtalk, and particularly the leaf, foliation, ramification, or ſome other abiding diſtinction.

Beſides theſe *ſpecific* names or deſcriptions, LINNÆUS has invented, and, in all his works, after the firſt edition of the *Species Plantarum* in 1753, has applied what he calls TRIVIAL names to each plant, conſiſting of a ſingle adjunct to the generical name, expreſſive, if poſſible, of ſome eſſential diſtinction of the ſpecies: as for inſtance, *integrifolia*, *laciniata*, *erecta*, *repens*, *aquatica*, *montana*, &c.: ſometimes, of the name of the inventor; and where, from the laws of his *Fundamenta Botanica*, he has been obliged to change the generical name of a plant well known before, and eſpecially if it was an *officinal* one, he frequently retains the *old generical* name as his *trivial* epithet. Thus as the Penny-royal, or *Pulegium*, really belongs to the *Mentha* genus, according to his characters, he therefore calls it *Mentha Pulegium*. The Horſe-radiſh, known by the old name *Armoracia*, as it agrees with the *Cochlearia* genus, he calls *Cochlearia Armoracia*.

The VARIETIES of plants, which, for want of fixing true *ſpecific* characters, had almoſt increaſed the number of plants double what LINNÆUS thinks they really are, in this work, as in the SPECIES, are totally excluded. Our author has indeed, in the opinion of many of his contemporary botaniſts, carried this matter too far, in diſallowing the name of ſpecies to many plants that are thought to have ſufficiently permanent diſtinctions.

To conclude, the ſpace of time elapſed ſince the publication of the *Genera* and *Species Plantarum*, to-

gether with the vaſt quantity of new materials acquired from all parts of the world, enabled our author greatly to elaborate this laſt edition, and to amend very many *generical* and *ſpecific* characters; as alſo to make many removes, tending greatly to the advancement and perfection of his work. Among theſe removes, many have taken place, particularly in the *Monœcious*, *Diœcious*, and *Polygamous* claſſes; which is the leſs to be wondered at, ſince obſervations have confirmed, that there are plants of theſe claſſes which, in their younger ſtate, have produced only male flowers, afterwards both male and female, and at length only female.

The *Species Plantarum* contains near ſeven thouſand three hundred plants. In this volume, the number is augmented by the addition of new plants, and ſuch as were unknown by our author before, to above ſeven thouſand eight hundred.

It is proper to remark, that this ſecond tome of the Syſtem was immediately preceded by MANTISSA PLANTARUM *Generum, editionis ſextæ, et Specierum editionis ſecundæ.* Holm. 1767, pp. 142. in which are deſcribed, as in the *Genera Plantarum*, the natural characters at large of forty-four *genera*, newly conſtructed. Theſe are followed by an enumeration of upwards of four hundred and thirty new ſpecies, with their ſynonyms, as in the *Species Plantarum*. All theſe plants are included in the volume of the Syſtem of which we have juſt given the account.

Tom. III. The Fossil Kingdom.

We are now to accompany our author into the *Foſſil* kingdom; in which, though he very early gave a ſpecimen of his method of claſſing, he did not fully exemplify, as in vegetables, until the year 1768, when the third tome of the 12th edition of the *Syſtema* was publiſhed, containing the Regnum Lapideum. This volume makes 222 pages, and is concluded with a ſhort appendix of ſome unnoticed, or not well deſcribed animals and vegetables; together with a general index of the author's own *generical* names throughout every part of the Syſtem, diſtinguiſhing by a different type the ſubjects of the three kingdoms, the whole amounting to 1820 *genera*.

In arranging Foſſils, there have been various methods invented; each of which have had their patrons, and, for different purpoſes, each have their advantage. Some have founded the baſis of their ſyſtem on the *figure*, *colour*, *ſtructure*, and other external and viſible characters; yet, ſcarcely ever truſting ſolely to theſe, they called in the aid of chemiſtry, ſo far at leaſt, as the mineral acids would aſſiſt them. Others, as the profeſſed chemiſts and metallurgiſts, have eſtabliſhed their arrangement chiefly on *chemical principles*, as more immediately leading to the *origin* of foſſil bodies in general; on which it muſt be acknowledged, the beſt baſis for a ſyſtem muſt be built, when we are happy enough to get ſufficient light for this purpoſe: and at preſent, mineralogiſts throughout the world ſeem more intent on this view than ever:

and probably the due conſideration and extenſion of the volcanic ſyſtem, will open new ſources of information in this way.

This volume begins with LINNÆUS's own theory of the origin of foſſil bodies in general, and their ſeveral combinations into thoſe forms in which we meet with them in the body of the earth. The methodical and abbreviated manner in which our author has here given his *philoſophy* of foſſil bodies, renders it incapable of an abſtract. He then proceeds to give a ſynoptical or claſſical view of the ſeveral ſyſtems of arranging thoſe bodies, as they ſtand exhibited in the beſt authors on the ſubject, beginning with *Bromelius*, who publiſhed in 1730, and enumerates *Wallerius* in 1747, *Wolterſdorf* in 1748, *Cartheuſer* in 1755, *Juſti* 1757, *Anomymus* [*Cronſtedt*] in 1758, and concludes with *Vogel* in 1762. To each of theſe he has ſubjoined ſhort remarks relating to their methods, and theory of foſſil bodies, and concludes this introductory part with an explanation of the terms of art uſed in his own work.

In theſe *termini artis*, our author, with his uſual preciſion, has defined a ſet of terms equally new and curious, which are principally adapted to, and uſed in, the ultimate and moſt difficult part of the Syſtem, the ſpecific characters. They are happily framed to expreſs all differences in the *figures* of foſſil bodies; in their *cruſt*, or outward appearance; their *ſuperficies*; their *component particles*, or *fibres*; in their *texture*, whether plated, fiſſile, *&c.*; in their *hardneſs*; or in their *colour*: the alterations they

they undergo by *ſolution*, whether by acids, or by fire.

It has been doubted by ſome of the moſt reſpectable mineralogiſts, whether we ought to deſcend below what are called *generical* diſtinctions in the foſſil kingdom, ſo infinitely do the ſubjects thereof vary, and ſo imperceptible in general is that gradation by which they run into each other, in the various combined forms, in which they are found in the earth. In the mean time, ſome diſtinctions of this kind ſeem quite neceſſary in ſyſtems eſtabliſhed principally on external characters. Thoſe which have for their baſis the *elementary* or *conſtituent principles of bodies*, as analyzed, may ſtand with propriety in the form of *ſynoptical* tables, as exemplified in *Cronſtedt*'s mineralogy. LINNÆUS and *Wallerius* were among the firſt who attempted the arduous taſk of fixing the *ſpecific* characters: whether future mineralogiſts will adhere to, and improve this part of the ſcheme, time only muſt ſhew.

In all ſyſtems of the foſſil kingdom, writers have been more particularly embarraſſed by the *earths* and *ſtones*, eſpecially when thoſe have been more or leſs reduced to the ſtate of *ores*, by the admixture of *metallic* principles. *Salts*, *inflammables*, and *metals*, generally falling more eaſily, and almoſt naturally, into their ſeveral claſſes, or orders. The chemical ſyſtematics and metallurgiſts, begin uſually with the *earths*, conſidering them as the baſis of ſtones: LINNÆUS begins with the latter, profeſſing to take a middle way between the mere *metallurgiſt*, and thoſe who

characterize from external appearance only. He divides the whole REGNUM LAPIDEUM into three claſſes, under the names of *Petræ*, *Mineræ*, and *Foſſilia*, each being ſubdivided into ſeveral orders, the whole comprehending 54 genera. We muſt only give a general account of his *claſſical* characters, and thoſe of the *orders*; and enumerate the *genera* under each, with ſome of the moſt diſtinguiſhed *ſpecies*.

Claſs I. PETRÆ. STONES.

Foſſil bodies originating from a terrene principle by coheſion:

Simple, as being deſtitute of ſaline, inflammable and metallic principles, as component parts thereof:

Fixed, as not being entirely and intimately ſoluble: and,

Similar, as conſiſting of homogenous component parts.

Order I. HUMOSÆ. Originating from vegetable earth: combuſtible, and leaving groſs light aſhes.

Order II. CALCARIÆ. Originating from calcareous marine animal bodies: becoming light and porous in the fire, and falling into an impalpable powder.

Order III. ARGILLACEÆ. Originating from the viſcid ſediment, of the ſea: ſomewhat unctuous to the touch, and hardening in the fire.

Order IV. ARENATÆ. Originating from the precipitation of rain-water: extremely hard, ſtriking

ing fire with ſteel, and by triture yielding a very rough powder.

Order V. AGGREGATÆ. Originating from a mixture of the foregoing, the interſtices uſually filled up with quartz, ſpar, or glimmer.

GENERA of STONES.

I. HUMOSÆ. *Slaty Stones.*

1. SCHISTUS, Slate. *Baſe*; vegetable mould: breaking into,
Fragments; fiſſile, horizontal, plane, opake, yielding to the knife, and combuſtible.

II. CALCAREÆ. *Calcareous Stones.*

2. MARMOR. Marble. *Baſe*; animal earth.
Fragments; indeterminate, irregular, yielding to the knife.
Effervеſcing with acids, though not completely ſoluble therein; but eaſily falling into lime.

3. GYPSUM. Plaiſter. *Baſe*; calcareous earth, ſaturated with acid.
Fragments; indeterminate, irregular, yielding to the knife, component particles impalpable.

Fixed; not effervescing with nor soluble in acids.

4. STIRIUM. Fibrous alabaster. *Base*; gypseous earth.
Fragments; close, parallel, yielding to the knife.

5. SPATUM. Spar. *Base*; calcareous earth, from a dissolved state, formed into,
Fragments; rhombeous, plane, and polished,

III. ARGILLACEÆ. *Argillaceous Stones.*

6. TALCUM. Soap-earth. *Base*; indurated clay:
Particles; impalpable, yielding to the knife, and somewhat unctuous to the touch; hardening in the fire.

7. AMIANTUS. Asbest, earth flax. *Base*; clayey:
Fragments; thready.

8. MICA. Talc. *Base*; clay from a dissolved state, formed into,
Particles; membranaceous shining, tough, separable.

IV. ARENATÆ. *Sand Stones.* Free Stone.

9. COS. Whetstone. *Base*; sand conglutinated:
Fragments; irregular, subopake, striking fire with

with ſteel: breaking into,

Particles; granulated.

10. QUARTZUM. Quartz. *Originating* from water;

Fragments; indeterminately angular and acute;

Particles; uniform, and pellucid.

11. SILEX. Flint. *Baſe*; chalk or animal earth conglutinated into an uniform ſubſtance.

Fragments; indeterminate, but convex on one ſide, and concave on the other;

Particles; uniform.

V. AGGREGATÆ. *Compound Stones.*

12. SAXUM. Rock-ſtone. *Baſe*; heterogeneous; compounded of particles of the foregoing orders, variouſly conglutinated.

Species of Stones.

The PETRÆ are divided into five orders.

I. HUMOSÆ. Slaty Stones.

1. Schistus. Slate. 13 ſpecies; among which are,

2. Tabularis; *Table Slate.*
3. Atratus; *Black Shale.*
5. Ardeſia; *Blue Houſe Slate.*
9. Nigrica; *Black Crayon.*

II. CALCARIÆ. Calcareous Stones.

2. Marmor. Marble. 15 ſpecies.

1. Schiſtoſum; *Black ſlaty Marble.*
2. Nobile; *Parian Marble*, and all its varieties in colour and variegation.
3. Florentinum; *Florentine Marble.*
6. Rude; *White-grain Limeſtone.*
7. Micans; *Scaly Limeſtone.*

3. Gypsum. Plaiſter Stone. 3 ſpecies.

2. Uſuale; *Common Plaiſter.*
3. Alabaſtrum; *Alabaſter.*

4. Stirium. Fibrous Alabaſter. 4 ſpecies.

1. Gypſeum; *Fibrous Gypſum*, or Engliſh Talc.

5. Spatum. Spar. 14 ſpecies.

a. Soluble in aqua fortis.

1. Speculare; *Soft Spar*; of different colours.
2. Duplicans; *Refracting Spar.*
5. Compactum; *Sub-diaphanous compact Spar*, of different colours.

6. Tinctum;

6. Tinctum; *Pellucid coloured Spar*, as ſpurious *Topaz, Emerald, Sapphire.*

b. Not ſoluble in aqua fortis.

12. Campeſtre; *Felt-Spat.*

III. ARGILLACEÆ. Argillaceous Stones.

6. TALCUM. Soap-earth. 12 ſpecies.

3. Rubrica; *Ruddle.*
4. Smectis; *French Chalk; Soap-earth.*
6. Serpentinus; *Serpent Stone.*
7. Nephriticus; *Nephritic Stone.*
9. Corneus; *Horn-blend.*

7. AMIANTUS. Earth Flax. 10 ſpecies.

1. Aſbeſtus; *Aſbeſtos.*
2. Plumoſus; *Plumoſe Aſbeſt.*
7. Suber; *Mountain Cork.*
9. Aluta; *Mountain Leather.*

8. MICA. Talc. 10 ſpecies.

1. Membranacea; *Muſcovy Glaſs.*
4. Aurata; *Gold Glimmer.*
7. Talcoſa; *Green Talc.*

IV. ARENATÆ. Sand Stones.

9. Cos. Whetſtone. 16 ſpecies.

1. Cotaria; *Grind-ſtone.*
10. Filtrum; *Filtring Stone.*
15. Molaris; *Mill Stone.*
16. Fundamentalis; *Building Stone.*

10. QUARTZUM. Quartz. 8 ſpecies.

1. Hyalinum; *Pellucid Rock Quartz.*
2. Coloratum; *Coloured Rock Quartz*, yellow, red, blue, &c.
3. Lacteum; *Milky Quartz.*
6. Cotaceum; *Granulated Quartz.*
8. Nobile; *Pebble Quartz.*

11. SILEX. Flint. 16 ſpecies.

a. Vague or looſe Flints.

1. Cretaceus ; *Common Flint.*
2. Pyromachus ; *Gun Flint.*
4. Hæmachates ; *Ægyptian Pebble*, Mocha Stone.
6. Opalus ; *Opal.*
7. Onyx ; *Cameyeu.*
8. Chalcedonius ; *Chalcedony.*
9. Carneolus ; *Carnelian.*

b. Rock Flints.

10. Achates ; *Agate.*
11. Petroſilex ; *Chert.*
13. Jaſpis ; *Jaſper.*

V. AGGREGATÆ. *Rock Stones.* Compound Stones.

12. SAXUM. Rock Stone. 39 ſpecies.

1. Porphyrius ; *Porphyry*, of different colours.
2. Trapezum ; *Trap Stone.*
19. Granite ; *Granite.*
20. Fuſorium ; *Founder's Granite.*
39. Silicinum ; *Pudding Stone.*

Theſe ſtones are compoſed of heterogeneous particles from the foregoing orders, conglutinated in a various manner.

Claſs II. MINERÆ. MINERALS.

Foſſil bodies originating from a ſaline principle by chryſtallization,

Compound, as conſiſting of a baſe, united with ſaline, inflammable, or metallic principles,

Soluble, perfectly, in the appropriate menſtruum.

Order

Order I. SALIA. Sapid bodies ſoluble in water: diſtinguiſhed from each other by their different effects on the organs of taſte.

Under this order are arranged; to the great offence of moſt mineralogiſts, all the *Gems* or precious ſtones, notwithſtanding their texture and inſolubility, as alſo many other lapidoſe chryſtallized bodies. To this our author tells us he was led, by conſidering that all regular polyedrous figures or bodies in the mineral kingdom, are the reſult of chryſtallization, which can only take place under requiſite and certain degrees of fluidity; and therefore, whether they are ſaline or lapidoſe chryſtals, they muſt owe their figure to the ſame uniform principle operating on them in either caſe, while in the fluid ſtate; hence, from the ſimilarity of the figure, with the chryſtals of nitre, *Mountain Chryſtal* hath a place in the ſame genus: the *Topaz* with the *Borax*: the *Diamond* and *Ruby* with *Alum*. LINNÆUS hath given his reaſons more at large in a paper publiſhed in the firſt volume of the *Amœnitates Academicæ*: and hath ſince added "*Chryſtallos* quod "ſubjecerim ſalibus ne quemquam offendat mutet "vocem *ſalis* in chryſtalli, ſi magis placeat, in "verbis erimus faciles."

Order II. SULPHURA. Inflammable bodies; flaming and odorous while burning: ſoluble in oil: diſtinguiſhed from each other by their different effect on the organs of ſmell.

Order III. METALLA. Metals; ſhining heavy bodies, fuſible in the fire, and ſoluble in appropriated acid menſtrua: diſtinguiſhed from each other by inſpection.

GENERA

GENERA of MINERALS.

I. SALIA. Salts or Chryſtals.

13. NITRUM. Nitre. *Salt:* atmoſpherical, pungent. A peculiar acid.
Chryſtal: an hexaedral priſm, with hexaedral pyramids.
Taſte: cold and pungent.
In the fire: fuſible and detonating.

14. NATRUM. Natron. *Salt:* calcareous, ſub-alkaline.
Chryſtal: peculiar; a tetraedal priſm, of pentagonal planes, two broad and two narrow, alternately vertical: each *pyramid* or extremity forming two plane parallelograms.
Taſte: bitter.
In the fire: liquefying.

15. BORAX. Borax. *Salt:* alkaline *(doubtful whether it is a natural ſalt.)*
Chryſtal: octaedral, priſmatic; both pyramids truncated.
(Chryſtal ſometimes different.)
Taſte: mild.
In the fire: bubbling: vitreſcent.

16. MURIA:

16. MURIA. Sea Salt. *Salt:* muriatic, neutral.
Chryſtal: hexaedral; or cubic.
Taſte: auſtere.
In the fire: crackling.

17. ALUMEN. Alum. *Salt:* earthy, acid.
Chryſtal: octaedral, compoſed of trigonal planes.
Taſte: ſtyptic.
In the fire: frothing.

18. VITRIOLUM. Vitriol. *Salt:* metallic, acid, earthy.
Chryſtal: a polyedrous, rhombic teſſera; but ſubject to variation.
Taſte: ſtyptic.
In the fire: calcinable.

II. SULPHURA. Inflammables.

19. AMBRA. Ambergreaſe. The *Sulphur:* inert.
Fume: In ſmell; ambroſiac.
In colour; grey.

20. SUCCINUM. Amber. The *Sulphur:* inert.
Fume: In ſmell; ſweet.
In colour; brown.

21. BITUMEN. Bitumen. The *Sulphur:* inert.
Fume: In ſmell; unpleaſant.
In colour; black.

22. PYRITES. Sulphur. The *Sulphur:* charged with vitriol.
Fume: In ſmell; pungent and acid.
In taſte; ſalt.

In

In colour; yellow.
Flame: blue.
Soluble; in oil.

23. ARSENICUM. Arſenic. The *Sulphur:* metallic.
Fume: In ſmell; like garlic.
In taſte; ſweet.
In colour; white.
Soluble; in heated water, and other liquors.

III. METALLA. Metals.

a. *Semi-metals*, not malleable.

24. HYDRARGYRUM. Mercury. *Metal:* fluid, dry, white.
In the fire: volatilizing before ignition.
Solution: in aqua fortis, white.

25. MOLYBDÆNUM. Wadd. *Metal:* not fuſible, grey, colouring the fingers. *(ſcarcely a metal.)*
In the fire: not fuſible.
Solution:
Glaſs: ſub-ferruginous coloured.

26. STIBIUM. Antimony. *Metal:* friable, white, fibroſe.
In the fire: volatilizing after ignition.
Solution: in aqua regia, white.

Glaſs:

Glaſs : red with a yellow tinge.

27. ZINCUM. Zinc, Tutenag. *Metal :* ſomewhat malleable, but eaſily breaking ; blueiſh, white ; dull ſound.

In the fire : melting before ignition, and burning with a yellowiſh green flame into a white light calx.

Solution : in aqua fortis, white.

28. VISMUTUM. Biſmuth. *Metal:* ſomewhat malleable, but very fragile, laminoſe, yellowiſh white.

In the fire : fuſible before ignition.

Solution : in aqua fortis, water coloured : in aqua regia, yellow.

Glaſs : yellowiſh brown.

29. COBALTUM. Cobalt. *Metal:* fragile, light grey.

In the fire : not fuſible.

Solution : in aqua fortis and aqua regia, red.

Glaſs : blue.

b. *Metals.* Malleable.

30. STANNUM. Tin. *Metal :* eaſily malleable, white, crackling on flexure, not ſonorous.

In the fire: fuſible before ignition.

Solution: in aqua regia, yellow; (in aqua fortis it diſſolves, and precipitates into a white powder.)

Glaſs: white and opaline, difficultly produced.

31. PLUMBUM. Lead. *Metal:* eaſily malleable, blueiſh-white: not ſonorous.

In the fire: fuſible before ignition.

Solution: in aqua fortis, clear water colour.

Precipitate: white.

Glaſs: yellow.

32. FERRUM. Iron. *Metal:* very hard, and difficultly malleable; obſcure blueiſh grey colour: ſonorous.

In the fire: not fuſible till after ignition, and throwing off ſparks in a ſtronger fire.

Solution: in aqua fortis, brown.

Glaſs: brown, with a ſlight greeniſh tinge.

33. CUPRUM. Copper. *Metal:* hard, malleable, red, ſonorous.

In the fire: fuſing after ignition, with a green flame.

Solution: in aqua fortis, blue: in aqua regia, or the vegetable acids, green.

Glaſs: unmixed ferruginous coloured, otherwiſe of a bright blue.

34. ARGENTUM. Silver. *Metal:* very malleable, bright white, ſonorous, perfect, and indeſtructible.

In the fire: fuſing after ignition.

Solution: in aqua fortis, white.

Glaſs: opaline.

35. AURUM. Gold. *Metal:* extremely malleable, yellow, not ſonorous, perfect, and indeſtructible.

In the fire: fuſing after ignition, with a blueiſh hue.

Solution: in aqua regia, yellow.

Glaſs: purple.

Species of Minerals.

The MINERÆ are divided into three Orders.

I. SALIA. Salts or Chryſtals.

13. Nitrum. Nitre. 9 ſpecies.

a. Saline.

1. Nativum; *Native Salt Petre.*

b. Quartzoſe.

2. Chryſtallus montana; *Mountain Chryſtal.*
3. Fluor; *Coloured Chryſtal:* from the varieties of which are the true *Hyacinth*, the falſe *Topaz*, *Ruby*, *Amethyſt*, *Sapphire*, *Beryl*, *Emerald.*

c. Calcareous.

5. Truncatum; *Hexagonal, truncated Spar.*
8. Suillum; *Sparry Swine Stone.*

14. Natrum. Natron. 14 ſpecies.

a. Saline.

1. Antiquorum; *Native, mineral Alkali.*
2. Murorum; *Aphronitrum.*
3. Fontanum; *Epſom Salt.*

b. Lapidoſe.

6. Criſtatum; *Spatoſe, decaedrous Natron.*
8. Glaciale; *Gypſeous, pellucid, fuſiform Natron.*
9. Selenites; *Selenite*; rhombic Natron.
13. Hyodon; *Pyramidal*, or *Dog-tooth Spar.*

15. Borax.

15. Borax. Borax. 6 ſpecies.

a. Saline.

1. Tincal. *Native Borax.*

b. Lapidoſe.

2. Gemma Nobilis; *Lapidoſe, priſmatic, pellucid Borax, with truncated pyramids:* yellow, *Topaz:* pale green, *Chryſolite:* ſea green, *Beryl:* deep green, *Emerald.*
3. Baſaltes; *Cockle,* or *Shirl.*
4. Electricus; the *Tourmalin.*
5. Granatus; the *Garnet.*

16. Muria. Sea Salt. 9 ſpecies.

a. Saline.

1. Marina; *Sea Salt.*
3. Montana; *Foſſil Salt.*

b. Lapidoſe.

6. Phoſphorea; *Bononian Stone.*
7. Chryſolampis; *Sparry Fluor,* or *Derbyſhire Spar.*

17. Alumen. Alum. 6 ſpecies.

a. Native.

1. Nativum; *Native Alum, Plumoſe,* &c.

b. Soluble.

2. Commune; *Alum Slate.*
3. Romanum; *Stone Alum,* or *calcareous Alum Stone.*

c. Lapidoſe.

5. Spatoſum; *Spatoſe Alum, or falſe Amethyſt.*
6. Gemma pretioſa; *Diamond, Ruby, Sapphire.*

18. VITRIOLUM. Vitriol. 8 ſpecies.

a. Simple.

1. Martis; *of Iron.*
2. Cyprinum; *of Copper.*
3. Album; *of Zinc.*

b. Compound.

4. Triplum; *Vitriol of Iron, Zinc, and Copper.*
8. Atramentarium; *Vitriols mineralized with friable Stone*; ſuch are, red *Chalcitis*; grey *Sory*; black *Melanteria*; yellow *Miſy.*

c. Lapidoſe.

Tetraedrum; *Spatoſe Vitriol of Zinc.*

II. SULPHURA. Inflammables.

19. AMBRA. Ambergreaſe. 2 ſpecies.

1. Ambroſiaca; *Grey.*
2. Vulgatior; *Brown.*

20. SUCCINUM. Amber.

1. Electricum; *Amber*, diaphanous, opake, white, yellow, brown.

21. BITUMEN.

21. BITUMEN. Bitumen. 10 ſpecies.

1. Naptha; *Naphta.*
2. Petroleum; *Rock Oil.*
3. Maltha; *Jews Pitch.*
5. Aſphaltum; *Foſſil Pitch.*
6. Ampelites; *Peat.*
7. Lithanthrax; *Common Coal*, or Schiſtoſe Bitumen.
8. Gagas; *Jet.*
9. Suillum; *Calcareous fœtid Bitumen*, compact, granulated, ſquamoſe, ſpatiform, chryſtalline.

22. PYRITES. Sulphurs. 7 ſpecies.

1. Nativum; *Native Sulphur.*
2. Auripigmentum; *Orpiment.*
3. Chryſtallinus; *Chryſtalliſed Pyrites*, Marcaſite.
4. Figuratus; *Figured Pyrites.*
5. Ferri; *Iron Pyrites.*
6. Cupri; *Copper Pyrites.*
7. Aquoſus; *Liver-coloured.*

23. ARSENICUM. Arſenic. 8 ſpecies.

1. Teſtaceum; *Solid teſtaceous Arſenic.*
4. Sandaraca; *Red Arſenic*, mineralized with Sulphur.
5. Sulphuratum; *Arſenical Marcaſite.*
6. Albicans; *Mineralized with Iron.*

III. METALLA. Metals.

24. HYDRARGYRUM. Quickſilver. 5 ſpecies.

1. Virgineum; *Native Quickſilver.*
2. Chryſtallinum; *Cubic, chryſtallized Quickſilver.*
3. Cinnabaris; *Cinnabar,* lamellated, granulated, chryſtallized.
5. Crepitans; pyritical, cupreous, *Stone Mercury.*

25. MOLYBDÆNUM. Black Lead. 3 ſpecies.

1. Plumbago; *Black Lead,* or *Wad,* ſulphur ſaturated with iron and tin.
2. Magneſia; *Black Manganeſe.*
3. Spuma Lupi; *Red Manganeſe,* or *Wolfram.*

25. STIBIUM. Antimony. 4 ſpecies.

1. Nativum; *Native Regulus of Antimony.*
2. Chryſtallinum; *Chryſtallized Stibium.*
3. Striatum; *Fibrous* or common Antimony.
4. Rubrum; *Red Antimony,* mineralized with Sulphur and Arſenic.

26. ZINCUM. Zinc. 8 ſpecies.

1. Chryſtallinum; *Chryſtallized Zinc.*
2. Mineraliſatum; *Mineralized,* with Sulphur and Lead, or Iron.
3. Swabii; *Mineralized with ſulphurated Iron.*
4. Stibiatum; *Fibroſe Zinc.*
5. Calaminaris; *Calamine;*

mine; *Stone Zinc*, or Zinc mixed with martial Ochre.
6. Sterilum; *Blend*; *Mock-lead*, black Jack, or semi-teſſelated black Zinc.
8. Rapax; *Red Zinc*, or micaceous, liver-coloured Zinc.

27. VISMUTUM. Biſmuth. 4 ſpecies.

1. Nativum; *Native Biſmuth.*
2. Commune; *Common Biſmuth*, mineralized with Sulphur and Arſenic.
3. Martiale; *Martial Biſmuth.*
4. Iners; *Biſmuth, mineralized with Sulphur only.*

28. COBALTUM. Cobalt. 4 ſpecies.

1. Chryſtallinum; *Chryſtallized Cobalt, with Sulphur, Arſenic, and Iron.*
2. Arſenicale; *Mineralized with Arſenic and Iron.*
3. Pyriticoſum; *Pyriticoſe Cobalt.*
4. Scoriatum; *Slag-Cobalt.*

30. STANNUM. Tin. 4 ſpecies.

1. Chryſtallinum; *Chryſtallized Tin*, or *Tin-Grains.*
3. Amorphum; *Tin Stone.*
4. Spatoſum; *Spatoſe Tin.*

31. PLUMBUM. Lead. 10 ſpecies.

1. Nativum; *Native Lead.*
2. Chryſtallinum; *Cubic Lead, chryſtallized.*
3. Galena; *Cubic Lead, mineralized*, with ſulphurated Silver, *Galena.*

5. Sti-

5. Stibiatum; *Stibiated Lead Ore.*
7. Virens; *Greeniſh, Arſenical Lead Ore.*
9. Spatoſum; *Sparry, Arſenical Lead Ore.*

32. FERRUM. Iron. 27 ſpecies.

A. 1. Nativum. *Native Iron,* in grains.

B. Chryſtallized.

2. Teſſelare. *Chryſtallized Iron.*

C. Such as obey the magnet.

4. Chalybeatum; *Steel-grained Iron Ore.*
8. Selectum; *Fine-grained Iron Ore.*
10. Commune; *Common Iron Ore.*
11. Molle; *Pyriticoſe Iron Ore.*
12. Talcoſum; *Talky Iron Ore.*
13. Calcarium; *Calcareous Iron Ore.*
17. Smiris; *Emery.*

D. Such as do not obey the magnet.

18. Micaceum; *Red micaceous Iron Ore.*
22. Hæmatites; *Blood-ſtone.*
23. Rubricoſum; *Red Blood-ſtone.*
26. Spatoſum; *Spar-like Iron Ore.*

E. Magnetical.

27. Magnes; *the Magnet.*

33. CUPRUM. Copper. 16 ſpecies.

1. Præcipitatum; *Copper precipitated upon Iron.*
2. Nativum; *Native Copper.*
3. Chryſtallinum; *Chryſtallized*

tallized, octaedral Copper.

4. Fulvum ; *Pyriticoſe, yellowiſh-green Copper Ore.*
5. Purpureum ; *Pyriticoſe, purple Copper Ore.*
6. Vitratum ; *Soft, pyriticoſe, grey Copper Ore.*
7. Cinereum ; *Sooty, pyriticoſe, arſenical Copper Ore.*
8. Albidum ; *White, arſenical, pyriticoſe Copper Ore.*
9. Rubrum ; *Indurated, ochraceous, red Copper Ore* ; ſometimes liver-coloured.
10. Cotaceum ; *Sandy, ochraceous Copper Stone.*
11. Schiſtoſum ; *green*, and *blue Copper Slate.*
12. Lazuli ; *Lapis Lazuli* ; doubtful, mixed with Silver and Iron.
14. Armenus ; *Lapis Armenus* ; *blue calcareous Copper Stone.*
15. Malachites ; *Malachites, green gypſeous Copper Stone.*
16. Nickelum ; *Nickel*, or *Copper mineralized with Sulphur, Arſenic*, and *Iron.*

34. ARGENTUM. Silver. 9. Species.

1. Nativum ; *Native Silver*, in various forms.
2. Corneum ; *Horn Silver Ore*, ſhining, ſubmalleable, and ſomewhat diaphanous, mineralized with Sulphur and Arſenic.
3. Vitreum ; *Glaſs Silver Ore, lead-coloured malleable Silver Ore*, mineralized with Sulphur.
4. Rubrum ; *Red Silver Ore*, mineralized with Sulphur and Arſenic.
5. Album ; *White Silver Ore,*

Ore, mineralized with Arſenic, Copper, and Sulphur.

6. Cinereum; *Grey Silver Ore*, mineralized with Sulphur, Antimony, Copper, and Iron.

7. Arſenicale; *Silver Ore*, mineralized with *Arſenic* and *Iron*.

8. Zincoſum; *Silver Ore*, mineralized with *Sulphur* and *Zinc*.

9. Nigrum; *Sooty Silver Ore*, mineralized with *Arſenic* and *Copper*.

35. AURUM. Gold.

1. Nativum; *Native Gold*; found in various forms;

a. In thin plates or leaves.

b. Solid, or in thick pieces.

c. In a chryſtalline form.

Gold is alſo found inbedded in Quartz, in Talc, and Cinnabar; and in Rivers, in looſe grains and lumps, called Gold Duſt.

2. Mineraliſatum; *Mineralized pyritical* *Gold Ore*.

Claſs III. FOSSILIA. FOSSILS.

Foſſil bodies, originated from different modifications of the ſubjects, comprehended in the foregoing claſſes.

Order I. PETRIFICATA. Such foſſil bodies as repreſent in figure certain animals or vegetables, or parts thereof.

What are called Petrifactions are of various kinds:

1. The

1. The *true* petrifactions are ſuch as have the texture and organic parts of the bodies entirely filled up with ſtony particles, either of a *calcareous* nature, as is commonly the caſe: or *flinty*: and not unfrequently it is *marcaſitical*.

2. *Preſerved* only and unaltered, as ſeeming to have loſt little except the animal gluten.

3. Others are only bodies *incruſtated* with ſtalactite or calcareous matter. And,

4. Frequently they are only impreſſions received in their ſoft ſtate.

Order II. CONCRETA. Slight conglutinations of different kinds of *earths*.

The ſpecific differences of theſe bodies ariſe from the nature principally of the component parts, whether ochraceous, calcareous, gypſeous, ſpatoſe, argillaceous, arenaceous, *&c.*

Order III. TERRÆ. Foſſil ſubſtances not conglutinated, but uſually in a ſlightly cohering or pulverized ſtate.

GENERA of FOSSILS.

I. PETRIFICATA.

II. CONCRETA.

The generical characters of theſe two orders are very brief, and they occur in the ſubſequent arrangement of the ſpecies.

III. TERRÆ.

50. Ochra. Ochres. *Earth:* precipitated calx or earth of metals.
Particles: coloured, and extremely minute.

51. Arena. Sand. *Earth:* originated from water.
Particles: diſtinct, granulated, hard, and ſcabrous: neither penetrable nor conglutinable by *water.* (*Not ſoluble in acids.*)

52. Argilla. Clay. *Earth:* originated from the viſcid ſediment, or mud, of the ſea.
Particles: irregular, impalpable, ſoft, tough, and lubricous.
In water: becoming ſoft, unctuous, and plaſtic.
In the fire: hardening.

53. Calx. Chalks. *Earth:* of animal origin.
Particles: dry, farinaceous, friable, colouring the fingers: tinging *water:* moſtly ſoluble in acids, and effervescing therein, eſpecially when calcined or burned.

54. Humus.

54. HUMUS. Mould. *Earth:* of vegetable origin.
Particles: dry, light, in the form of fine powder.
In water: ſwelling.
In fire: combuſtible, and leaving aſhes.

SPECIES of FOSSILS.

The FOSSILIA are divided into three Orders.

I. PETRIFICATA. Figured or extraneous Foſſils.

36. ZOOLITHUS. *Petrifactions* of Mammalia.

1. Hominis; *Bones of Men*; and in one inſtance of the whole body.
2. Cervi; remains of the *Cervus Tarandus*, or Rein Deer, dug up in Ireland.—Vide *Lowthorp*'s Abridgment, vol. ii. p. 432.
3. Ebur Foſſile; *Foſſil Ivory.*
4. Turcoſa; *Turquoiſe*, teeth tinctured by Copper.

37. ORNITHOLITHUS. *Petrifactions* of Birds, and their Neſts.

Theſe are ſcarce, and are uſually *ſtalactitical incruſtations* only.

38. AMPHI-

38. AMPHIBIOLITHUS. *Petrifactions* of Amphibia.

1. Teſtudinis ; *of an entire Tortoiſe.*
2. Ranæ; *of a Toad.*
3. Lacertæ ; *Skeleton of a Crocodile.*
4. Serpentis ; *of an entire Serpent.*
5. Nantis ; *of various Nantes*, as of the Raja, Baliſtes, &c.
6. Gloſſopetra ; *Sharks Teeth*, very common.

39. ICTHYOLITHUS. *Petrifactions* of Fiſhes.

1. Schiſti ; *Entire Skeletons, with the Fins, in Slate*, of ſeveral genera.
2. Marmoris ; *in Marble*, of various genera.
3. Bufonites ; *Grinding Teeth of the Anarchichas*, or Wolf-fiſh.

40. ENTOMOLITHUS. *Petrifactions* of Inſects.

1. Cancri ; *Petrified Crab, Lobſter*, &c.
2. Paradoxus ; *of an unknown Inſect* ; perhaps a Monoculus.
3. Succineus ; *Inſects incloſed in Amber*, not proper petrifactions.

41. HELMINTHOLITHUS. *Petrifactions* of Vermes.

1. Hammonites ; *Cornu Ammonis*, various kinds.
2. Orthocerotes ; *Straight Nautilus* ; both theſe unknown in the recent ſtate.
3. Conchidium ; *of an unknown bilocular ſhell* ; perhaps a Patella.
4. Anomites ; *of various Anomiæ*, unknown in a recent ſtate.
5. Hyſte-

5. Hyſterolithus.
6. Craniolaris.
7. Gryphites. *Crow-ſtone.*
9. Judaicus; *Jews Stone*, thought to be ſpines of *Echini.*
10. Echinites.
14. Madreporus; *Madrepores*, of various kinds.
17. Entrochus.
18. Aſteria Columnaris; *Star Stones*; parts of an *Encrinus*, lately diſcovered in the recent ſtate.—See Phil. Tranſ. vol. lii. p. 357.
23. Belemnites.

42. PHYTOLITHUS. *Petrifactions* of Plants.

1. Plantæ; *of the entire Plant, in Coal Slate.*
2. Filicis; *of Ferns, in Slate.*
3. Rhizolithus; *of Roots, in Marble.*
4. Lithoxylon; *of Wood*, in various ſtates; as, of Limeſtone, of Agate, of Flint, of Sand-ſtone, and of Slate.
5. Folii; *of Leaves*, in Slate and Marble.
6. Antholithus; *of Flowers*, in Slate, reſembling the ſpike of a *Phalaris*, or Canary Graſs.
7. Carpolithus; *of Fruits*, in Coal ſtrata; commonly cones of the Pine, Nuts, Acorns, &c.

43. GRAPTOLITHUS. *Stones* reſembling Pictures. 8 ſpecies. Among which are,

2. Ruderalis; *Florentine Marble* or *Slate*, repreſenting ruins.
3. Dendrites; repreſenting woods, landſcapes, *&c.* ariſing from vitriolic ſolutions, inſinuated between the plates of fiſſile ſtones, or in Marble. This proceſs is now well imitated by art.

II. CONCRETA. Concretes of various kinds.

44. CALCULUS. *Animal* Concretions. 8 ſpecies.

1. Urinarius ; *Stone in the Kidney or Bladder.*
2. Salivalis ; *Tartar of the Teeth.*
3. Tracheæ; *of the Lungs.*
4. Bezoar ; *Bezoar Stones*, formed in the *Abomaſus*, or fourth ſtomach of the *Pecora*, or ruminating animals.
5. Ægagropila ; *Hair Balls*, formed in the firſt ſtomach.
6. Felleus ; *Bile Stones.*
7. Margarita ; *Pearls.*
8. Oculus ♋ ; *Crabs Eyes.*

45. TARTARUS. *Vegetable* Concretes.

1. Fæx ; *Yeaſt.*
2. Vini ; *White* and *Red Tartar.*

46. ÆTITES. *Concretions* within the Cavity of Stones.

a. True Etites, having a looſe Nucleus.

1. Geodes; *with an earthy Nucleus.*
2. Aquilinus ; *with a ſtony Nucleus.*

b. Spurious Etites.

3. Hæmachates ; *Flinty Ætites, with a fixed chryſtalline Nucleus*, of quartzoſe nitre; or *Melon* of *Mount Carmel.*
4. Marmoreus ; *Marble Ætites, including Dog-tooth* Spar.
5. Cretaceus ; *echinited Ætites*, including Fluor Chryſtals.

47. PUMEX.

47. PUMEX. *Concretions* by Means of Fire.

1. Vulcani; *Black Slate Pumice.*
2. Ferri; *White Pumice, of Iron Furnaces.*
3. Cupri; *Red Copper Pumice.*
4. Fuligo; *Soot.*
5. Cinerarius; *Aſhes of Volcanos.*
5. Molaris; *Rheniſh Mill-ſtone.*
7. Vitreus; *Vitreous Pumice*, or *black and green Iceland Agate.*

48. STALACTITES. *Concretions* by Means of Air.

1. Incruſtatum; *Vegetable Incruſtations.*
2. Stillatitius; *Drop-ſtone.*
3. Solidus; *Solid marmorëous Stalactite.*
4. Flos Ferri; *Branched marmoreous Stalactite.*
7. Spatoſus; *Solid ſpatoſe Stalactite.*
9. Quartzoſus.
10. Pyriticoſus.
11. Plumbiferus.
12. Zeolithus; *Red ſpatoſe Stalactite* or *Zeolite.*

49. TOPHUS. *Concretions* in Water. 22 ſpecies.

a. Metallic Tophs.

1. Ludus; *Marly Toph-ſtone.*
2. Pertuſus; *Tubular, marly, ochraceous Toph-ſtone.*
3. Marinus; *Sandy ochraceous Sea Toph-ſtone.*
5. Tubalcaini; *Bog Iron Ore*, in various forms.

b. Simple Tophs.

10. Aluminaris; *Alum Toph.*
12. Lebetinus; *Concretions of Tea Kettles.*

14. Oolithus ; *Pea-ſtone*, of Hot Springs.
16. Oſteocolla ; *Bone-binder*. Vide Phil. Tranſ. 1745, p. 378.
21. Lenticularis ; *Solid black ſchiſtoſe Toph.*

III. TERRÆ. Earths.

50. OCHRA. Ochres. Earths of Metals. 15 ſpecies.

a. In the form of Powder.

1. Ferri ; *Ochre of Iron.*
3. Æris ; *Green Ochre of Copper.*
4. Cupri ; *Blue Ochre of Copper.*
7. Plumbi ; *Native Ceruſs.*
8. Cobalti ; *Ochre of Cobalt.*

b. Plumoſe, or germinating Ochres.

12. Cuprigo ; *Copper Blue*, Plumoſe Copper.
13. Stibigo ; *Flowers of Antimony.*
14. Argentigo ; *Plumoſe Silver Ore*, with ſulphurated Antimony and Arſenic.

51. ARENA. Sands. 14 ſpecies.

1. Mobilis ; *Sea Sand.*
2. Colorata ; *Coloured Sands.*
6. Glarea ; *Sand of Heaths.*
9. Sabulum ; *Common Sand.*
11. Micacea ; *Micaceous* or *Glittering Sand*, writing Sand.
12. Aurea ; *Gold Sand.*
13. Ferrea ; *Iron Sand.*
14. Silicea ; *Flint Sand.*

52. ARGILLA. Clays, Boles, Marles. 21 ſpecies.

a. Simple.

1. Apyra; *Porcellain Clay.*
2. Leucargilla; *Tobacco-pipe Clay.*
3. Porcellana; *China Porcellain Earth.*
6. Lemnia; *Lemnian Earth.*
7. Fullonica; *Stone Marrow*, Fullers Earth.
8. Tripolitana; *Tripoli*, or Rotten Stone.
9. Communis; *Brick Clay.*
10. Figulina; *Potters Clay.*
13. Bolus; *Boles of different colours.*

b. Mixed.

15. Tumeſcens; *Fermenting Clay.*
17. Marga; *Marle.*
18. Umbra; *Umbre.*
19. Nilotica; *Marle of the Nile.*

53. CALX. Chalks. 9 ſpecies.

a. Soluble in acids.

1. Creta; *Chalk.*
2. Marmorea; *Mineral Agaric.*
3. Conchacea; *Shell Chalk*, or *mouldered Shells.*

b. Not ſoluble in acids.

5. Paluſtris; *True Mineral Agaric.*
6. Gur; *Gypſeous Gur*, or *Lac Lunæ.*

c. Granulated, or ſandy.

7. Alabaſtrina; *Alabaſter Chalk.*
8. Teſtudinea; *Soluble Arenaceous Calx* of *the Iſle of Aſcenſion.*
9. Lenticularis; *Lenticular granulated Calx.*

54. Humus. Moulds. 14 ſpecies.

1. Dædalea; *Impalpable Vegetable Mould.*
2. Ruralis; *Common Black Mould.*
3. Pauperata; *Depauperated Mould of Heaths.*
4. Effervescens; *Spongy Mould of Marſhes.*
5. Alpina; *Alpine Earth.*
6. Turfa; *Turf.*
7. Lutum; *Mould of Lakes, Mud-mould.*
10. Damaſcena; *Red Mould.*
14. Animalis; *Animal Mould.*

Three very inſtructive tables, exhibiting different views of the ſeveral ſaline and other chryſtallized bodies, are ſubjoined, accompanied by copious and methodical deſcriptions of the figures of each; and references to theſe bodies, as they occur in the work itſelf.

GENERA MORBORUM, or Classification of Diseases.

WE muſt now look backwards a few years, to conſider our author in another part of his Profeſſorial character. It has been obſerved, that after his eſtabliſhment at *Upſal*, one of his departments, as a profeſſor, was that of teaching the *Diagnoſis Morborum*; and to this end he drew up a ſyſtem,

in which, as in natural hiſtory, all diſeaſes were diſpoſed into *claſſes*, *orders*, and *genera*, founded on diſtinctions taken from the *ſymptoms* alone, no regard being had either to remote, or proximate cauſes. Before we proceed to a particular view of LINNÆUS's method of claſſing diſeaſes, it will be proper to premiſe, that a *noſology* on this plan, the great object of which is to fix *pathognomonics* to every diſeaſe, had been long wiſhed for by ſome writers of the firſt character in the profeſſion: ſuch were *Baglivi*, *Boerhaave*, *Gorter*, *Gaubius*, and *Sydenham*; the latter of whom has thus expreſſed himſelf on this ſubject, in the preface to his works: "*Expedit ut morbi omnes ad definitas ac certas ſpecies revocentur, eadem prorſus diligentia ac* ακριβεια, *qua id factum videmus à botanicis ſcriptoribus in ſuis phytologiis.*" Yet, amidſt that almoſt infinite variety and complication of appearances which are ſeen in diſeaſes, the difficulty of obtaining ſufficient diſtinctions, by which the *genus* and *ſpecies* may be accurately diſcriminated, muſt be allowed to be very great; and poſſibly is in many inſtances unſurmountable. Hence, ſome of the moſt eminent phyſicians have been led to reject all ſuch arrangements as futile, and impracticable. This, however, hath not deterred others from paying attention to the ſubject, more eſpecially ſome of thoſe, who, from their province as profeſſors, are led to teach the rudiments of the art; and to whom method, *in ſome form*, is abſolutely neceſſary. Syſtematic writers had uſed various methods in the diſpoſition of their ſubject. Some

had choſen the *alphabetic*; if that deſerves the name of an arrangement: others, after the example of *Aretæus*, and *Cælius Aurelianus*, had divided diſeaſes, from their duration, into *acute*, and *chronical*. Some had preferred the *anatomical* order; which, as it preſuppoſes a knowledge of the ſeat of the diſeaſe, muſt, not unfrequently, prove fallacious: *Sennertus*'s is an inſtance of this kind. However, the *äitiological* arrangement has been moſt followed by the beſt writers among the moderns; ſuch as *Hoffmann*, and *Boerhaave*; although perhaps not much leſs fallacious than the anatomical, ſince it is in many inſtances founded on an hypotheſis of the writer: and though *Felix Platerus*, in his *Praxis Medica*, publiſhed in 1602, had given an imperfect ſketch of a noſology on the *ſymptomatic* plan, yet no writer ventured to purſue his idea, for more than a century after his time; diſcouraged as it ſhould ſeem by the difficulty of the attempt. At length the late profeſſor M. SAUVAGES of *Montpelier*, after communicating his ſcheme to *Boerhaave*, publiſhed in 1731, in 12^mo^. the outlines of ſuch a work, under the title of *Nouvelles Claſſes des Maladies*, in which he profeſſes to define diſeaſes, from *their conſtant and evident ſymptoms only*. In the year 1763, the author augmented his work, by the addition of the *ſpecies* under each *genus*, into 5 volumes in 8^vo^. *Sauvages* may be conſidered as having ſpent his life in giving to this deſign a certain degree of perfection, having enlarged it into 2 quarto volumes, in which form it was publiſhed after his death in

1768.

1768: A work, it is to be preſumed, now in the hands of moſt phyſicians.

It will eaſily be imagined, that an arrangement of this kind was too congenial to LINNÆUS to be neglected by him. In fact, it appears that he very early correſponded with *Sauvages* on this ſubject, that he ſoon adopted it, and framed a ſet of inſtitutes, under the title of GENERA MORBORUM, as a baſis of his lectures in this department. LINNÆUS's ſcheme was firſt publiſhed in a *theſis* in 1759; but he had taught it in his claſs for ten years preceding that time. In 1763, he publiſhed it himſelf in a ſmall quarto; though we do not find that he ever enlarged it by the addition of the *ſpecies*.

The *ſymptomatic* plan of arranging diſeaſes has ſince been followed by ſome other profeſſors of phyſic; Dr. *Vogel* of *Gottingen* having publiſhed, in 1764, his *Definitiones Generum Morborum*. Dr. *Cullen* alſo, who at this time fills the practical chair at *Edinburgh* with ſuch deſerved reputation, has publiſhed a *Synopſis noſologiæ methodicæ*, and has made it the baſis of his *Firſt Lines of the Practice of Phyſic*. In 1776, Dr. *Sagar*, a phyſician at *Iglaw* in *Moravia*, publiſhed a *Syſtema Morborum ſymtomaticum*. 8vo. *Vien.* pp. 756. His work, allowing for ſome alterations and additions, may be accounted an uſeful abridgement of *Sauvages*'s: the author, all theory apart, has deſcribed the *ſpecies* under every *genus*, and ſubjoined the method of cure. Dr. *Cullen*, by omitting many *genera*, and reducing others to the rank of *ſpecies* only, has ſo conſiderably

conſiderably abridged the whole, as not to have retained more than half the number of *genera*, that the foregoing writers enumerate; and in this form he has publiſhed it, annexed to thoſe of the four abovementiond, by which diſplay of each, their ſeveral merits may be compared, and a judgment formed of the practicability, and uſe of the ſcheme in general, which, it muſt be confeſſed, affords a very ample field for cultivation; yet, from that reform which Dr. *Cullen* has already made in various parts, it is not, perhaps, too much to hope, that it is capable of receiving a much higher degree of improvement, in the hands of thoſe whoſe genius and induſtry may prompt them to extend the deſign of theſe writers.

Of LINNÆUS's method we are led by our plan to exhibit a general view; to which end, although our preſcribed brevity will not admit of giving his *definitions* at length, yet it will be neceſſary to enumerate the *names* of all his *genera*, ſince nothing ſhort of a view of the whole collectively, could enable the reader to form a juſt idea of the author's ſcheme. Under each *claſs* we ſhall obſerve wherein LINNÆUS differs materially from *Sauvages*, and note the alterations which Dr. *Cullen* has made in the diſpoſition of the ſame *genera*.

LINNÆUS, in the claſſification of diſeaſes, has pretty nearly retained the arrangement of M. *Sauvages*, although he has altered his terms, and conſtituted one more claſs, with which he begins his method; the *Exanthematic*, or eruptive fevers, which, in the ſyſtems of *Sauvages* and Dr. *Cullen*, form

form only an *order*, or ſubdiviſion of a claſs. He has alſo changed the order of the claſſes, and referred the *Vitia*, or *local external diſorders*, which are principally the objects of ſurgery, to the end of his ſyſtem. In this he has been followed by the two ſucceeding noſologiſts, Dr. *Vogel* and Dr. *Cullen*. The claſſical diſtribution is, however, confeſſedly not the *primary* conſideration; that of fixing the *generical* character, and determining what ſhall conſtitute the *ſpecifical*, being the firſt object of every ſyſtem. To this end a ſtill farther reduction of the number of *genera* and *ſpecies*, will probably not a little contribute.

Claſs I. EXANTHEMATICI. Fevers attended with eruptions on the ſkin.

1. CONTAGIOSI. Contagious.

1. Morta. *Veſiculary Fever.*
2. Peſtis. *The Plague.*
3. Variola. *Small pox.*
4. Rubeola. *Meaſles.*
5. Petechia. *Spotted Fever.*
6. Siphylis. *Venereal Diſeaſe.*

2. SPORADICI. Sporadic fevers; not contagious.

7. Miliaria. *Miliary Fever.*
8. Uredo. *Nettle Fever.*
9. Aphtha. *Aphthous Fever.*

3. SOLITARII. Affecting a part of the body only.

10. Eryſipelas. *St. Anthony's Fire.*

In

In this claſs, as the diſeaſe is complicated of fever and eruption, the genus is defined from the nature of each. To inſtance, the *Variola*, or Small pox, is defined, "A diſeaſe attended with puſ- "tules of an eryſipelatous, ſuppurating, eſcha- "rotic kind; at length drying off, and leaving a "cicatrix; accompanied by a fever of the ardent, "and malignant kind, with head-ach and pain "of the loins." The term *Puſtula*, and the others in this claſs, expreſſive of the different kinds of eruption, have their definition in another part of the ſyſtem. Such as appear in the Morta, are called *Phlyctenæ*; in the Peſtis, *Anthraces*, or *Bubones*; in the Variola, *Puſtulæ*; in the Rubeola, *Papulæ*; in the Petechia, *Sudamina*.

This claſs conſtitutes the firſt *order* of Dr. *Sauvages*'s PHLEGMASIÆ, and the third of Dr. *Cullen*'s PYREXIÆ claſs. In both, theſe *genera* are preſerved nearly alike, except that the *Morta* of LINNÆUS is the *Pemphigus* of thoſe authors, and the *Petechia* is conſidered by Dr. *Cullen* as only a *ſymptom*.

Our author ſtands alone in bringing the *Syphilis* into the febrile exanthematic claſs. He thinks himſelf juſtified, by conſidering it as attended, in the advanced ſtate at leaſt, by fever and eruptions. It certainly however ranks better with the IMPETIGINES.

Claſs II. CRITICI. Critical Fevers.

1. CONTINENTES. Continual Fevers.

11. Diaria. *Diary Fever.*
12. Synocha. *Ardent Fever.*
13. Synochus. *Malignant Fever.*
14. Lenta. *Slow Fever.*

2. INTERMITTENTES. Intermitting Fevers.

15. Quotidiana. *Quotidian.*
16. Tertiana. *Tertian.*
17. Quartana. *Quartan.*
18. Duplicana. *Double Tertian.*
19. Errana. *Erratic Fever.*

3. EXACERBANTES. Remitting Fevers.

20. Amphimerina. *Continued Quotidian.*
21. Tritæus. *Continued Tertian.*
22. Tetartophya. *Continued Quartan.*
23. Hæmitritæa. *Semi-Tertian.*
24. Hectica. *Hectic Fever.*

The *Genera* of the CONTINENTES are determined from the different duration of each ſimply.

Thoſe of the INTERMITTENTES from the duration of the intermiſſions.

The EXACERBANTES, ſuppoſed to be compounded of the two foregoing, have their characters acordingly.

Our author allows the *Tertian* to be the root of all the FEBRES CRITICI, although he has, in the foregoing diviſion, kept pretty cloſe to Dr.

Sauvages's

Sauvages's method in retaining the diſtinctions. In this they are not followed by Dr. *Cullen*, who denies the exiſtence of a *continent* fever, and has greatly ſimplified this diviſion, having reduced all the CRITICAL *fevers* to ſix genera, and allowing the *Hectic* to be *ſymptomatic* only.

Claſs III. PHLOGISTICI. Inflammations.

1. MEMBRANACEI. Membranous Inflammations.

25. Phrenitis. *Of the Meninges of the Brain.*
26. Paraphrenitis. *Of the Diaphragm.*
27. Pleuritis. *The Pleuriſy.*
28. Gaſtritis. *Of the Stomach.*
29. Enteritis. *Of the Bowels.*
30. Proctitis. *Of the Anus.*
31. Cyſtitis. *Of the Bladder.*

2. PARENCHYMATICI. Viſceral Inflammations.

32. Sphaceliſmus. *Of the Brain.*
33. Cynanche. *Quinſey.*
34. Peripneumonia. *Of the Lungs.*
35. Hepatitis. *Of the Liver.*
36. Splenitis. *Of the Spleen.*
37. Nephritis. *Of the Kidneys.*
38. Hyſteritis. *Of the Uterus.*

3. MUSCULORI Muſcular, or external Inflammation.

39. Phlegmone. *Inflammation of an external part.*

LINNÆUS

LINNÆUS defines the *Phlegmon* to be "a tenſe "throbbing tumour, or enlargement of a part, "accompanied by fever, and attended with heat "and redneſs." This he conſiders as ſuggeſting alſo the idea of all the foregoing internal inflammations.

The generical character in the *Phlogiſtic* claſs of our author, does not ariſe wholly from the part affected ſuppoſed to be the ſeat of the diſeaſe, but from the *genus* of the attending fever alſo. Thus he defines "the *Hepatitis* to be the *Amphi-*"*merina*, attended with a difficult reſpiration, "cough without expectoration, hiccup, and a "ſenſe of heat and tenſion in the right *hypo-*"*chondre*." "The *Nephritis* is a *Synochus*, attend-"ed with nauſea, hiccup, eructation, urine vari-"ous, coſtiveneſs, burning lumbago, and numb-"neſs down the thigh."

In this claſs LINNÆUS has followed *Sauvages* in dividing the diſeaſes into MEMBRANACEI, and PARENCHYMATICI, a diviſion neglected by Dr. *Cullen*, from the difficulty of determining the ſeat of the inflammation.

The *Phlegmone*, being external, is ranked by *Sauvages* among his VITIA. On the other hand, Dr. *Cullen* gives it the firſt place in his *order* PHLEGMASIÆ; and has reduced thirteen *genera* of LINNÆUS's, and twelve of *Sauvages*'s, to the rank of *ſpecies*, under the term *Phlogoſis*; further, accounting *Abſceſs*, *Puſtule*, *Gangrene*, and *Sphacelus*, as effects only of *Phlogoſis*, and therefore not entitled

to

to the ſeparate character of *genera*. Numerous inſtances of this kind afford a ſtriking proof of the difficulties attending theſe arrangements, in determining what diſtinctions ſhall take place between *genus* and *ſpecies*.

Claſs IV. DOLORES. Painful Diſeaſes.

1. INTRINSECI. Of the internal Parts.

40. Cephalalgia. *Head-ach.*
41. Hemicrania. *Megrim*, or pain of one ſide of the head only.
42. Gravedo. *Dull pain of the Forehead.*
43. Ophthalmia. *Pain of the Eye.*
44. Otalgia. *Ear-ach.*
45. Odontalgia. *Tooth-ach.*
46. Angina. *Pain in the Fauces, with a ſenſe of choaking.*
47. Soda. *Burning pain in the Throat, with rancid Eructations.*
48. Cardialgia. *Pain at the Heart.*
49. Gaſtrica. *Pain of the Stomach.*
50. Colica. *Colic.*
51. Hepatica. *Pain of the right Hypochondre.*
52. Splenica. — *of the left Hypochondre.*
53. Pleuritica. *Pain of the Side.*
54. Pneumonica. *Weight, or load on the Cheſt.*
55. Hyſteralgia. *Pain of the Uterus.*
56. Nephritica. *Pain of the Kidneys.*
57. Dyſuria. *Pain in the Bladder.*
58. Pudendagra. *Pain in the genital Parts.*
59. Proctica. *Pain of the Anus.*

2. EXTRINSECI.

2. EXTRINSECI. Of the Limbs.

60. Arthritis. *The Gout.*
61. Oſtocopus. *Fixed Pain in the Bones.*
62. Rheumatiſmus. *The Rheumatiſm.*
63. Volatica. *Flying Pain of the Limbs.*
64. Pruritus. *Exceſſive Itching.*

Our author does not take into the characters of theſe *genera* the idea of fever; and there are ſeveral of them uſed by him as auxiliary terms, in the definition of other *genera.*

Dr. *Sauvages* has a claſs of five orders under the term DOLORES, diſpoſed in the anatomical method; under which, moſt of the foregoing *genera* are comprehended.

Dr. *Cullen* having no ſuch claſs as the DOLOROSI, is neceſſarily led to arrange theſe *genera* in different parts of his ſyſtem; but, with him, the greater number are either *ſpecies* only, or ſymptoms, he having admitted only three to the character of *genera*, in his PHLEGMASIA. Theſe are the *Ophthalmia*, *Arthritis* or Podagra, and *Rheumatiſmus.*

Claſs V. MENTALES. Diſeaſes in which the Functions of the Mind are diſturbed.

1. IDEALES. Thoſe in which the Judgment is principally affected.

65. Delirium. *Symptomatic, or febrile Delirium.*
66. Paraphroſyne. *Tranſitory Inſanity without Fever.*

67. Amentia.

67. Amentia. *Idiotic Inſanity.*
68. Mania. *Madneſs.*
69. Demonia. *Melancholy, with Idea of Poſſeſſion.*
70. Veſania. *Tranquil, partial Melancholy.*
71. Melancholia. *Fixed Melancholy.*

2. IMAGINARII. Thoſe in which the Imagination is principally affected.

72. Syringmos. *Imaginary Sound in the Ear.*
73. Phantaſma. *Falſe Viſion.*
74. Vertigo. *Giddineſs,* or *falſe Idea of Gyration in Objects.*
75. Panophobia. *Falſe fear of Evil.*
76. Hypochondriaſis. *Hypochondriac Diſeaſe.*
77. Somnambuliſmus. *Night-walking, or Noctambulation.*

3. PATHETICI. Thoſe in which the Appetites and Paſſions are principally affected.

78. Citta. *Unnatural Longings.*
79. Bulimia. *Voracious Appetite.*
80. Polydipſia. *Exceſſive Thirſt.*
81. Satyriaſis.
82. Erotomania.
83. Noſtalgia. *Swiſs Malady.*
84. Tarantiſmus.
85. Rabies. *Canine Madneſs.*
86. Hydrophobia. *Horror of Drinking,* with *Rigor* and *Sardiaſis.*
87. Cacoſitia. *Fixed Averſion to Food.*
88. Antipathia. *Averſion to particular Objects.*
89. Anxietas. *Reſtleſſneſs.*

In this claſs, which anſwers to the VESANIÆ of Dr. *Sauvages*, the *genera* ſtand nearly the ſame as in that author's arrangement.

They conſtitute, after great reduction, the fourth *order*, under the term VESANIÆ, of the claſs NEUROSES, in Dr. *Cullen*'s ſyſtem, comprehending four *genera*.

Of the IDEALES of LINNÆUS, Dr. *Cullen* only ranks the *Amentia*, the *Mania*, and the *Melancholia*, as *genera*; the *Delirium* and *Paraphroſyne* being ſymptomatic. The *Demonia*, *Veſania*, and *Panophobia*, rank with *Melancholy*; under which he has alſo brought the *Erotomania* and *Noſtalgia*, from the PATHETICI. Of the remaining *genera* only the *Hypochondriaſis*, and the *Hydrophobia*, are admitted as ſuch; the former in the ADYNAMIÆ, and the latter among the SPASMI. The *Syrigmus*, and *Phantaſma*, are referred to the LOCALES claſs; and the *Somnambuliſmus* to the *Oneirodynia*, in the *order* VESANIÆ. The *Citta*, or *Pica*, the *Polydipſia*, *Satyriaſis*, and *Bulimia*, belong alſo to the LOCALES, in the *order* DYSOREXIÆ. It is juſtly doubted whether the *Tarantiſmus* exiſts; and the *Rabies* can ſcarcely be ſeparated from the *Hydrophobia*.

Claſs VI. QUIETALES. Diſeaſes in which the voluntary, and involuntary Motions, and the Senſes, ſuffer a Diminution.

1. DEFECTIVI. Defects of the vital Powers.

90. Laſſitudo. *Muſcular Debility.* | 91. Languor. *Debility of Spirits.*

92. Aſthenia.

92. Aſthenia. *Extreme Debility.*
93. Lipothymia. *Fainting.*
94. Syncope. *Swooning.*
95. Aſphyxia. *Long failure of vital and animal Power*; as from *Drowning*, *Mephitiſm*, &c.

2. Soporosi. Soporoſe Affections; or Diminution of Senſe and Motion.

96. Somnolentia. *Somnolency.*
97. Typhomania. *Coma Vigil*, of authors.
98. Lethargus. *Lethargy*; febrile Somnolency.
99. Cataphora. *Coma Somnolentum*, of authors.
100. Carus. *Sopor and Inſenſibility, with quiet Reſpiration.*
101. Apoplexia. *Apoplexy*; *Sopor, and Inſenſibility, with Snoring.*
102. Paraplegia. *Palſy, of all the Limbs.*
103. Hemiplegia. *Palſy, of one Side.*
104. Paralyſis. *Palſy, of a particular Part.*
105. Stupor. *Tranſitory Numbneſs.*

3. Privativi. Diminutions of the Senſes.

106. Moroſis. *Defect of Imagination.*
107. Oblivio. *Defect of Memory.*
108. Amblyopia. *Obſcure Viſion, without apparent Defect in the Organ.*
109. Cataracta. *Privation of Sight, with apparent Defect in the Organ.*
110. Amauroſis. *Privation of Sight, without apparent Defect of the Organ.*
111. Scotomia. *Tranſitory Blindneſs.*
112. Cophoſis. *Deafneſs.*
113. Anoſmia.

113. Anoſmia. *Defect of Smelling.*
114. Ageuſtia. *Defect of Taſte.*
115. Aphonia. *Defect of Voice.*
116. Anorexia. *Want of Appetite.*
117. Adipſia. *Want of Thirſt.*
118. Anæſtheſia. *Defect of Feeling.*
119. Atecnia. *Defect of venereal Appetite.*
120. Atonia. *Atony*; *Defect of muſcular Power.*

The diſeaſes of this claſs very nearly correſpond with the DEBILITATES of *Sauvages*; and the two firſt *orders*, the DEFECTIVI and SOPOROSI, with the COMATA and ADYNAMIÆ, of the claſs NEUROSES, in Dr. *Cullen*'s ſyſtem.

The three firſt *genera* of the DEFECTIVI, Dr. *Cullen* takes no notice of; the three laſt he includes under his *Syncope*, as different degrees only of the ſame diminiſhed power of the functions.

Among the SOPOROSI of our author, Dr. *Cullen* ranks the *Carus* and *Cataphora* under the *Apoplexia*; and alſo conſiders the *Typhomania* and *Lethargus*, as ſymptomatic of the ſame. For the like reaſons he accounts the *Paraplegia*, and *Hemiplegia*, as different degrees of the ſame diſeaſe, including them all under *Paralyſis*.

The PRIVATIVI rank under the two firſt *orders* of Dr. *Cullen*'s LOCALES, as far as he allows them to hold the character of *genera*. The *Moroſis* and *Oblivio* he refers to his *Amentia*. The *Scotomia* he does not notice. The *Cophoſis* he calls *Dyſoecia*; the *Anorexia* ſtands under his *Dyſpepſia*

genus, among the ADYNAMIÆ; the *Atonia* as a *ſpecies* of *Palſy*. The *Amblyopia* under *Amauroſis*; the *Cataracta* under his *Caligo*. The *Anoſmia*, *Ageuſtia*, *Aphonia*, *Anoſexia*, *Adipſia*, and *Anæſthe-ſia*, under their reſpective names ſeparately; and the *Atecnia* under that of *Anaphrodiſia*.

Claſs VII. MOTORII. Spaſmodic Diſeaſes; Diſeaſes attended with involuntary Motion.

1. SPASTICI. Spaſtic, or Tonic Diſeaſes.

121. Spaſmus. *Cramp.*
122. Priapiſmus. *Priapiſm.*
123. Borborygmi. *Rumbling of the Bowels.*
124. Triſmos. *Locked Jaw.*
125. Sardiaſis. *Involuntary or convulſive Laughing.*
126. Hyſteria. *Hyſteric Affection.*
127. Tetanos. *Rigidity of the Spine, with Senſibility.*
128. Catochus. *Rigidity of the Body without Senſibility.*
129. Catalepſis. *Catalepſy.*
130. Agrypnia. *Intenſe Watching.* The Pervigilium of Authors.

2. AGITATORII. Convulſive or Clonic Diſeaſes.

131. Tremor. *Trembling, without the Senſation of Cold.*
132. Palpitatio. *Palpitation of the Heart.*
133. Orgaſmus. *Subſultus of the Arteries.*
134. Subſultus. *Twitching of the Tendons.*
135. Carpologia. *Delirious Fumbling.*
136. Stridor. *Grating of the Teeth*
137. Hippos.

137. Hippos. *Morbid Nictitation.*
138. Pſelliſmus. *Stammering.*
139. Chorea. *St. Vitus's Dance.*
140. Beriberi. *Tremor of the Limbs and Body, with contracted Knees, attended with Stupor and Hoarſeneſs.*
141. Rigor. *Shaking or Tremor, with a Senſe of Cold.*
142. Convulſio. *Convulſion.*
143. Epilepſia. *Epilepſy. Convulſions attended with Inſenſibility,* oppoſed to the foregoing.
144. Hieranoſos. *Continued Convulſions without Pain, or Loſs of Senſibility.*
145. Raphania. *Spaſtic Contraction of the Limbs, with Convulſions and Pain.*

Moſt of the diſeaſes of this claſs ſtand in the corrſeponding one of *Sauvages*, called SPASMI, except the *Borborygmus*, and the *Agrypnia*, the latter of which is referred to the anomalous VESANIÆ. He alſo conſiders the *Sardiaſis* and *Stridor* of LINNÆUS as ſpecies only of the *Triſmos*; and the *Subſultus* he calls *Carpologia*.

In Dr. *Cullen*'s ſyſtem the MOTORII of LINNÆUS make the third *order* of his NEUROSES, called SPASMI. Of the *Spaſtici* he has the *Triſmos*, *Hyſteria*, and *Tetanos*, only as diſtinct *genera*, under their reſpective terms. The *Catochus* he refers to the *Tetanos*, and the *Catalepſis* is his *Apoplexia Cataleptica*. The others are not noticed by him.

Of the AGITATORII, the *Tremor* Dr. *Cullen* accounts rather as a ſymptom of various diſorders. The *Beriberi*, which he had heretofore ranked with

the *Paralyſis*, he has omitted in the laſt edition of his *Synopſis*: the *Chorea* is admitted as a genus, and the *Hieranoſos* ſtands under the idiopathic *Convulſio*. The *Pſelliſmus* is removed to the LOCALES claſs; and of the remainder, the *Palpitatio*, *Epilepſia*, and *Raphania* only, retain their place in his ſyſtem, under their reſpective names.

Claſs VIII. SUPPRESSORII. Affections and Diſeaſes ariſing from, or attended with Oppreſſion of the Organs, and impeded Excretions.

1. SUFFOCATORII. Diſeaſes attended with a Senſe of Suffocation.

146. Raucedo. *Hoarſeneſs.*
147. Vociferatio. *Squealing.*
148. Riſus. *Laughing.*
149. Fletus. *Weeping.*
150. Suſpirium. *Sighing.*
151. Oſcitatio. *Yawning.*
152. Pandiculatio. *Stretching.*
153. Singultus. *Hiccup.*
154. Sternutatio. *Sneezing.*
155. Tuſſis. *Coughing.*
156. Stertor. *Snoring.*
157. Anhelatio. *Panting.*
158. Suffocatio. *Difficult Reſpiration from Narrowneſs of the Fauces.*
159. Empyema. — *from an Abſceſs in the Thorax.*
160. Dyſpnœa. *Laborious, panting Reſpiration, without a Senſe of Narrowneſs in the Fauces.*
161. Aſthma. *Chronic, laborious, wheezing Reſpiration.*
162. Orthopnœa. *Acute, ſighing, ſuffocating Reſpiration.*
163. Ephialtes. *Nightmare.*

2. CON-

2. CONSTRICTORII. Diſeaſes attended with Conſtriction.

164. Aglutitio. *Impeded Deglutition.*
165. Flatulentia. *Flatulence.*
166. Obſtipatio. *Coſtiveneſs.*
167. Iſchuria. *Impeded or ſuppreſſed Micturition.*
168. Dyſmenorrhœa. *Suppreſſion of the Menſes.*
169. Dyſlochia. *Suppreſſion of the Lochia.*
170. Aglactatio. *Defect of Milk.*
171. Sterilitas. *Barrenneſs.*

Under the *genera* of the SUFFOCATORII our author has departed from his uſual rule, in having ſubjoined to each a note expreſſive of the intention of Nature in exciting theſe affections. Thus, to inſtance, after defining *Suſpirium* to be "*a deep, ſlow, agitating inſpiration,*" he adds, that the effect is, "*that of expelling the blood from the lungs.*" Moſt of the SUFFOCATORII have a place in *Sauvages*'s ſyſtem among the ANHELATIONES, but the CONSTRICTORII are ſcattered in various parts of his ſyſtem.

Dr. *Cullen* hath not introduced into his ſyſtem the lighter affections under the SUFFOCATORII; which ſeem to have been defined and explained by LINNÆUS, principally to uſe them as auxiliaries in other parts of the work.

In Dr. *Cullen*'s ſyſtem the *Raucedo* has a place, as ſymptomatic only, under the Catarrh; and again, in another part, as a ſpecies of *Paraphonia.*

phonia. The *Tuſſis* is alſo received under the Catarrh; and the *Empyema* is conſidered as a conſequence of Pleuriſy or Peripneumony. The *Orthopnœa*, as a *genus*, is not noticed by Dr. *Cullen.* The *Dyſpnœa* is admitted in the laſt edition, which, with the *Aſthma*, are the only *genera* he receives from this *order*, as he has made the *Ephialtes* a ſpecies of his *Oneirodynia*, under the VESANIÆ in the claſs NEUROSES.

In the CONSTRICTORII order, the *Flatulentia* of LINNÆUS comes under the *Dyſpepſia* of Dr. *Cullen*; and the *Obſtipatio*, *Iſchuria*, and *Dyſmenorrhœa*, enter into the fourth *order* of the LOCALES, called EPISCHESES; the latter under the term *Amenorrhœa.*

Claſs IX. EVACUATORII. Diſeaſes attended with increaſed Excretion and Diſcharges.

1. CAPITIS. Of the Head.

171. Otorrhœa. *Purulent Diſcharge from the Ear.*
172. Epiphora. *Lachrymal Flux.*
173. Hæmorrhagia. *Bleeding of the Noſe.*
174. Coryza. *Mucous Diſcharge from the Noſe.*
175. Stomocace. *Bleeding of the Gums.*
176. Ptyaliſmus. *Salivation.*

2. THORACIS. Of the Breaſt.

177. Screatus. *Hawking.*
178. Expectoratio. *Expectoration.*
179. Hæmoptyſis. *Spitting of Blood, with Coughing.*
180. Vomica,

180. Vomica. *Purulent Diſcharge from the Lungs.*

3. ABDOMINIS. Of the Belly.

181. Ructus. *Eructation.*
182. Nauſea. *Nauſea.*
183. Vomitus. *Vomiting.*
184. Hæmatemeſis. *Vomiting of Blood.*
185. Iliaca. *Iliac Paſſion.*
186. Cholera. *Vomiting, with Colic and Purging.*
187. Diarrhœa. *Dejection of liquid Fæces.*
188. Lienteria. *Dejection of undigeſted Aliment.*
189. Cœliaca. *Dejection of Chyle.*
190. Cholerica. *Bloody Flux, without Colic.*
191. Dyſenteria. *Bloody Flux, with Colic and Teneſmus.*
192. Hæmorrhois. *Bleeding Piles.*
193. Teneſmus. *Needing and frequent Dejection of Mucus.*
194. Crepitus. *Dejection of Flatus.*

4. GENITALIUM. Of the Genital Paſſages.

195. Enureſis. *Involuntary Micturition.*
196. Stranguria. *Strangury.*
197. Diabetes. *Diabetes.*
198. Hæmaturia. *Bloody Urine.*
199. Glus. *Mucous Urine.*
200. Gonorrhœa. *Gleet. Mucous Flux from the Urethra.*
201. Leucorrhœa. *Whites.*
202. Menorrhagia. *Inordinate Flux of the Menſes.*
203. Parturitio. *Laborious Parturition.*
204. Abortus. *Abortion.*
205. Mola. *Falſe Conception.*

5. CORPORIS

5. CORPORIS EXTERNI. Of external Parts.

206. Galactitia: *Overflowing of Milk.*

207. Sudor. *Inordinate Sweating.*

This claſs ſtands nearly the ſame as our author found it in *Sauvages*'s arrangement, under the term FLUXUS; except that LINNÆUS has introduced three or four *genera* not in that author; ſuch are the *Screatus*; *Vomica*, which is a ſpecies of *Sauvages*'s *Anacatharſis*; the *Ructus*; *Glus*, a ſpecies of his *Pyuria*; *Parturitio*, and *Mola*. He has alſo taken his *orders* from the anatomical diviſion of the parts; whereas *Sauvages* divides them according to the nature of the diſcharge, whether bloody or ſerous, which muſt be allowed to be equivocal in many inſtances. It has been objected, that *Parturition* is not a diſeaſe; LINNÆUS however ſeems only to conſider it as ſuch when it proves laborious, protracted, or unnatural.

Dr. *Cullen* does not admit more than about a third part of the diſeaſes of this claſs into his ſyſtem. He has the *Epiphora*, *Ptyaliſmus*, *Enureſis*, and *Gonorrhœa*, under their reſpective names, in an *order*, called APOCENOSES, belonging to the claſs LOCALES. *Hæmorrhagia* is ſynonymous to his *Epiſtaxis*; *Coryza* to his *Catarrhus*; under which he conſiders *Expectoratio* as only ſymptomatic; and *Vomica* as the effect of Pleuriſy, or Peripneumony. *Nauſea*, and *Vomitus*, come under *Dyſpepſia*; the *Iliaca*, under *Colica*; the *Cholerica*, *Cœliaca*, and *Lienteria*, as different ſpecies of *Diarrhœa*;

rhœa; *Leucorrhœa*, and *Abortus*, under *Menorrhagia*; *Stomacace*, *Hæmatemeſis*, and *Hæmaturia*, as ſymptomatic only. *Hæmoptyſis*, *Cholera*, and *Hæmorrhois*, form diſtinct *genera* in both ſyſtems.

Claſs X. DEFORMES. Diſeaſes occaſioning external Deformity of the Body.

1. Emaciantes. Such as emaciate the Body.

208. Phthiſis. *Conſumption.* Waſting with hectic Fever, Dyſpnœa, and purulent Expectoration.
209. Tabes. *Waſting*, with hectic Fever, but without Expectoration.
210. Atrophia. *Atrophy.* Waſting, with Atony, without Hectic, or Expectoration.
211. Maraſmus. *Waſting*, without Atony, Hectic, or Expectoration.
212. Rachitis. *Rickets.* Waſting of the Fleſh, with Enlargement of the Head and Joints, attended ſometimes with Flexility of the Bones.

2. Tumidosi. Such as enlarge the Body, or Parts thereof.

213. Polyſarcia. *Corpulency.*
214. Leucophlegmatia. *Emphyſematoſe Intumeſcence.*
215. Anaſarca. *Oedematoſe Intumeſcence.*
216. Hydrocephalus. *Oedematoſe Enlargement of the Head, with Gaping of the Sutures.*
217. Aſcites.

217. Aſcites. *Dropſy*; *Oedematous Enlargement of the Abdomen.*
218. Hypoſarca. *Fixed, partial Tumour of the Abdomen.*
219. Tympanites. *Wind-Dropſy.*
220. Graviditas. *Extraordinary Diſtention of the Abdomen during Pregnancy.*

3. DECOLORES. Such as deform, and change the Colour of the Skin.

221. Cachexia. *Cachexy.* Oedematoſe Paleneſs.
222. Chloroſis. *Green-ſickneſs.*
223. Scorbutus. *Scurvy.*
224. Icterus. *Jaundice.*
225. Plethora. *Redneſs of the Skin from Fullneſs of Blood, attended with Dyſpnœa.*

This claſs anſwers to the CACHEXIÆ of *Sauvages*, and Dr. *Cullen*; and moſt of the *genera* are admitted into the ſyſtem of the latter under three correſponding orders alſo. The *Maraſmus* is not diſtinguiſhed by Dr. *Cullen* from the *Atrophy*. The *Phthiſis* has been claſſed before as the conſequence of *Hæmoptyſis*. The *Chloroſis* ſtands in the ADYNAMIÆ order, in the claſs NEUROSES. The *Graviditas*, *Cachexia*, and *Plethora*, have no place in Dr. *Cullen*'s ſyſtem.

Claſs XI. VITIA. Cutaneous, external, or palpable Diſeaſes.

The claſs which correſponds to this in the *Sauvageſian* ſyſtem, ſtands firſt under the ſame term, and

and is there profeſſedly intended to contain ſuch diſorders as are more immediately the objects of ſurgery. This character is not ſo ſtrictly applicable to that of LINNÆUS's, or of Dr. *Cullen*'s LOCALES, ſince both theſe contain *genera* which come under the province of the phyſician, independent of manual operation or aſſiſtance. In all the ſyſtems it is the moſt comprehenſive claſs. The congruity of the orders will be noted in our progreſs through the claſs.

1. HUMORALIA. Diſeaſes attended with vitiated, or extravaſated Fluids.

226. Aridura. *Waſting and withering of a Part, or Limb.*
227. Digitium. *Dry Whitlow.*
228. Emphyſema. *Windy Tumour.*
229. Oedema. *Watery Tumour.*
230. Sugillatio. *Ecchymoſis.*
231. Inflammatio. *Inflammation.*
232. Abſceſſus. *Abſceſs.*
233. Gangræna. *Gangrene.*
234. Sphacelus. *Mortification.*

In the *genera* of this order, the appearance of the external part, and that of the contained fluid, conjointly form the character.

In *Sauvages* the *Aridura*, *Gangræna*, and *Sphacelus*, or *Necroſis*, belong to his claſs of CACHEXIÆ. The *Digitium* is a ſpecies of his *Paronychia*, and ſtands with the remaining *genera* of this order among the VITIA.

Dr.

Dr. *Cullen* neglects the *Aridura* and *Digitium*: the *Emphyſema* is his *Pneumatoſis*; the *Sugillatio* his *Ecchymoma*; and the four remaining *genera* of LINNÆUS come under his *Phlogoſis*.

2. DIALYTICA. Solutions of Continuity; Fractures, Wounds, *&c.*

235. Fractura. *Fracture*; and,
236. Luxatura. *Diſlocation of a Bone.*
237. Ruptura. *Rupture of a Tendon.*
238. Contuſura. *Contuſion.*
239. Profuſio. *Flux of Blood from Diſſolution of Subſtance.*
240. Vulnus. *A Wound.*
241. Amputatura. *A Wound from the entire Separation of a Part from the Body.*
242. Laceratura. *Laceration.*
243. Punctura. *Puncture of a Tendon.*
244. Morſura. *A Venomous Bite.*
245. Combuſtura. *A Burn.*
246. Excoriatura. *Excoriation*, or Abraſion of the Skin.
247. Intertrigo. *Eroſion of the Cuticle.*
248. Rhagas. *Dry Fiſſure of the Skin.*

This order nearly conſtitutes the ſeventh of the VITIA claſs in *Sauvages*'s ſyſtem, called PLAGÆ; and the ſeventh of the LOCALES claſs in Dr. *Cullen*'s, under the name of DIALYSES. Under *Vulnus* are comprehended the three ſucceeding *genera* alſo of LINNÆUS's. The *Fractura* conſtitutes a ſeparate genus: the *Luxatura* belongs to the ECTOPIÆ order of Dr. *Cullen*'s; the *Profuſio* to

to the APOCENOSES; the *Intertrigo* and *Combuſtura* to the PHLOGOSIS genus: the remaining *genera* are not noticed in the *Cullenian* ſyſtem.

3. EXULCERATIONES. Ulcers; purulent or ichorous Solutions of Continuity.

249. Ulcus. *A ſuppurated Wound of a fleſhy Part.*
250. Cacöethes. *A ſpreading, ſuperficial, weeping Ulcer.*
251. Noma. *A deep, eſcharotic, cicatrizing Ulcer.*
252. Carcinoma. *Cancer.*
253. Ozæna. *An Ulcer of the* Antrum Highmori.
254. Fiſtula. *A ſinous, vaginating Ulcer, with Calloſity.*
255. Caries. *An Ulcer of the ſuperficies of the Bone.*
256. Anthrocace. *An Ulcer of the Cavity of the Bone,* with Caries.
257. Cocyta. *Pungent Pain, from an Animalcule lodged in the Part.*
258. Paronychia. *Whitlow.*
259. Pernio. *Kibes.*
260. Preſſura. *Phlegmon of the Finger End: from the effect of Cold.*
261. Arctura. *Inflammation of the Nail, from Curvature thereof.*

Moſt of theſe *genera* rank with the PLAGÆ of Dr. *Sauvages*'s claſs. The *Paronychia* however comes in among the PHYMATA; and the *Preſſura* and *Arctura* of LINNÆUS are ſpecies only of the *Paronychia*, as the *Pernio* is of the *Erythema* in the ſame ſyſtem.

The firſt ſix *genera* in this *order* are claſſed in Dr. *Cullen*'s ſyſtem under *Ulcus*; the *Caries* is a diſtinct genus; the *Arthocace*, *Paronychia*, and *Pernio*, rank under the *Phlogoſis*; and the others are not noticed.

4. SCABIES. Cutaneous Diſeaſes.

262. Lepra. *Leproſy.*
263. Tinea. *Scald Head.*
264. Achor. *Cruſta Lactea*, of Authors.
265. Pſora. *Itch.*
266. Lippitudo. *Bleareyedneſs.*
267. Serpigo. *Tetters*; *Ring-worm.*
268. Herpes. *Shingles.*
269. Varus. *Pimples.*
270. Bacchia. *Ruby-face*, *Gutta Roſea.*
271. Bubo. *A Bubo.*
272. Anthrax. *A Carbuncle.*
273. Phlyctæna. *A watery Pimple.*
274. Puſtula. *A Puſtule.*
275. Papula. *A hard inflamed Pimple.*
276. Hordeolum. *A Stian.*
277. Verruca. *A Wart.*
278. Clavus. *A Corn.*
279. Myrmecium. *A moiſt, ſoft Wart.*
280. Eſchara. *An Eſchar.*

In *Sauvages*'s ſyſtem moſt of theſe *genera* ſtand in the correſponding claſs under the orders PHYMATA and EFFLORESCENTIÆ; but the *Lepra*, *Tinea*, and *Pſora*, are referred to the IMPETIGINES, in the claſs CACHEXIÆ.

The following are diſtinct *genera* in Dr. *Cullen*'s ſyſtem: the *Lepra* under the IMPETIGINES; the *Tinea*, *Pſora*, and *Herpes*, under the DIALYSES. The *Bubo*, *Verruca*, and *Clavus*, form diſtinct *genera*, in the ſame *order* with the *Phlyctena* or *Hydatis*, being

being all referred to the TUMORES. Almoſt all the others rank under the *Phlogoſis*, as different ſpecies of that genus. *Lippitudo*, *Serpigo*, *Myrmecium*, and *Eſchara*, have no place in the *Cullenian* ſyſtem.

The characters of the *genera* in this order are well adapted to diſtinguiſh the different kinds of *Puſtules*; and are of great uſe as auxiliary terms, in defining other *genera* in different parts of the ſyſtem.

5. TUMORES. Tumours.

281. Aneuriſma. *Aneuriſm.*
282. Varix. *Varix.*
283. Schirrus. *Schirrus.*
284. Struma. *Struma.*
285. Atheroma. *Wen.*
286. Anchyloſis. *A ſtiff Joint.*
287. Ganglion. *Tumour of a Tendon.*
288. Natta. *Tumour rooted in a Muſcle.*
289. Spinola. *Spina bifida.*
290. Exoſtoſis. *Bony Tumour.*

The three firſt, and the laſt of theſe *genera*, ſtand in the correſponding claſs of the ſyſtems of *Sauvages* and Dr. *Cullen* under the ſame names. LINNÆUS's *Struma* is their *Scrofula*, and his *Spinola* the *Hydrorachitis*. The *Atheroma* is the *Lupia* of Dr. *Cullen*. The *Ganglion* is a *Condyloma* of *Sauvages*, but ſtands in the *Cullenian* ſyſtem under LINNÆUS's term. The *Natta* is neglected by Dr. *Cullen*, but belongs to the *Sarcoma* of our other noſologiſt.

6. PROCIDENTIÆ. Tumours ariſing from Diſlocation of fleſhy or membranous Parts.

291. Hernia. *Rupture.*
292. Prolapſus. *Prolapſus.*
293. Condyloma. *Condyloma.*
294. Sarcoma. *Fungus Fleſh.*
295. Pterygium. *Web in the Eye.*
296. Ectropium. *Reverſion of the under Eye-lid.*
297. Phymoſis. *Swelling of the Prepuce.*
298. Clitoriſmus.

The *Hernia*, *Prolapſus*, and *Ectropium*, called *Blepharoptoſis* by *Sauvages*, ſtand among the ECTOPIÆ of his ſyſtem; the *Phymoſis* with the *Phymata*; and the remaining *genera* among the EXCRESCENTIÆ.

Dr. *Cullen* receives into his ECTOPIÆ only the *Hernia*, and *Prolapſus*. The *Sarcoma* he refers to the TUMORES, and the other *genera* are not admitted into his ſyſtem as ſuch.

7. DEFORMATIONES. Diſtortions of particular Parts, and other Deformities.

299. Contractura. *Rigidity of a Joint*
300. Gibber. *Gibboſity of the Cheſt.*
301. Lordoſis. *Incurvation of the Bones.*
302. Diſtortio. *Diſtortion of the Bones.*
303. Tortura. *Wry-mouth.*
304. Strabiſmus. *Squinting.*
305. Lagopthalmia. *Retraction of the upper Eye-lid.*
306. Nycta-

306. Nyctalopia. *Night-ſight.*
307. Preſbytia. *Long-ſight.*
308. Myopia. *Near-ſight.* Pore-blindneſs.
309. Labarium. *Looſeneſs of the Teeth*; as in the Scurvy, *&c.*
310. Lagoſtoma. *Hare-lip.*
311. Apella. *Abbreviation of the Prepuce.*
312. Atreta. *Imperforation of a natural Paſſage.*
313. Plica. *Plica polonica.*
314. Hirſuties. *Unnatural Hairyneſs of the Body.*
315. Alopecia. *Baldneſs.*
316. Trichiaſis. *Diſtortion and Inverſion of the Eye-laſhes.*

Theſe *genera* are placed in very different parts of his ſyſtem by M. *Sauvages:* the *Contractura*, for inſtance, and the *Strabiſmus*, very improperly, as it ſhould ſeem, among ſpaſmodic diſeaſes; the *Gibber*, or *Giboſitas*, and the *Lordoſis*, among the EXCRESCENTIÆ of the VITIA claſs; the *Nyctalopia*, and the two *genera* ſucceeding it, as ſpecies of *Amblyopia*, in the claſs of DEBILITATES, as is the *Lagoſtoma*, as a ſpecies of *Pſelliſmus*; the *Plica* under the name of *Trichoma*, with the CACHEXIÆ; and the *Trichiaſis*, as a ſpecies of *Opthalmia.*

Dr. *Cullen* receives only five of theſe *genera:* the *Contractura*, *Strabiſmus*; the *Preſbytia*, and *Myopia*; the two latter as ſpecies of his *Dyſopia*, all under the LOCALES claſs: the *Plica* under his genus *Trichoma*, among the IMPETIGINES in the CACHEXIÆ claſs.

8. MACULÆ. Blemiſhes on the Skin.

317. Cicatrix. *A Scar.*
318. Nævus. *A Mole.*
319. Morphæa. *Scurf.*
320. Vibex. *Purple Spots and Wheals*; under the Skin.
321. Sudamen. *Tranſitory, red, ſtinging Spots on the Skin.*
322. Melaſma. *Black Blotches*; on the Legs, or other Parts unexpoſed to the Air.
323. Hepatizon. *Brown itching Morphew.*
324. Lentigo. *Freckles.*
325. Ephelis. *Sun-burn.*

Theſe lighter affections ſtand in *Sauvages*'s ſyſtem either among the MACULÆ or EFFLORESCENTIÆ, but he does not allow them all the rank of *genera*. The *Cicatrix* is a *ſpecies* of his *Leucoma*, as the *Morphæa* and *Melaſma* are of his *Vitiligo*; and the *Vibex*, and *Sudamen*, of the *Ecchymoma*. The *Nævus* ſtands under the ſame generic name in both; but the *Lentigo* of LINNÆUS is a ſpecies of *Sauvages*'s *Ephelis*.

Dr. *Cullen* has not given a place to theſe *genera* in his ſyſtem.

Our author has ſubjoined to this diſtribution of diſeaſes, a brief view of his *Theory of Phyſic*, delivered in that terſe, conciſe, and methodic manner, ſo peculiar to himſelf; and which, as it appears to have been intended entirely for the uſe of his pupils, nothing leſs than the author's own comment can do ſufficient juſtice to. We ſhould not therefore have taken notice of it, in our plan, had it not been neceſſary in order to explain ſeveral

papers

papers hereafter to be mentioned in the *Amœnitates Academicæ*. Briefly, therefore, the *Linnæan* principles of phyſic ſuppoſe the human body to conſiſt of a *cerebroſe medullary* part, of which the nerves are ſo many proceſſes, and which we call the *nervous* ſyſtem; and, a *cortical* or vital part, including the *vaſcular* ſyſtem and contained fluids: the former, being the animated part, or that in which the *ſentient*, moving principle peculiarly reſides, is conſidered as deriving its *nouriſhment* from the ſubtleſt fluids of the vaſcular ſyſtem, and its *energy* from an electrical principle inhaled by the lungs. Farther, this theory ſuppoſes the circulating fluids to be capable of being vitiated, by principles which the author chuſes to conſider either as *aceſcent*, or *putrid* ferments; the former acting on the *ſerum*, and being the exciting cauſe of *critical* fevers; the latter, on the blood properly, or *craſſamentum*, and exciting *phlogiſtic* diſeaſes. The *exanthematic* claſs is ſuppoſed to be excited by ſome external cauſes, which we call *Contagion*, and which *hypothetically* he propoſes as being *animalcula*. From the inceſſant attrition of the *cortical* or vaſcular ſyſtem, it requires perpetual reparation; this is to be effected by an *appropriate* diet. From an *impropriate* diet, or regimen, ſpring the diſeaſes of this part of the ſyſtem, originally and more particularly; theſe are to be remedied by *ſapid* medicines, as thoſe of the *medullary* ſyſtem are by *olids*. Hence ariſes the author's general diviſion of all medicines, as diſcoverable by their ſenſible qualities, to the *taſte*, and *ſmelling*.

The *Sapids*, according to this theory, acting peculiarly on the cortical part, as the *Olids* do immediately on the *medullary*, or nervous ſyſtem. In order however to obtain a more complete idea of the effects of each of theſe general claſſes of medicines, each muſt be viewed in its moſt ſimple ſtate, by which *Sapids* will appear to be rather what we call *Nutritives*; and *Olids*, more ſtrictly ſpeaking, *Medicines*. A table of of the ſeveral *qualities* of medicines, acording to theſe two general diviſions, cloſes the *Genera Morborum*.

In 1766, LINNÆUS publiſhed a ſmall piece, under the title of CLAVIS MEDICINÆ *duplex, exterior et interior*. Holm. 8vo. pp. 29. This ſmall tract may be conſidered as a ſyllabus of his lectures. It is an enlarged view of the theory juſt mentioned, connecting it with general *Pathology*, and the therapeutic part of phyſic. In the latter part all ſimples are arranged in thirty *orders*, according to their ſenſible qualities, agreeably to the theory; which is diſplayed more at large in two papers printed in the *Amœnitates Academicæ*, under the titles of *Sapores, et Odores Medicamentorum*.

It appears from ſeveral parts of the writings of LINNÆUS, that the *dietetic* part of phyſic had been an object to which he had paid much attention; and he has explained himſelf in the following manner relating to it:—*In his meæ deliciæ, in his plura collegi, quam quod novi alius ullus*:—but, whether our author's obſervations on this ſubject may hereafter be publiſhed, we are yet to learn.

In

In 1771 was publiſhed LINNÆUS's laſt work, being the continuation of the *Mantiſſa*, in which the work is carried on to 588 pages, under the title of MANTISSA ALTERA. Near one half of this volume comprehends additional new *genera* and *ſpecies*, and the remaining part a variety of emendations, with ſome conſiderable augmentation to the animal kingdom. Theſe will greatly enrich a future edition of his works; and in the preface he has earneſtly intreated ſucceeding editors to pay a proper regard to them.

Beſides his ſeparate works, which we have now brought to a concluſion, LINNÆUS wrote a great number of papers on the ſubjects of phyſic and natural hiſtory, which were publiſhed in the *Acta Literaria Upſalienſia*, and in the *Stockholm Acts*. The firſt of theſe works was begun by *Olaus Celſius* in 1720, and continued to the year 1750, and is in Latin, in 5 volumes, quarto. The latter publication is in the *Swediſh* language, in the octavo form, and has been continued ever ſince the eſtabliſhment of the academy at *Stockholm*, in 1739, by king *Adolphus*. Many of theſe papers are ſuperſeded by the ſubſequent works of our author, neither would it be within our plan to give a particular detail of them: we are therefore only to ſubjoin a catalogue of theſe detached pieces, and regret that it is not in our power to make it more complete; or to add ſuch, if there be any, as may have been given by LINNÆUS to foreign academies.

In

In the *Acta Upſalienſia* are the following papers, written by LINNÆUS.

Florula Lapponica, in 1732. This, as is before obſerved, was our author's firſt publication, and conſiſts only of a bare catalogue of the *Lapland* plants, digeſted into the order of the *ſexual ſyſtem*, of which it is the firſt ſpecimen. The ſecond part of this liſt appears not till the year 1734.

Animalia Regni Sueciæ, in 1736.

Orchides iiſque affines, in 1740. This catalogue is accompanied by a copious collection of ſynonyms to each ſpecies.

Genera Plantarum Nova, in 1741.

Euporiſta in Febribus intermittentibus. This paper, as likewiſe ſeveral others, if we miſtake not, was publiſhed, agreeably to a laudable cuſtom of that country, in the yearly *Kalendars*, by which means uſeful intelligence finds its way into the moſt remote and obſcure receſſes of every kingdom, in 1742.

Euporiſta in Dyſenteria, in 1745.

Pini uſus œconomicus, in 1743.

Abietis uſus œconomicus, in 1744.

The manifold uſes of theſe trees, ſome of which were not ſufficiently known in divers parts of the kingdom of *Sweden*, induced our author to throw together all that his extenſive journeys had enabled him to collect thereon, in theſe two papers.

Sexus Plantarum, in 1744.

Sexus Plantarum uſus œconomicus, in 1745. The practical uſe of this paper is more particularly an object of all who have the care of gardens, to whom

whom the ſex of plants is no longer a matter of mere ſpeculation.

Theæ Potus, in 1746.

Scabioſæ novæ Speciei Deſcriptio, in 1744, afterwards called by our author, in his *Species Plantarum*, Scabioſa Tatarica.

Penthorum, a new genus of plants, from *Virginia*, deſcribed and figured, in 1744.

Cyprini pinnæ ani radiis xi. pinnis albentibus, deſcriptio. (Cyprinus Griſlagine, Syſt. p. 529.) A fiſh of the lakes of *Weſt Bothnia*.

After the inſtitution of the Royal Academy of Sciences at *Stockholm*, of which LINNÆUS was the firſt preſident, his communications were chiefly made in the *Acts* of that body. In theſe the following papers occur.

Cultura Plantarum Naturalis. Vol. I. for the years 1739 and 1740. This is an attempt to reduce the art of gardening to ſcientific principles.

Gluten Lapponum e Perca. ib. p. 221.

Oeſtrus Rangiferinus, in 1740, p. 121. A deſcription, accompanied with figures, of the Gadfly, (*Oeſtrus Tarandi*, Syſt. Nat. p. 969.) which is bred under the ſkin on the backs of the reindeer, and from which a third of the fawns not unfrequently periſh.

The *Glue* of the *Perch* is made from the ſkins, which are ſcraped off, put into a bladder, and boiled to a proper conſiſtence.

Picus pedibus trydactylis. ib. p. 222. A deſcription of the three-toed Wood-pecker, before that time unnoticed, ſince figured by *Edwards*, tab. 114,

114, and named by our author, in his Syſtem, *Picus tridactylus*, p. 177. It is found alſo in *Hudſon's Bay*, and deſcribed by Mr. *Forſter*, Phil. Tranſ. Vol. lxii. p. 388.

Mures Alpini Lemures. ib. p. 326. The *Mus Lemmus* of the *Syſtem*, p. 80, or *Leming*, the well-known peſt of the North.

Paſſer Nivalis. ib. p. 368. (*Emberiza Nivalis*, Syſt. p. 308.) Greater Brambling, or Snow Bunting; ſince more fully known and deſcribed.

Piſcis Aureus Chinenſium. ib. 403. The Gold-fiſh, or *Cyprinus Auratus*, Syſt. 527.

Fundamenta Œconomiæ. ib. p. 411.

Formicarum Sexus. Vol. II. 1741, p. 37. This paper contains the deſcription and hiſtory of five ſpecies of *Ants* found in *Sweden*, and throws much light on the œconomy of thoſe inſects.

Officinales Suecicæ Plantæ. ib. p. 81. In this paper our author informs his countrymen of ſeveral articles of the *Materia Medica* growing indigenouſly in *Sweden*, and which they had unneceſſarily imported.

Centuria Plantarum in Suecia rariorum. ib. p. 179. Theſe were all rare plants not obſerved in *Sweden* before.

Plantæ Tinctoriæ indigenæ. Vol. III. 1742, p. 20. The diſcovery of plants adapted to the art of dyeing was one of LINNÆUS's objects profeſſedly, in his *Iter Gothlandicum*, of which we have ſpoken before.

Amaryllis Formoſiſſima. ib. p. 93. The Jacobæa Lilly deſcribed and figured.

Gramen

Gramen Sælting. ib. p. 146. A deſcription of, and perſuaſive to, the culture of the *Triglochin Maritimum*, Spec. Plant. p. 483, or *Sea ſpiked Graſs*, which is the delight of horned cattle.

Fænum Suecicum. ib. p. 191. A recommendation alſo of the culture of the *Medicago falcata*, Sp. Pl. p. 1096; or *Yellow Medic*, as a ſubſtitute for *Lucern* in *Sweden.*

Phaſeoli Chinenſis ſpecies. ib. p. 206.

Epilepſiæ Vernenſis cauſa. ib. p. 279.

Jackas Hapuch. Vol. IV. 1743, p. 291. (*Arbutus Uva Urſi*, Sp. Pl. p. 566.) Bear-berries. A plant of uſe in *Sweden*, both in dyeing and tanning, and frequently ſmoked with tobacco; better known ſince in other parts of *Europe*, by the reputation it acquired, for ſome time, in calculous caſes.

Fagopyrum Sibiricum. Vol. V. 1744, p. 117. *Polygonum tataricum*, Sp. Pl. 521. A kind of *Buck-wheat*, which is cultivated, and ſupplies the want of other grain for bread, in divers parts of *Tartary* and *Sibiria.*

Petiveria. ib. p. 287. *Petiveria alliacea*, Sp. Pl. p. 486, deſcribed and figured. An acrid, and even cauſtic plant, of which the Guinea-hens, in the *Weſt Indies*, are ſaid to be extremely fond; thence called *Guinea-henweed.*

Paſſer procellarius. Vol. VI. 1745, p. 93. A deſcription of the *Procellaria pelagica*, Syſt. p. 212. The Little *Peterel* of *Edwards*, t. 90. or Storm-finch.

Limnia.

Limnia. Vol. VII. 1746. p. 130. *Claytonia Sibirica*, Sp. Pl. 294. A curious plant, diſcovered by *Steller* in the moſt eaſtern parts of *Sibiria*, and in the iſlands which lie ſcattered between that part of *Aſia* and *North America.*

Coluber (Cherſea) *ſcutis abdominalibus* 150 *ſquamis ſubcaudalibus* 34. Vol. X. 1749. p. 246, t. 6. A moſt venomous ſmall *Snake*, found in oſieries and willow-holts, the bite of which is frequently fatal, and much dreaded, particularly in *Smoland.* It is a ſmall animal, not more than ſix inches long, and is called by the *Smolanders*, Aſping.

Avis Sommar Guling appellata. Vol. XI. 1750, p. 127. The *Oriolus Galbula*, Syſt. p. 160, or *Golden Thruſh*; deſcribed and figured: ſingular in being a native both of northern *Europe* and of *Bengal.*

Inſectum quod frumenti grana interius exedit; deſcribed afterwards in the Syſtem, under the name of *Muſca Frit*, N° 994. ib. p. 179. Our author thinks that every tenth grain of barley is deſtroyed in *Sweden* by this inſect; and that the damage occaſioned thereby, cannot amount to leſs than an hundred thouſand ducats annually.

Emberiza Ciris, Syſt. p. 313, or Painted Finch of *Cateſby.* I. t. 44; deſcribed and figured. ib. p. 278.

De Characteribus anguium. Vol. XIII. 1752, p. 206. It has been obſerved before, that LINNÆUS firſt attempted to fix the characters of the *Serpentes* from the number of the *ſhields* and *ſcales* of the abdomen and tail. He here obſerves, that this cha-

racter is not ſufficiently permanent; but that what is wanting to complete the number in one, will uſually be found in the other.

Novæ duæ Tabaci ſpecies. Vol. XIV. 1753, p. 37; deſcribed and figured. They ſtand in the *Species Plant.* p. 259, under the names of *Nicotiana*, *paniculata* and *glutinoſa*.

De Plantis, quæ Alpium Suecicarum indiginæ fieri poſſint. Vol. XV. 1754, p. 182. An enumeration of ſuch plants, as the author thought might uſefully be cultivated on the *Lapland* and *Swediſh* Alps.

Simiæ, ex Cercopithecorum genere, deſcriptio. ib. p. 210; called in the Syſtem, *Simia Diana*, p. 38.

Mirabilis longifloræ (Syſt. p. 252.) *deſcriptio.* A *Mexican* plant, now well known in our *Engliſh* gardens. Vol. XVI. p. 176.

Lepidii (Cardamines, Syſt. 899.) *deſcriptio.* A new plant, ſent to our author from *Spain*, where it was found by M. *Loefling*. ib. p. 273.

Ayeniæ (Puſillæ, Spec. 1354.) *deſcriptio.* Vol. XVII. 1756, p. 23. An elegant plant, ſent by Mr. *Miller* to our author. It is figured by *Miller*, tab. 118; and by *Sloane*, tab. 132.

Gauræ (biennis, Spec. Pl. 493.) *deſcriptio.* A new plant, from ſeeds ſent by Mr. *Collinſon*. ib. p. 222.

Loeflingia et Minuartia. Vol. XIX. p. 15. Two new *genera* of plants, ſent by M. *Loefling* from *Spain*.

Entomolithus paradoxus (Syſt. Natur. III. p. 160.) *deſcriptus.* Vol. XX. 1759. p. 19. accompanied with

with figures. A curious foſſil, from Count *Teſſin*'s muſeum.

Gemma, Penna pavonis, dictum. ib. p. 23. Our author thinks this foſſil is formed from the cartilage or hinge of the *Pearl Muſcle*. He has called it in the Syſtem, *Helmintholithus* (Androdamas) *Mytili margaritiferi cardinis, viridis*, p. 165.

Coccus Uvæ Urſi, (Syſt. p. 742.) ib. p. 28. This cochineal-inſect is very like the *Poliſh* kind, found at the roots of the *Knawel*, but is double the ſize, and yields a very fine red colour.

De Rubo arctico plantando. Vol. XXIII. 1762. p. 192. The *Rubus arcticus*, Sp. Pl. p. 708, much valued for the ſake of the berries; is difficultly cultivated in the ſouthern parts of *Sweden*. This paper contains the reſult of ſome trials made to inure it to a more ſouthern clime: they are too operoſe to prove of general uſe.

Obſervationes ad Cereviſiam pertinentes. Vol. XXIV. 1763. p. 50.

Animalis Braſilienſis, (Muris Aguti, Syſt. p. 80.) *deſcriptio.* Vol. XXIX. 1768. p. 26. Long-noſed Cavy of *Pennant*.

Viverræ naricæ, (Syſt. p. 64.) *deſcriptio.* ib. p. 140. An *American* animal, nearly allied to the *Coati-mondi* of *Braſil*.

Simia Oedipus. (Syſt. p. 41.) The Little *Lion-monkey*, deſcribed. ib. p. 146.

Gordius Medinenſis, (Syſt. p. 1075;) or *Guinea-worm*. One of theſe animals, half an ell long, was diſcovered in a living ſtate at *Gottenburgh*, and communicated

communicated by the King of *Sweden* to our author. ib.

Calceolariæ pinnatæ (Syſt. Nat. ed. 13. p. 60.) *deſcriptio.* Vol. XXXI. 1770. p. 286. A *Peruvian* plant, of the *Diandrous* claſs, with a labiated flower.

It has been before mentioned, that our author has interſperſed, in the *Flora Lapponica*, a great variety of curious particulars, relating to the country, and its inhabitants, their manners, their economy, diſeaſes, &c.: and in the preface he tells us, that he had it in meditation to give the remaining part of the natural hiſtory. This was to have appeared under the title of *Lacheſis Lapponica*; but it is with great regret that we muſt now give up the expectation of this work. Mr. *Pennant* has informed us, that he once reminded him of it, and received for anſwer,—*nunc nimis ſera nciperem* :

Me quoque debilitat ſeries immenſa laborum,
Ante meum tempus cogor et eſſe ſenex.
Firma ſit illa licet, ſolvetur in æquore navis,
Quæ nunquam liquidis ſicca carebit aquis.

We know not of any other publication of LINNÆUS's after the *Mantiſſa altera*, in 1771; and indeed, the preface to that work is ſufficient to preclude the expectation of any new performance, if his advanced age had not, of itſelf, rendered it ſufficiently improbable after that period.

In the ſpring of the year 1772, Dr. *Murray*, Profeſſor of Phyſic and Botany at *Gottingen*, a *Swede* by birth, who had been educated under LINNÆUS, and had long enjoyed a great ſhare of his confidence and eſteem, paid his Preceptor a viſit: he found his faculties unimpaired, and his ardor for the improvement of ſcience as ſtrong and vigorous as ever. He ſpeaks with great delight of the ſatisfaction he received from his company, and in the contemplation and inſpection of his muſeum at *Hammarby*; but regretted much to find, that LINNÆUS had no farther thoughts of publiſhing a new edition of his *Syſtem of Nature*; purpoſing only to give a ſupplement. However, before Dr. *Murray* left *Upſal*, he prevailed on him to promiſe that he would tranſmit to him his additional obſervations to the *Syſtema Vegetabilium*, in order to enable him to give a complete edition of that work. This the Profeſſor did; and Dr. *Murray* performed it in the year 1774, very much to the ſatisfaction of all who purſue the LINNÆAN method. The manuſcript additions communicated on this occaſion by our author, together with thoſe collected from the ſeveral *Addenda*, and from the *Mantiſſæ*, enabled Dr. *Murray* to extend this volume to above one hundred pages beyond that of the 12th edition publiſhed in 1767.

It appears that LINNÆUS, upon the whole, enjoyed a good conſtitution. At times, however, he had been ſeverely afflicted with an *hemicrania*; and had not been exempted from the gout. How much he ſuffered from this latter diſtemper, we have

have before mentioned, when treating on the *Philoſophia Botanica*. And notwithſtanding the ſound ſtate in which Dr. *Murray* left him, we find, that very ſoon after, his memory became ſomewhat impaired. The conſciouſneſs of this defect was ſaid to have induced him to decline all thoughts of further publications, and to tranſmit to Dr. *Murray* ſuch materials as were in readineſs to compleat future editions of his *Syſtem*.

In the ſummer of 1776, it was known here that his ſtrength was declining apace, and his infirmities in general much increaſed, he being unable to take his uſual walks in his garden without aſſiſtance. At the latter end of the year he was ſeized with an *apoplexy*, which left him paralytic; and at the beginning of the year 1777 he ſuffered another ſtroke, which very much impaired his mental powers. Theſe attacks, at his advanced ſtage of life, ſhewed that diſſolution was not far off. But the diſeaſe, which was ſaid to have been the more immediate cauſe of his death, was an ulceration of the urinary bladder. Nevertheleſs, he languiſhed through the year, and died on the 11th of *January*, 1778, aged 70 years and 8 months.

To the lovers of ſcience it will not appear ſtrange, nor will it be unpleaſant, to hear, that uncommon reſpect was ſhewn to the memory of this great man. We are told, that, "on his "death, a general mourning took place at *Upſal*, "and that his funeral proceſſion was attended by "the whole univerſity, as well profeſſors as ſtu-"dents, and the pall ſupported by ſixteen doctors

" of phyſic, all of whom had been his pupils." The King of *Sweden*, after the death of LINNÆUS, ordered a medal to be ſtruck, of which " one ſide " exhibits LINNÆUS's buſt and name, and the " other *Cybele*, in a dejected attitude, holding in " her left hand a key, and ſurrounded with ani- " mals and growing plants, with this legend— " *Deam luctus angit amiſſi*;—and beneath,—*poſt* " *obitum Upſaliæ, die* x. *Jan.* M.DCC.LXXVIII. " *Rege jubente.*"—The ſame generous monarch not only honoured the Royal Academy of Sciences with his preſence when LINNÆUS's commemoration was held at *Stockholm*, but, as a ſtill higher tribute, in his ſpeech from the throne to the aſſembly of the ſtates, lamented *Sweden*'s loſs by his death. Nor was he honoured only in his own country. The preſent learned and worthy profeſſor of botany at *Edinburgh*, not only pronounced an eulogium in honour of LINNÆUS, before his ſtudents, at the opening of his lectures in the ſpring of 1778, but laid alſo the foundation-ſtone of a monument to be raiſed to his memory; which, while it perpetuates the name and merits of LINNÆUS, will do honour to the founder, and, it may be hoped, prove the means of raiſing an emulation favourable to that ſcience which this illuſtrious *Swede* ſo highly dignified and improved. This monument conſiſts of a vaſe, ſupported on a pedeſtal, with this inſcription,

LINNÆO POSUIT J. HOPE.

The

The high reputation which this great man has long held among the naturaliſts throughout the world, might readily perhaps preclude any encomium from our pen; ſince, to all lovers of *natural* ſcience, his *name* itſelf is eulogy, and will doubtleſs very long be inſeparable from the idea of his extraordinary merit. Might we, nevertheleſs, be indulged ſo far, we hope the following brief eſtimate of his talents will be thought juſt, and eaſily deduced from an impartial view of his writings.

Nature had, in an eminent manner, been liberal in the endowments of his mind. He ſeems to have been poſſeſſed of a lively imagination, corrected however by a ſtrong judgment, and guided by the laws of ſyſtem. Add to theſe, the moſt retentive memory, an unremitting induſtry, and the greateſt perſeverance in all his purſuits; as is evident from that continued vigour with which he proſecuted the deſign, that he appears to have formed ſo early in life, of totally reforming, and fabricating anew the whole ſcience of natural hiſtory: and this fabric he raiſed, and gave to it a degree of perfection unknown before; and had moreover the uncommon felicity of living to ſee his own ſtructure riſe above all others, notwithſtanding every diſcouragement its author at firſt laboured under, and the oppoſition it afterwards met with. Neither has any writer more cautiouſly avoided that common error of building his own fame on the ruin of another man's. He every where acknowledged the ſeveral merits of each author's ſyſtem; and no man appears to have been more ſenſible of the *par-*

tial defects of his own. Thoſe anomalies which had principally been the objects of criticiſm, he well knew every *artificial* arrangement muſt abound with; and having laid it down as a firm maxim, that every ſyſtem muſt finally reſt on its intrinſic merit, he willingly commits his own to the judgment of poſterity. Perhaps there is no circumſtance of LINNÆUS's life, which ſhews him in a more dignified light, than his conduct towards his opponents. Diſavowing controverſy, and juſtly conſidering it as an unimportant and fruitleſs ſacrifice of time, he never replied to any, numerous as they were at one ſeaſon.

To all who ſee the aid this extraordinary man has brought to *natural ſcience*, his talents muſt appear in a very illuſtrious point of view; but more eſpecially to thoſe who, from ſimilarity of taſte, are qualified to ſee more diſtinctly the vaſt extent of his original deſign, the greatneſs of his labour, and the elaborate execution he has given to the whole. He had a happy command of the Latin tongue, which is alone the language of ſcience; and no man ever applied it more ſucceſsfully to his purpoſes, or gave to deſcription ſuch copiouſneſs, united with that preciſion and conciſeneſs, which ſo eminently characterize his writings.

In the mean time, we are not to learn, that it has been objected as derogatory to his learning in no ſmall degree, that he has introduced a number of terms not authorized by claſſical authority. But, granting this, it ought to be recollected, that LINNÆUS, in the inveſtigation of nature, has diſcovered

diſcovered a multitude of relations which were entirely unknown to the antients; if therefore there be any force in the objection, it ſhould firſt be ſhewn, that the terms which he has introduced to expreſs theſe relations, are not fairly and analogically deduced from the language; ſince it muſt ſurely be granted, that LINNÆUS could not have ſpoken the language of *natural hiſtory*, as it is known at this day, in that of *Pliny*, or of any claſſical writer whatever.

The ardor of LINNÆUS's inclinations to the ſtudy of nature, from his earlieſt years, and that uncommon application which he beſtowed upon it, gave him a moſt comprehenſive view, both of its pleaſures and uſefulneſs, at the ſame time that it opened to him a wide field, hitherto but little cultivated, eſpecially in his own country. Hence he was early led to regret, that the ſtudy of natural hiſtory, as a public inſtitution, had not made its way into the univerſities; in many of which, logical diſputations, and metaphyſical theories, had too long prevailed, to the excluſion of more uſeful ſcience. Availing himſelf therefore of the advantages which he derived from a large ſhare of eloquence, and an animated ſtyle, he never failed to diſplay, in a lively and convincing manner, the relation this ſtudy hath to the public good; to incite the great to countenance and protect it; to encourage and allure youth into its purſuits, by opening its manifold ſources of pleaſure to their view, and ſhewing them how greatly this agreeable employment would add, in a variety of inſtances,

both to their comfort and emolument. His extenſive view of natural hiſtory, as connected with almoſt all the arts of life, did not allow him to confine theſe motives and incitements to thoſe only who were deſigned for the practice of phyſic. He alſo laboured to inſpire the great and opulent with a taſte for this ſtudy; and wiſhed particularly that ſuch as were devoted to an eccleſiaſtic life ſhould ſhare a portion of natural ſcience, not only as a means of ſweetening their rural ſituation, confined, as many are, perpetually to a country reſidence, but as what would almoſt inevitably lead, in a variety of inſtances, to diſcoveries which only ſuch ſituations could give riſe to, and which the learned in great cities could have no opportunities to make. Not to add, that the mutual communication and enlargement of this kind of knowledge among people of equal rank in a country ſituation, muſt prove one of the ſtrongeſt bonds of union and friendſhip, and contribute, in a much higher degree than the uſual periſhing amuſements of the age, to the pleaſures and advantages of ſociety.

Linnæus lived to enjoy the fruit of his own labour in an uncommon degree. Natural hiſtory raiſed itſelf in *Sweden*, under his culture, to a ſtate of perfection unknown elſewhere, and was from thence diffeminated through all *Europe*. His pupils diſperſed themſelves all over the globe, and with their maſter's fame, extended both ſcience and their own. More than this, he lived to ſee the ſovereigns of *Europe* eſtabliſh

eſtabliſh ſeveral public inſtitutions in favour of this ſtudy, and even profeſſorſhips eſtabliſhed in divers univerſities for the ſame purpoſe, which do honour to their founders and patrons, and which have excited a curioſity for the ſcience, and a ſenſe of its worth, that cannot fail to further its progreſs, and in time raiſe it to that rank, which it is entitled to hold among the purſuits of mankind.

Were it in our power minutely to deſcribe the perſon of our author, in conformity to the cuſtom of biographers, it would be a matter of ſmall moment, as the endowments of his mind, and his great talents, have ſo ſuperior a claim to attention. In the commemoration-ſpeech, delivered by his friend Dr. *Bæck*, phyſician to the king of *Sweden*, LINNÆUS's ſtature is deſcribed as being "diminutive; his head large; his "look ardent, piercing, and apt to daunt the "beholder. His ear not ſenſible to muſic; his "temper quick; his memory good, though in "the latter period of his life liable to fail him ſome-"times; his knowledge of languages confined, "yet no intereſting diſcovery eſcaped him. In "ſummer he uſed to ſleep from ten to three "o'clock, in winter from nine to ſix, and inſtantly "to ceaſe from his labours when he found him-"ſelf not well diſpoſed for them. He was an "agreeable companion, of quick ſenſibility, but "eaſily appeaſed." Thoſe who would be gratified by forming an idea of his perſon, may be acquainted, that there are extant three half-length

length prints of LINNÆUS in his works. Two of theſe are in octavo, and the other in a half-ſheet, or rather large quarto. The firſt was prefixed to the *Leipſic* edition of the *Syſtema Naturæ*, printed in 1748, and repreſents LINNÆUS, as we apprehend, in about the fortieth year of his age; another, to the ſecond edition of the *Species Plantarum*, in 1762; and the larger one to the ſixth edition of the *Genera Plantarum*, in 1764. In the firſt and the laſt of theſe, which are by much the better engravings, he is figured in an undreſs, reſting upon a volume of the *Syſtema*, and holding in his hand a ſprig of the LINNÆA, a plant ſo called by Dr. *Gronovius*, in honour of his name. In that of 1762, he is repreſented in a full dreſs, with the *inſignia* of the *Order of the Polar Star* at his breaſt, and *Aurivillius*'s inſcription underneath:

" *Hic ille eſt, cui regna volens natura recluſit,*
" *Quamque ulli dederat plura videnda dedit.*"

The Academy of Sciences at *Stockholm* have, at their own expence, directed that an engraving of his portrait ſhould be made at *Paris*, from an original picture by the famous *Swediſh* painter *Roſlin*. There is a ſtriking likeneſs alſo exhibited on a large medallion, *a l'antique*, of almoſt two feet in diameter, by M. *L'Archeveque*. In *England* we have an elegant ſmall medallion, fabricated by thoſe excellent artiſts Meſſ. *Wedgwood* and *Bently*. It repreſents LINNÆUS in profile, when far advanced in years. The buſt is white, upon a light-blue ground,

ground, and the *Linnæa* placed at the breaſt. This is ſaid, by all who knew the profeſſor, to bear the greateſt likeneſs. We regret that it is not in our power to deſcribe the medals which were ſtruck in honour of LINNÆUS by order of ſeveral noblemen of the firſt diſtinction in *Sweden*, particularly that by Count *Teſſin*'s direction, ſince that nobleman was among the firſt who diſcerned and patronized the merit of our author, and ever bore to it the moſt public and honourable teſtimony. This LINNÆUS hath acknowledged in the warmeſt effuſions of gratitude.

It hath been obſerved before, that the profeſſor married the daughter of Dr. *More*, the provincial phyſician of *Dalekarlia*, ſoon after he ſettled at *Stockholm*, in 1739. This lady ſurvived him; and he has left a ſon, named *Charles*, and four daughters. The younger *Linnæus* was demonſtrator in the botanical garden at *Upſal*, ſo early as the year 1762; having in that, and the ſucceeding year, publiſhed two *Decads of rare Plants*, lately raiſed there, accompanied with the figures. Not long after he was conſtituted joint profeſſor in the botanical chair with his father; and of late years entirely occupied that department. Since the death of his father, we learn that he has obtained ſome of his employments, particularly the profeſſorſhip of the theory of phyſic; and has reſigned that of botany in favour of Dr. *Thunberg*. It has been ſaid, that he intends to publiſh a MANTISSA TERTIA, which his father left nearly finiſhed; alſo ſeveral collections of plants which had been ſent to LINNÆUS,

NÆUS, not long before his death, from the *Cape of Good Hope*, and from ſeveral other parts of the world.

Elizabeth Chriſtina, one of the daughters of our author, made herſelf known to the learned world, in 1762, by a diſcovery which was publiſhed in the *Swediſh Acts* of the ſame year. It related to a curious, and before quite unobſerved appearance, in the flowers of the *Indian Creſſes*, (Tropæolum majus) which ſhe had perceived to emit ſpontaneouſly, at certain intervals, ſparks like thoſe of electricity, or rather ſuch as ariſe from a fulminating powder. This was only viſible in the duſk of the evenings, and ceaſed when total darkneſs came on. She had ſhewn this ſingular appearance to her father, and other philoſophers, particularly to Mr. *Wilcke*, a celebrated electrician, who was inclined to believe that it was an electrical phenomenon.

A

BRIEF ACCOUNT

OF THE

AMŒNITATES ACADEMICÆ.

THE collection known under this title conſiſts of ſeven volumes in 8vo, and contains 150 theſes. It is ſuppoſed the firſt volume was not originally collected by LINNÆUS himſelf; but he at leaſt reprinted it very early, and, that he might not be defrauded of the advantage of theſe publications, became the editor of all the ſucceeding volumes. Something has been ſaid relating to this collection in the courſe of theſe memoirs; to which we have only to add, that we beg the reader to regard the following pages, as little more than an enlarged table of contents, intended only to excite a due attention to this part of LINNÆUS's works, which the compiler preſumes to be leſs known than it deſerves; and at the ſame time to entreat him to conſider, that it is impoſſible, by means of any abridgment, to give an adequate idea of that merit, and excellent arrangement of the ſubjects in theſe volumes, which cannot but render them an agreeable and uſeful miſcellany, and ornament to the library of every naturaliſt, philoſopher, and phyſician.

AMŒNI-

AMŒNITATES ACADEMICÆ. Vol. I. Holm. 1749. pp. 610.

1. Betula nana. *L. M. Klaſe.* 1743.

In this diſſertation is exhibited a complete hiſtory, accompanied with a figure, of the *Betula* (nana) *foliis orbiculatis crenatis.* Spec. Plant. pp. 1394, or the *Dwarf Birch*, which cloaths the *Lapland* alps in great quantities, and is of ſignal uſe in the œconomy of the inhabitants of that arctic region. The branches furniſh them with their chief fuel, and the ſeeds are the food of the ptarmigans, or white partridge, (*Tetrao Lagopus*, Syſt. 274.) Theſe birds, being much eſteemed, make a conſiderable part of the ſuſtenance of the inhabitants: great quantities are caught in the winter ſeaſon, and ſent to different provinces. Before Linnæus made his *Lapland* expedition, this *Birch* had been conſidered as a *variety* only of the common tree of that name; but its diſtinct ſpecific characters have ſince been eſtabliſhed. This tree has within theſe few years been added to the *Flora Britannica*, having been found in the highlands of *Scotland.*

2. Historia *naturalis et medica* Ficus. *C. Hegardt.* 1744.

From the earlieſt times, the cultivation of the fig-tree has been an important object in all the oriental countries. In this diſſertation we are preſented with a hiſtory of this *genus*, of which

the writer has enumerated 22 ſpecies: LINNÆUS has however greatly reduced this number, in his *Species Plantarum*, ſince many are varieties effected by culture. That part of the hiſtory of this tree, which for many ages was ſo enigmatical, and which nothing but the doctrine of the ſexes of plants has completely cleared up, namely the huſbandry or *caprification*, as it is called, is more particularly worthy of attention, not only as a ſingular phenomenon in itſelf, but as it has furniſhed one of the moſt convincing proofs of the reality of the ſexes of plants. Our limits will not allow us to detail this ſubject; in brief it is this:—It is now known, that the flowers of the fig-tree are ſituated within a pulpy receptacle, which we call the *Fig*, or fruit of this tree; of theſe receptacles, in the wild fig-tree, ſome have male flowers only, and others have male and female, both diſtinct, though placed in the ſame receptacle. In the garden, or *cultivated* fig, theſe are found to contain only female flowers; which are fecundated by means of a kind of gnat, (*Cynips Pſenes*, Syſt. Nat. 919.) bred in the fruit of the *wild* fig-trees, which pierces that of the *cultivated*, in order to depoſit its eggs within; at the ſame time diffuſing within the receptacle the *farina* of the male flowers. Without this operation the fruit may ripen, but no *effective* ſeeds are produced: hence the *garden* fig can only be propagated by layers and cuttings, in theſe countries, where the *wild* fig is not known. The proceſs of thus ripening the fruit, in the oriental countries, is not left to nature, but is managed with

with great art, and different degrees of dexterity, ſo as to reward the ſkilful huſbandman with a much larger increaſe of fruit than would otherwiſe be produced. A tree of the ſame ſize, which, in *Provence*, where caprification is not practiſed, may produce about 25 pounds of fruit, will, by that art, in the *Grecian* iſlands, bring ten times that quantity.

3. DISSERTATIO *de* PELORIA. *D. Rudberg.* 1744.

A deſcription, with the figure, of a very extraordinary variety of the common yellow *Toad Flax*, (*Antirrhinum Linaria*, Sp. Pl. 858.) which was found in ſeveral parts of *Sweden*, and ſince in *Germany*, and engaged the attention of the botaniſts very greatly at the time. Indeed its variation is uncommonly ſingular. The flower, inſtead of the ringent, tetrandrous flower of the *Linaria*, with a ſingle, corniculated *Nectarium*, was found with a regular, monopetalous, pentandrous tube, from the baſe of which proceeded five *Nectaria*; yet, uncommon as this proved, LINNÆUS diſcovered it to be no other than a monſter, or *hybrid* plant, ſprung from the *Linaria*, though it does not appear to this day that its origin on the other ſide has been ſufficiently aſcertained. The habit of the plant, and its ſenſible quality, agree with thoſe of the *Linaria*.

4. *De* CORALLIIS BALTICIS. *H. Fougt.* 1745.

In this tract the author, after having traced the hiſtory of *Corals* from the remoteſt period of natural hiſtory,

hiſtory, and conſidered the ſeveral theories that have at different times prevailed relating to the production of theſe bodies, acquieſces in the *modern one*, which aſcribes their formation to *Polypes*, and which the late Mr. *Ellis*, and ſeveral other writers, have much confirmed and illuſtrated. He then gives a copious deſcription of twenty ſpecies, all found in the *Baltic*; of which an excellent engraving is ſubjoined. Theſe bodies are found in immenſe maſſes in ſome parts of this ſea: on the coaſt of *Gothland* there are ſtrata of corals extending through tracts of ſeveral miles.

5. AMPHIBIA GYLLENBORGIANA. *B. R. Haſt.* 1745.

A detailed deſcription of 24 ſpecies of animals, all of the *Amphibia* claſs, which were preſented by Count *Gyllenborg* to the univerſity of *Upſal*, of which he was at that time chancellor; and to which he had been a munificent patron, having intereſted himſelf, in procuring to be built and furniſhed, an aſtronomical obſervatory; in reſtoring to a ſtate of uſefulneſs the botanic garden, which had been in ruins for many years; in cauſing ſtoves to be erected, and a houſe built for the demonſtrator: and finally, in having preſented to the univerſity his own *muſeum*, collected at a great expence, and conſiſting of rare *amphibia*, inſects, corals, minerals, and moreover of many elegant works of art.

In this tract is exhibited the firſt ſpecimen of LINNÆUS's method of zoological deſcription at

large; as alſo the firſt attempt to form the ſpecific character of the *Serpentes* ORDER, from the "different number of the rings and ſcales of the "body and tail, taken conjointly." Former authors generally had recourſe to colour alone in diſtinguiſhing theſe animals, which was found at length to be too unſtable, and had given riſe to a moſt enormous multiplication of the ſpecies. This mode of diſtinction has been ſince adopted by others, and is retained in the *Syſtema Naturæ*.

6. PLANTÆ MARTINO-BURSERIANÆ. *R. Martin.* 1745.

J. Burſer, a moſt diligent diſciple and friend of *Caſpar Bauhine*, and afterwards profeſſor of phyſic at *Sora*, in the kingdom of *Naples*, who had travelled almoſt all over *Europe*, and had particularly ſought for rare plants in the Alps, had collected in theſe journeys an *Hortus Siccus*, contained in 25 volumes, which, after various fates, was given by M. *Coijet* to the univerſity of *Upſal*. The purport of this tract is to illuſtrate the moſt rare plants contained in this collection, and ſuch particularly as were obſcurely known to the collector, and to add to theſe the ſpecific names, according to the principles of the *Linnæan* method: with this view 240 ſpecies are here enumerated.

7. HORTUS UPSALIENSIS. *S. Naucler.* 1745.

Botanical gardens began to be founded in *Europe*, ſo early as the middle of the ſixteenth century: the

the firſt was that of *Padua*, in 1540. The garden of *Upſal* was founded in 1657, by *Charles Guſtavus*, under the direction of the elder *Rudbeck*. How much this garden owes to LINNÆUS, we have already ſaid, in the account of the catalogue of plants publiſhed by himſelf in 1748. This hiſtory of the antient and modern ſtate of the garden given by *Naucler*, contains a variety of curious matter on the ſubject, and is illuſtrated with a ground-plot and view of the garden; liſts of the ſucculent plants and others; and, what is more particularly acceptable, the lives of the *Rudbecks*, father and ſon, whoſe literary fame is founded, not on botany alone, but on anatomy, and the knowledge of antiquities.

8. De PASSIFLORA. *J. G. Hallman.* 1745.

A very methodical hiſtory of that beautiful and much-admired genus of plants, which the Catholics, who firſt ſaw it in *America*, and from the fancied reſemblance of the croſs which they perceived in the flower, called *Paſſion Flower*; and which ſoon held a diſtinguiſhed rank in the *European* gardens. M. *Hallman*, after a chronological liſt of thoſe writers, who firſt exhibited the ſeveral ſpecies, from *Peter Ciltza* and *Monardes*, down to *Dillenius*, deſcribes at large 22 ſpecies, and gives their ſeveral ſynonyms, adding afterwards a liſt of many which are dubious. He ſubjoins the uſes, which the natives of *America* make of theſe plants, principally borrowed from *Piſo*. The whole is

ornamented, and rendered much more uſeful, by a plate, on which are engraven different views of the flower, and a figure of the leaf of each ſpecies.

The *Paſſion Flower* belongs to the *gynandrous* plants with five ſtamina, and the number of ſpecies, as they now ſtand in the ſyſtem, is augmented to 26, without mentioning two others, deſcribed and figured as new, by M. *Jacquin*, who brought them from *Carthagena*. All the *Paſſion Flowers* yet known are natives of the warmer parts of *America* only, and not found in any other parts of the globe.

9. De ANANDRIA. *E. Z. Turſen.* 1745.

The hiſtory of a ſingular *Siberian* plant, which, during the time of flowering, was found not to open the *calix*; and was called *Anandria* by profeſſor *Siegeſbeck*, of *Peterſburgh*, who had *fancied* that it was deſtitute of *ſtamina*, and having declared himſelf a ſtrenuous oppoſer of the *ſexual* ſyſtem, thought, by the inſtance of this plant, to have overturned the whole doctrine of the ſexes of plants; having written a treatiſe, in which he had aſſerted, that the *ſtamina* did not conſtitute the *eſſential* parts of the plant, and that the ſeed would become fertile without the influence of the *Pollen Antherarum*. This plant is *ſyngeneſious*, and of that genus which we name *Coltsfoot*. It ſtands in the Syſtem under the name of *Tuſſilago (Anandria) ſcapo unifloro, ſubſquamoſo erecto, foliis lyrato-ovatis*; and ſubſequent obſervations proved, that in a

warmer

warmer ſituation than its native one, the *calix* would open, and ſhew a radiated flower. The controverſy, which was managed in behalf of LINNÆUS by Dr. *Gleditſch* of *Berlin*, much extended the knowledge, and favoured the eſtabliſhment of the *Linnæan* ſyſtem, at that time unwillingly received by many of the older botaniſts.

10. De ACROSTICO. *J. B. Heiligtag.* 1747.

A botanical diſſertation on a genus of plants belonging to an extenſive *natural* order, placed in the *Cryptogamia* claſs, which we call *Ferns*; and which were known to former botaniſts by the name of *Epiphylloſpermous* plants, ſince they chiefly produce their parts of fructification on the back of the leaf, or *frons*. After ſome general obſervations on the plants conſtituting this order, which have alſo been called *Capillary* plants, and ſhewing the place they hold, and their *characters* in the ſeveral ſyſtems of *Ray*, *Moriſon*, *Tournefort*, and LINNÆUS, the writer proceeds to an ample deſcription of the ſpecies of *Acroſtica*, of which he enumerates ſeventeen, with their ſynonyms. This genus is diſtinguiſhed by having the fructification ſpread all over the ſurface of the leaf; and the number of ſpecies, in the laſt edition of the Syſtem, is augmented to thirty. They are moſtly of *American* produce, three only being *European*, of which two are ſparingly found in *Britain*. They are a ſingular ſet of plants, and have much excited the attention of botaniſts. A plate accompanies this tract, on which five of the uncommon ſpecies are delineated.

11. MUSEUM ADOLPHO FREDERICIANUM. *L. Balk.* 1746.

The ſubject of this paper is ſtrictly zoological: It contains a particular deſcription of 65 of the rarer kinds of animals, which were preſented to the *muſeum* of the univerſity by the late King *Adolphus* of *Sweden*, at that time hereditary prince. Theſe deſcriptions being drawn up with ſufficient accuracy, and regard to the rules of the *Linnæan* ſyſtem, and referred to in the ſubſequent zoology of LINNÆUS, yet retain their value. *Amphibia*, and Fiſhes, form the greater part of this collection: among the former we mention particularly an excellent deſcription of the Chameleon, (*Lacerta Chamæleon*, Syſt. 346.); of the *Amphiſbæna Fuliginoſa*, Syſt. 392; of the *Crotalus Horridus*, or Rattle Snake: and among the latter, of the *Torpedo*, which has ſo lately excited anew the attention of electricians, as alſo of that remarkable fiſh called *Soldigo* by the *Portugueſe* (*Silurus Callichthys*, Syſt. 506.) which *Marcgrave* and *Piſo* ſay will travel in dry ſeaſons acroſs the land from rivulet to rivulet in queſt of water. Two copper-plates accompany this tract.

12. SPONSALIA PLANTARUM. *J. G. Wahlbom.* 1746.

Whoever would ſee all the arguments for, and the reſult of, thoſe experiments, on which the doctrine of the ſexes of plants is founded, are referred to this diſſertation; as containing, by far, the moſt clear, comprehenſive, and yet copious view of

of that ſubject. It is profeſſedly a commentary upon the 5th chapter of LINNÆUS's *Fundamenta*, or *Philoſophia Botanica*, from ſection 132 to 150 incluſive, and contains 49 pages. It is out of our plan to produce any detail of theſe arguments; ſuffice it to ſay, that although, from the writings of *Theophraſtus* and *Pliny*, we learn that the antients had ſome idea of an analogy in this reſpect, between the animal and vegetable kingdom, drawn perhaps principally from the artificial mode of fœcundating the *date-tree*, yet, ſo crude and erroneous were their ideas, that in many inſtances they called thoſe plants male or female, which modern diſcoveries have taught us are exactly the reverſe. Indeed it does not appear, that any very preciſe ideas on this ſubject were eſtabliſhed till late in the laſt century; and, were it a matter of importance to determine *to whom* applauſe is due for this diſcovery, the *Engliſh* might perhaps with juſtice claim this honour, and beſtow it on Sir *Thomas Millington*, Savilian profeſſor, who appears to have been the firſt that gave the hint to Dr. *Grew*; ſince whoſe time this doctrine has received ſo much light, that we preſume few people can now doubt the following poſition, which briefly contains the whole of what is underſtood now by this analogy; namely, "That the influence of the "*farina* from the *antheræ* of flowers upon the "*ſtigma*, is eſſentially neceſſary to give fertility to "the ſeed." If there are any who yet wiſh to ſee what arguments may be adduced *againſt this* doctrine, they are referred to the *Anthologia* of *Pontedera*,

dera, and to the late Dr. *Alſton*'s Diſſertation on Botany. It hath been before obſerved, that LINNÆUS was honoured with a premium from the Royal Academy of Sciences at *Peterſburgh*, for his excellent Treatiſe on the *Sponſalia Plantarum*, in which he is thought to have moſt irrefragably proved his poſition.

13. NOVA PLANTARUM GENERA. *C. M. Daſſow.* 1747.

In this paper are deſcribed and eſtabliſhed the natural characters of 43 new *genera*, all which were afterwards taken into the 5th edition of the *Genera Plantarum* of LINNÆUS, publiſhed in 1754.

14. VIRES PLANTARUM. *F. Haſſelquiſt.* 1747.

Practical phyſicians have wiſhed, and ſome have formed the idea that it is poſſible, to deduce the virtues of plants from their agreement in ſimilar characters of fructification, in habit or agreement in *natural orders*, or claſſes. Mr. *Petiver*, long ſince, was among the firſt that hazarded ſome reflexions on this ſubject: ſee Philoſophical Tranſactions, N° 255, and *Lowthorp*'s Abridgment, vol. ii. p. 704. And the very eminent Dr. HOFFMANN has a profeſſed diſſertation on it, in the fifth volume of his works, p. 58. It is the intention of the preſent paper, written by this ingenious but unfortunate diſciple of LINNÆUS, to extend and illuſtrate the ſame idea, by this commentary on the 12th chapter of the *Philoſophia Botanica*; which contains the general doctrine of this

this attempt, and an enumeration of thoſe *natural* or *artificial* orders in botany, which are ſuppoſed to illuſtrate and confirm the poſſibility of attaining this deſirable end. To mention a few inſtances of this agreement in character and qualities: The ſtellated claſs, in *Ray*'s ſyſtem, are moſtly *diuretics*; the *aſperifoliæ*, are chiefly *demulcents*; the *umbelliferous* plants, which grow in dry places, are *aromatics*, particularly the roots and ſeeds; but if growing in wet ſituations, uſually partake more or leſs of a deleterious quality. The *Icoſandrous* plants of LINNÆUS abound with *pulpy* and *eſculent* fruits: the *Polyandrous* are many of them poiſonous: the *Syngeneſious*, in frequent inſtances, intenſe *bitters*, &c. It moſt not be concealed, however, that there are not wanting thoſe who conſider both the *natural method* in botany, and the deduction of the virtues of ſimples from *theſe congruities*, as the *philoſopher's ſtone* of the ſcience; notwithſtanding which, there is no attempt in the improvement of botany, or its true application to the uſes of phyſic, which ought more ſtrenuouſly and unremittingly to be purſued, than that of bringing to all poſſible perfection the purpoſe of this diſſertation.

15. De CHRYSTALLORUM GENERATIONE. *M. Kahler.* 1747.

In this tract is diſcuſſed at large, that opinion which LINNÆUS early imbibed, and which led him to aſcribe to the operation of one and the ſame

ſame principle, the regular polyedrous figure of all thoſe bodies, called *Chryſtals*, acting upon them during their ſuſpenſion in an aqueous menſtruum; and this he conceived to be equally the caſe, whether theſe bodies are what we uſually call *ſaline*, or whether they are *lapidoſe*, *pyriticoſe*, or *arſenical*; or finally, whether they are ſuch as are termed *metallic* ſalts. Hence aroſe his arrangement of figured *Spars*, *Selenite*, *quartzoſe Chryſtals*, including all the *gems* under that *genus* of ſalt, to which their agreement in figure entitled them to a place. This opinion gave ſo much offence to mineralogiſts, that, moſt probably, it rendered his *Syſtem* in the mineral kingdom, much leſs acceptable than the other parts of that work had been. In this paper *lapidoſe* chryſtals only are conſidered; many of which are figured, and deſcribed, and referred to the ſeveral ſalts with which they agree in figure. LINNÆUS's idea on this ſubject has been lately taken up, and purſued in a very extenſive manner, by M. *de Romé de Liſle*, in an Eſſay printed at *Paris*, in 1772. It muſt be confeſſed, however, that the greateſt difficulties attend the ſolution of this matter: how far the further conſideration of the *volcanic* ſyſtem, which is gaining ground in the minds of ſome philoſophers and mineralogiſts, may elucidate the origin of certain figured bodies, which are ſaid to have a *chryſtalline* or vitreous baſis, time only muſt ſhew; hitherto it ſeems to bid fairer towards ſolving ſome difficulties, than any foregoing hypotheſis.

16. SURINAMENSIA

16. SURINAMENSIA GRILLIANA. *P. Sund.* 1748.

The deſcription at large of 25 ſubjects of the animal kingdom, chiefly *Serpentes*, collected at *Surinam* by Mr. *Gerret*, famous for being among the firſt who introduced, and ſucceſsfully cultivated, coffee in *America*, and who ſent theſe curioſities to M. *Grill*, an opulent citizen of *Stockholm*, by which means they came finally into the muſeum of *Upſal*. We here meet with an excellent account of the *Rattle-ſnake*; and particularly a deſcription and figure of the *Boa Conſtrictor*, that gigantic ſerpent, of which we have ſuch copious and aſtoniſhing accounts in *Adanſon*, *Piſo*, *Kæmpfer*, and others. The plate alſo preſents a figure of the *Cæcilia Tentaculata*, Syſt. 293; of the *Coluber Ammodytes*, Syſt. 376; and of the *Egyptian* Locuſt, *Gryllus Criſtatus*, Syſt. 699. all which are amply deſcribed.

17. FLORA OECONOMICA. *E. Aſpelin.* 1748.

There is ſcarcely any morſel in this collection more worthy of regard, or that has a more uſeful tendency, than this paper; which is intended to diſplay, and really contains, in a compendious way, the uſes of the indigenous plants of *Sweden*, whether in *Agriculture*, *rural Oeconomy in general*, in the *Arts*, or in *culinary uſes*. It does not profeſs to deliver their medicinal qualities, that not being a part of the plan. The plants are enumerated in the order in which they are found in the *Flora Suecica*, but no botanical diſtinctions or diſquiſitions are here introduced. We have *no work on this plan* extant in *England*, and are perſuaded

ſuaded that ſomething of this kind, on a more extended ſcale, written in the language of the country, and adapted to common uſe, could not fail to meet with a favourable reception, and would certainly be highly beneficial, not only by diſcloſing matter of real and inſtant information to many who are ignorant of the various applications that have already been made of plants which are daily neglected, but, by exciting a ſpirit of inveſtigation in general, would doubtleſs lead to new diſcoveries. An *economical Flora*, or *Herbal*, is what we have never yet ſeen; our works that bear the name of *Herbals* treat on plants and trees, as if their utility was alone confined to the purpoſes of phyſic, and even here, in a variety of inſtances, attribute to them virtues which neither their ſenſible qualities have juſtified, nor experience has aſcertained.

We have obſerved that this work is confined to the native plants of the country, out of which, as an inſtance of the variety of ſubjects that are here mentioned as objects of economy in various ways, there are not leſs than three hundred that have a place in this catalogue.

18. *De* CURIOSITATE NATURALI. *O. Soderberg*, 1748.

This concluding paper of the firſt volume, is a diſcourſe intended as an incitement to the ſtudy of natural hiſtory, by a train of well-connected arguments and obſervations, drawn from that admirable diſplay of wiſdom and goodneſs manifeſt throughout

throughout all nature; and from its dignity and importance, as ſo immediately connected with utility to mankind: from all which conſiderations, the author thinks it entitled to one of the moſt diſtinguiſhed ranks among the objects of human enquiry; and that, ſo far from being a frivolous purſuit, it is in every view one of the worthieſt employments of the human mind.

AMŒNITATES ACADEMICÆ. Vol. II. 1752. pp. 468.

19. Oeconomia Naturæ. [*J. J. Biberg.* 1749.

It is impoſſible in an abſtract to do any proper juſtice to this excellent production; the deſign of which is entirely phyſico-theological, and conſequently its ſcope is various and extenſive. The writer firſt conſiders, in general, the *Structure of the Earth*, its ſeas, mountains, &c. and the effects of the change of ſeaſons on all parts of its ſurface, and on the elements: the diſpoſition of the *Foſſil Kingdom*, and the various origin of its ſeveral bodies, with their gradual tranſmutation; from whence, in many inſtances, ariſe their different denominations with us: in the *Vegetable Kingdom*, the various means by which the diſſemination of ſeeds is effected, thereby cloathing in every climate the whole ſurface of the earth, and conducing to the preſervation of animals: in the *Animal Kingdom* itſelf, the extraordinary increaſe of ſome, the paucity of others; their means of preſervation,

and

and their uſe, even in their deſtruction, to the general economy of nature: all theſe poſitions he has illuſtrated and confirmed by apt examples, and finally draws this concluſion—that all nature is moſt harmoniouſly arranged, and adapted to produce, upon the whole, reciprocal good. This paper is among thoſe tranſlated by Mr. *Stillingfleet.*

20. *De* TÆNIA. *G. Dubois.* 1748.

At the time this treatiſe was written, the ſubject had more than uſually engaged the attention of the *Swediſh* naturaliſts and phyſicians, and particularly of LINNÆUS, and his colleague Dr. *Roſen*, the family of the latter having ſuffered much from this dangerous animal, as appears by his treatiſe *on the Diſeaſes of Children*, lately rendered into *Engliſh* by Dr. *Sparmann.*

The author has here deſcribed and figured four ſpecies, all of which are found in the inteſtines of animals, chiefly in thoſe of carnivorous quadrupeds; and unhappily two of theſe kinds, but more particularly the *T. Solium*, too frequently infeſt the human body. The ſpecific differences of the *Tæniæ* ariſe from the *number and ſituation* of the mouths or ſuckers in each link of this compound animal, the hiſtory of which has employed the pens of many ingenious men, and is notwithſtanding yet involved in conſiderable obſcurity.

The Tape-worms moſt commonly infeſting the human body, are thoſe deſcribed by LINNÆUS under the names of *Tænia Solium*, and *Tænia Vulgaris*, Syſt. Nat. p. 1323, both of which are not unfrequently

unfrequently found extended from the *duodenum*, almoſt through the whole tract of the inteſtines. Much controverſy has been ſpent in determining whether theſe animals have any part that is analogous to the brain or head in other animals; our author affirms the contrary, conſidering them as *compound animals*, conſiſting as it were of a chain, every link of which is a perfect animal, furniſhed with a mouth, and all its proper organs, and capable, when ſeparated from its original chain, of propagating its ſpecies, as if by a vegetative power, and independent of any *oviparous* or *viviparous* proceſs. In this idea he is oppoſed by Dr. *Tyſon*, who has figured the head of the *Tænia Solium* in the Philoſophical Tranſactions; (ſee N° 147, and *Lowthorp*'s Abridgment, Vol. iii. p. 130;) as alſo by *Pallas*, in his *Elenchus Zoophytorum*, and by ſome other authors. The *Vermes Cucurbitini*, or gourd-worms of foregoing writers, are now however allowed to be the deſcending or poſterior links of the *Tænia Solium*, and theſe, according to LINNÆUS, are again capable of extending themſelves, and producing another chain. According to *Pallas*, and others, theſe joints are pregnant with *ova*. In either caſe the reaſon is at once ſeen why theſe noxious creatures are with ſuch difficulty expelled from the human body. LINNÆUS however does not deny that they are capable of propagation by *ova* too; and ſays, they are found, though much ſmaller, in muddy ſprings; to which *Pallas* with difficulty aſſents. LINNÆUS's opinion however is confirmed by ſubſequent obſervations; and indeed

deed we cannot but obſerve, that without allowing them to exiſt elſewhere than in the inteſtines of animals, it is exceedingly difficult to account for the *locality* of the diſeaſe ariſing from theſe worms.

We cannot enlarge on this treatiſe conſiſtent with our plan; it muſt be ſufficient to obſerve, that this diſſertation, beſides being in itſelf highly ſatisfactory, may be conſidered as an *index* alſo to thoſe writers that are moſt worthy of being conſulted on the ſame ſubject.

21. LIGNUM COLUBRINUM. *J. A. Darelius.* 1749.

This is a critical enquiry to determine the ſpecies of that drug called *Lignum Colubrinum*, which it is ſaid the *Indian Ichneumon*, *Weeſel*, or *Mungos*, (*Viverra Ichneumon*, β. Lin. Syſt. 63.) firſt pointed out to the *Indians*. This wood the *Zeylaneſe* uſe as an antidote to the poiſon of the Hooded Serpent, or *Naja*, called alſo *Cobra de Capello*; (*Coluber Naja*, Syſt. 382.) of which *Kæmpfer* has given ſo extenſive an hiſtory, as the moſt poiſonous of all ſerpents. *Darelius* prefixes to his enquiry the hiſtory of both theſe animals, of which too many marvellous things have been related: he then examines into the pretenſions of that drug, which had uſually been ſold in *Europe* under the name of *Lignum Colubrinum*, (ſee *Dale's Pharmacolog.* p. 358.) which is the *Strychnos Colubrina*, Spec. Plant. 271. and rejects its claim, inclining at length to beſtow it on the plant deſcribed by *Kæmpfer*, under the name of *Radix Mungo*, p. 557. This plant was received into the Syſtem among the

the *Pentandrous* tribe, under the name of *Ophiorrhiza Mungos*, and is figured in the *Materia Medica* of our author. The root is exhibited in *India* and in *Zeylon*, not only as an antidote againſt the venom of this ſerpent, but againſt the bite of the mad dog, as alſo in putrid fevers. *Grimmius*, who lived long as a phyſician at *Columbo*, in *Zeylon*, profeſſes to have made great uſe of it. Our author ſubjoins ſeveral preparations from this *ſimple*, and, from *Lockner*, preſents us with the *formula* of the famous *Lapis de Goa*, in which the *Mungos* root ſtands as the firſt ingredient. He concludes with an enquiry into the effects of the ſpurious drug of this name, the reſult of which ſufficiently agrees with what is related of the *Nux Vomica*, to which genus it is referred according to the ſexual ſyſtem.

22. Radix Senega. *J. Kiernander.* 1749.

As the terror of the *Naja* is diſpelled, in *Aſia*, by the *Ophiorrhiza*, ſo is that of the *Rattle-Snake*, in *America*, by the *Senega*. After premiſing the hiſtory of the Rattle-Snake, (*Crotalus Horridus*, Syſt. 372.) chiefly borrowed from *Cateſby*, Dr. *Kiernander* gives a full botanical and medical hiſtory of this famous plant, which for ſo long a time the *Indians* concealed from the *Europeans*. The author then recites ten different vegetables, of which the *Europeans*, during their endeavours to come at the true *Rattle-Snake root*, tried the effects againſt this ſubtle venom. Some of theſe are ſaid to have been not quite unavailing: at length Dr. *Tennent* diſcovered the ſecret, and

found the plant to be a ſpecies of *Milkwort*, which ſtands now in LINNÆUS's works under the name of *Polygala Senega*, (Spec. Pl. 990.) and of this genus there are not fewer than 26 ſpecies known. The deſcription of the *Senega* is accompanied by a figure of the plant. The root, which is the part alone uſed in medicine, affords an acrimony on the palate, perhaps unexampled in the whole *Materia Medica*. The author gives the analyſis of the root, enumerates its effects as a *ſialagogue*, *diuretic*, and *expectorant*; the various preparations, and their uſe in inflammatory diſeaſes, dropſy, gout, rheumatiſm; in a diſeaſe which he mentions as endemic in *Virginia*, under the name of *Maraſmus Virginicus*, and finally as the great ſpecific to the venom of the rattle-ſnake; to which end the *Indians* inſtantly chew it, ſwallow the juice, and apply the maſticated root to the puncture. The root of the *Polygala vulgaris*, which grows ſo plentifully in *England*, appears from experiments to poſſeſs the qualities of the *Senega*, but in a far weaker degree.

23. GENESIS CALCULI. *J. O. Hagſtrom.* 1749.

Before Dr. *Hagſtrom* comes to the immediate conſideration of the origin of the *Calculus* of the urinary bladder, he premiſes ſome obſervations on calcareous ſubſtances in general; and enumerates the ſeveral kinds of calculous concretions, and their ſituations in the animal body: ſuch are the *Calculus Urinæ*; *Salivæ*; *Pulmonum*; *Gaſtricus*; *Felkis*;

Fellis; and the *Calculus Podagræ*. He then conſiſiders the component parts of that *Fæx Chyli*, or *Lixivium*, the *Urine*, and the changes to which it is liable, in ſmell, taſte, and colour, by the different *ingeſta*; under which article he mentions a ſingular fact of a gentleman, who after having laboured under an inveterate acidity at the ſtomach, for which he had taken large quantities of chalk, found his urine altered ſo as to have entirely a milky appearance. In conſidering the immediate generation of the *Calculus*, he adopts the *Boerhaavian* theory, and aſcribes it to *chryſtallization:* this leads him to conſider all thoſe circumſtances which favour and accelerate this mode of concreting, and to ſeek for ſomewhat analogous thereto in the human body, as prediſpoſing cauſes to this malady; which he finds in *Atonia*, and the uſe of acid and fermented liquors. He finiſhes the theory by ſome curious and apt reflections on the great analogy between this diſorder and the gout, and their tranſitions.

In the therapeutic part, notwithſtanding all that had been written relating to the power of alkaline medicines in diſſolving the connecting gluten, and thus promoting the decompoſition of the *Calculus*, the author does not allow them ſo much merit as hath been attributed to them by many writers. He is inclined to give more efficacy to bitters, particularly as *Prophylactics*, from the idea of their ſtriking more immediately at the *Atonia*; and adduces two examples, communicated to him by the Preſident LINNÆUS himſelf, of the uſe of the

Eſſentia Abſinthii in this dreadful diſeaſe. This diſquiſition concludes with an obſervation on a milk-diet in the ſtone and gout, the efficacy of which he confirms by two well-adapted caſes; which however, agreeably to foregoing obſervations, prove the neceſſity, in the gout, of adhering to the regimen, when once adopted, throughout life. One of theſe affords a melancholy leſſon of the danger of deſerting it, in the caſe of a *French* general, who, after twenty years freedom from the diſeaſe, at the age of 70, died in conſequence of a fit brought on by *one* plentiful meal of animal food.

24. GEMMÆ ARBORUM. *P. Loëfling.* 1749.

This gentleman, who afterwards, at the recommendation of LINNÆUS, obtained a penſion as naturaliſt to the King of *Spain*, and died in his ſervice in *America*, has here given us a curious and elaborate diſquiſition on the *Buds* of trees, a part in vegetables which, till this time, had been leſs attentively examined than many others.

Gems or *Buds* are ſmall rounded parts, made up of ſcales, differently arranged, ſituated commonly on the ſtem, or branches of trees, and containing, in epitome, the rudiments of either the future *flower* ſingly, the *leaves* ſingly, or both *flower* and *leaves*. Analogous to the *flower*, and *leaf-bearing Gem*, which is the moſt common, is a *Bulb* placed at the root of many plants, inaſmuch as both contain a future perfect plant, requiring only envelopement, by the genial effect of heat. Theſe

Gems

Gems and *Bulbs* are called by LINNÆUS *Hybernacula*, as incloſing the embryo during the winter, and the former are almoſt confined to trees of the colder countries. After a requiſite account of the ſubject in general, Dr. *Loëfling* exhibits a claſſification of the *Gems* of 108 ſpecies of trees and ſhrubs, founded on the different *ſtructure* and *ſituation* of the various kinds. In conſequence of this arrangement, the ſpecies of any of theſe trees is ſuppoſed to be capable of being diſcovered in the winter ſeaſon, and ſtate of defoliation, by the buds alone.

25. PAN SUECUS. *N. L. Heſſelgren.* 1749.

The originality, and ſingular good tendency and deſign of this paper, induced the writer of this volume, ſeveral years ago, to throw it into a form more immediately adapted to an *Engliſh* reader, by referring to *Engliſh* authors, and it was then laid before the public in the Gentleman's Magazine for the year 1758, accompanied with ſome notes and general obſervations. This has enabled him to annex it, in a ſtill more enlarged form, to this volume.

26. SPLACHNUM. *L. Montin.* 1750.

Mr. *Montin*, at the inſtance of LINNÆUS, had made an expedition the preceding ſummer into *Lapland*, and, amongſt other natural productions, had brought back this curious and uncommon moſs, and in this paper gives a complete botanical hiſtory of its *genus*, called *Splachnum*, the firſt

ſpecies of which, ſingular for the elegant form of the heads, had been firſt diſcovered by an *Engliſhman*, in *Norway*, and communicated to Mr. *Petiver*. There are three others, of which a leſs ſpecious kind is not uncommon on our bogs in *England*.

Mr. *Montin*, in this journey, had an opportunity of confirming an opinion, which LINNÆUS had before conceived, relating to the cauſe of a moſt excruciating *colic*, to which the *Laplanders* are often ſubjected, and which he deſcribes very particularly in the *Flora Lapponica*, p. 69. when treating of the *Angelica*, which, among other ſimples, is uſed as a remedy. Mr. *Montin* thinks it clear, that it ariſes from ſwallowing in their waters the *Gordius Aquaticus*, a ſpecies of worm deſcribed in the *Fauna Suecica*, N° 2068, well known to *Geſner*, and the older writers, under the name of *Vitulus Aquaticus*, and *Seta Aquatica*, as being no thicker than a horſe hair.

27. SEMINA MUSCORUM. *P. J. Bergius.* 1750.

Dr. *Bergius*, ſince profeſſor of pharmacy and natural hiſtory at *Stockholm*, has, in this tract, thrown conſiderable light on the fructification of the ſecond order of vegetables in the *Cryptogamia* claſs: much more however has been done ſince the time he wrote, and it is now thought that the tribe of Moſſes have ſeparate male and female flowers; the former of which uſually ſtand on long pedicles; the latter are as yet, in moſt *genera*, very obſcurely inveſtigated: and LINNÆUS himſelf appears to be doubtful, whether the duſt which

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we obſerve in the heads of moſſes, is the *Pollen Antherarum*, or the ſeeds themſelves.

28. MATERIA MEDICA E REGNO ANIMALI. *K. J. Sidren.* 1750.

This enumeration contains 67 ſubjects, and is executed exactly on the plan of our author's *Materia Medica e Plantis*, of which we have before ſpoken.

29. PLANTÆ CAMSCHATCENSES RARIORES. *J. P. Halenius.* 1750.

A deſcription at large of 26 new *Siberian* plants, ſent to LINNÆUS by Dr. *Gmelin*, who had ſpent almoſt 10 years, by the command, and at the expence, of the Empreſs of *Ruſſia*, in inveſtigating the natural hiſtory of that kingdom. Amongſt theſe, we may particularly remark that fœtid plant, called *Cimicifuga fœtida* (Syſt. Nat. ii. 659,) ſo offenſive, and even poiſonous, to thoſe inſects from which it receives its name. A decoction of this draſtic herb is uſed in *Siberia* (as *Gmelin* informs us, *Flor. Sib.* iv. p. 183.) with great ſucceſs in dropſies.

It is a curious remark which is ſuggeſted by our author, that in journeying eaſtwards in *Kamtchatka*, the botaniſt ſees his nearer approach towards *North America*, by the *habit* of many of the plants; and hence aroſe a preſumptive proof of the vicinity of the two continents, before real diſcoveries had confirmed the truth of it. The author has

given a liſt of ſeveral plants, that are actually the ſame as are found in *North America.*

30. SAPOR MEDICAMENTORUM. *J. Rudberg.* 1751.

After having premiſed ſome general obſervations on all the antient ſects of phyſicians, and felicitated the preſent age on the rejection of all hypotheſes and opinions not ſupported by experiments; and conſidered the general phyſiology of the human body, Dr. *Roberg* proceeds to his ſubject, which may be regarded as a very inſtructive comment on the 363d *Aphoriſm* of the *Philoſophia Botanica*, "*Sapida in fluida et ſolida agunt*;" under which all vegetable ſimples are arranged into eleven claſſes, founded on diſtinctions ariſing from their ſenſible qualities, principally as they affect the taſte, as follows:

1. Sicca.
2. Aquoſa.
3. Viſcoſa.
4. Salſa.
5. Acida.
6. Styptica.
7. Dulcia.
8. Pinguia.
9. Amara.
10. Acria.
11. Nauſeoſa.

Under each of theſe heads reſpective ſimples are arranged, and the comment is ſubjoined, explaining the mode of their *action*, and *effects*, both on the *ſolids* and *fluids*; and frequently ſpecifying the particular diſeaſes in which they are employed. A ſet of apt corollaries are added; and, upon the whole, this little tract is by no means unworthy the

the attention of medical ſtudents in general, and eſpecially of thoſe who wiſh to comprehend the *Linnæan* theory of phyſic.

To this volume of the *Amœnitates* are ſubjoined the three orations of LINNÆUS, which, as they make part of his own proper works, have been ſpoken of in the foregoing pages of this volume.

AMŒNITATES ACADEMICÆ. VOL. III. 1756. pp. 464.

31. NOVA PLANTARUM GENERA. *L. J. Chenon.* 1751.

Chiefly a deſcription of new *genera* and ſpecies of plants, brought from *North America* by Dr. *Kalm*, who had ſpent three years in that country. Previous to the deſcriptions, we have a brief mention made of thoſe who had treated upon the plants of *North America* before *Kalm*. Theſe were *Cornutus*, the firſt writer, in 1625; *Baniſter*, in *Ray*'s *hiſtory*, 1680; *Plukenet*, in 1691; *Bobart*, in 1699; *Ray*, in his ſupplement, 1704; *Cateſby*, 1731; *Gronovius*, or rather *Clayton*, 1739; Dr. *Mitchell*, 1748; Governor *Colden*, 1743. By the induſtry of theſe writers, botany had been augmented with 77 new *genera*, to which *Kalm* added eight. As Dr. *Kalm*'s plants are all now received into the Syſtem, any further account of this paper is ſuperſeded. A plate is added, on which are engraven ſeven of the rarer ſpecies.

32. PLANTÆ

32. PLANTÆ HYBRIDÆ. *J. Haartman.* 1751.

The ſubject of this paper is very interſting in botanic ſcience; and being as yet ſomewhat problematical, has exerciſed the pens of ſeveral ingenious men, but of none perhaps more ſucceſsfully than that of the late Dr. *Gmelin*, in his *Sermo academicus, de novorum vegetabilium ortu.* Tubing, 1749. Mr. *Haartman* allows the poſſibility of this origin or new creation of vegetables, ariſing from the influence of the *farina* of one ſpecies upon the *piſtil* of another, either of the ſame or of a different *genus*, thus producing what is called a *Hybrid* plant. Inſtances of this admixture, and production of *monſters* in the vegetable kingdom, have been frequent; but, as in the animal kingdom, they have not uſually been found to perpetuate themſelves by producing fertile ſeeds. The general effect of culture, and the immenſe number of ſpecies, with which, particularly, many of the *African genera* abound, ſuch as the *Geranium*, *Erica*, *Meſembryanthemum*, &c. very much favour this hypotheſis. A catalogue is given of 34 ſpecies of well-known plants, ſuppoſed to have originated in this manner, ſpecifying thoſe alſo from which they are ſuſpected to have ſprung; and a compariſon is made between the ſeveral parts and habit of each, with the correſponding *hybrid* offspring, to ſhew the probability of this origin. Another liſt of many other plants follows, in which the traces are not ſo ſtrongly marked. Among the *Engliſh* indigenous plants, thought to have thus originated,

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we mention the *Veronica Hybrida*, or *Welch* Speedwell, which is believed to have ariſen from the *Officinalis* and the *Spicata*; as the *Sibthorpia Europæa* is from the Golden Saxifrage, and Marſh Pennywort.

33. Obstacula Medicinæ. *J. G. Beyerſten.* 1752.

An enquiry into, and a brief diſcuſſion of, the cauſes that have hitherto impeded the progreſs of phyſic. An ingenious and well-conducted plan, and moſt laudable deſign, which all thoſe who wiſh well to the art would deſire to ſee ſtill farther illuſtrated, by ſome ſuch character as would command attention, and give the ſubject that importance which it demands. Among other obſtacles, the writer mentions—the force of cuſtom in directing preſcription; theories founded on hypotheſes; neglect of noſology; too little attention to reputed poiſons; timid preſcription; too ſmall doſes; ignorance of apothecaries in botany, and the Materia Medica; uſe of compound medicines; ignorance of the natural claſſes of plants; *&c.* —all which poſitions are confirmed by ſuitable reflexions, and examples.

34. Plantæ Esculentæ Patriæ. *J. Hiorth.* 1752.

A liſt of ſuch native plants of *Sweden* as have been, or in ſome way or other may be, objects of culinary uſe, principally as aliments; to which are added Condiments, and *Succedanea*, to ſeveral of

of thoſe articles of exotic luxury, which the opulent nations of *Europe* import from diſtant parts of the world. It is happily not an object of importance, much leſs of neceſſity, to conſult ſuch a catalogue in this nation; but it would be matter of pleaſure and ſurpriſe to many, to ſee the great number of vegetables, which, in a country from its ſituation far from fertile, may ſupply the want of bread. The ſubjects of this tract amount to 127, many of which would demand a place in an *economical herbal*, adapted to a much milder climate.

35. EUPHORBIA. *J. Wiman.* 1752.

A complete botanical hiſtory of one of the moſt extenſive *genera* of plants, ſeveral of which have a place in the *Materia Medica*, which, in the *Linnæan* ſyſtem, ſtands in the *Dodecandrous* claſs, and furniſhes greater inſtances of anomalies in the habit of the ſpecies, than perhaps is elſewhere to be met with; as it contains not only the *Euphorbium*, the *Eſula*, and *Cataputia* of the ſhops, but alſo all the *Tithymali*, or Spurges, of authors. Fifty-three ſpecies are deſcribed in this diſſertation, and their ſynonyms delivered, together with a general account of their uſes in phyſic. In the *Species Plantarum* this genus is augmented to the number of 62 kinds, to which probably more might be added from *Burman*'s *Flora Indica*. At this day, the *Euphorbia* are but little uſed; internally, ſcarcely ever: their extreme acrimony, and draſtic powers, being too unmanageable.

36. MATERIA MEDICA E REGNO LAPIDEO. *J. Lindhult.* 1752.

Under 72 heads, Dr. *Lindhult* has compriſed all the ſimples of the *Materia Medica* from the foſſil kingdom, digeſted exactly in the method obſerved by LINNÆUS himſelf, in his ſeparate publication of the vegetable *Materia Medica.*

37. MORBI EX HYEME. *S. Brodd.* 1752.

Preceding the hiſtory of the diſeaſes ariſing from winter cold in *Sweden*, Dr. *Brodd* gives a general account of the effects of intenſe cold on the animals of the country, in changing their colour, diminiſhing the ſize of the breed in various ſpecies; and in *Lapland*, he thinks it is inſtanced in the human race itſelf: the ſtate of the atmoſphere; the production of meteors; differences obſervable in the particles of the ſnow; effects of various and additional degrees of cold on the ice of lakes, *&c.*; extraordinary appearance of the *Aurora Borealis*; prognoſtics of ſevere winters; and ſigns of the approaching remiſſions of cold; with other curious particulars.

The diſeaſes of the winter ſeaſon in *Sweden* are more particularly ſuch as follow: *Perniones*, or Kibes, unuſually painful and untractable; for the cure, among other applications mentioned, is the diluted marine acid, recommended by LINNÆUS himſelf, who had found it uſeful among the ſailors when he was phyſician to the fleet; but this cannot be uſed when the diſeaſe is advanced

to

to its ulcerated ſtate. *Paronychia*, or Whitlow, of various kinds, very frequent, and not ſeldom attended with dangerous conſequences. *Congeſtio Hyemalis*, a ſpecies of Catarrh extremely common, and the ſource of worſe diiſeaſes, uſually ariſing from ſudden tranſitions from heat to cold, and incautious expoſure to the latter: obſervations on this diſorder from the *Iter Weſtro-gothicum* of LINNÆUS. *Coughs*, univerſal, ſometimes to the entire diſturbance of all public aſſemblies. *Pleuriſies*, eſpecially among the country people, who indulge in ſtrong liquors. *Peripneumonies*, particularly conſidered as endemic with the inhabitants about the copper mines. The tract concludes with a compendious view of the effects of cold, and the phænomena of winter ſeaſon, in a ſet of corollaries, and a mention of the hard winters in *Europe*, in 1586, 1665, 1684, 1709, 1740, 1752. In the latter, the loweſt point of the thermometer, at *Upſal*, was 31 of *Celſius*'s, equal to about 24 below 0 in *Fahrenheit*.

38. ODORES MEDICAMENTORUM. *A. Wahlin.* 1752.

An ingenious illuſtration of the doctrine, which teaches, that thoſe different ſenſations excited in the organs of ſmell by different odours, will lead to the explanation of the qualities inherent in ſuch bodies; and that from thence they may be claſſed, and their general effects on the human body deduced. After a train of general explanatory and phyſiological obſervations, Mr. *Wahlin* introduces Sir

Sir *Francis Bacon*'s contraſt between youth and old age, in order more clearly to illuſtrate (which he does in a familiar, but ſtriking manner) the effects of wine and ſpirituous liquors in their various and progreſſive operation on the nervous ſyſtem, from their firſt exhilarating effect in a moderate quantity, to their intoxicating and fatal iſſue. This he makes, in ſome meaſure, the baſis of his reaſoning on the effects of other odorous ſubſtances, which he at length arranges into ſeven claſſes.

1. *Aromatici.* Cinnamon; Seeds of Amomum, *&c.*
2. *Fragrantes.* Saffron; Jaſmin Flowers, *&c.*
3. *Ambroſiaci.* Muſk; Muſk Crainſbill, *&c.*
4. *Alliacei.* Garlic; Aſſa Fœtida, *&c.*
5. *Hircini.* Herb Robert; Stinking Orach.
6. *Tetri.* Opium; Henbane; Corianders.
7. *Nauſeoſi.* White and black Hellebore; Tobacco.

The ſpecific effects of each of theſe claſſes are then briefly explained, and their reputed mode of operation. This paper may be conſidered as a comment on ſection 362 of the *Philoſophia*, and properly accompanies the *Sapor Medicamentorum*, before-mentioned.

39. Noctiluca Marina. *C. F. Adler.* 1752.

Mr. *Adler*, who went as ſurgeon in a *Swediſh Eaſt India* ſhip to *China*, in 1748, firſt gives an account of thoſe authors who have treated on the luminous appearance of the ſea water in ſtorms, and in the current occaſioned by the courſe of

ſhips; and then proceeds to inform us, that it was not till the year 1749, that this phænomenon was certainly diſcovered to be owing, at leaſt in many parts of the ocean, to an inconceivable number of minute inſects. One of theſe is the ſubject of this paper, and is completely deſcribed, and a figure given, as augmented by the microſcope. It is of the *Vermes* claſs, and the *Mollusca* order, and ſtands in the *Syſtem* under the name of *Nereis Noctiluca*, p. 1085, being the firſt of eleven ſpecies there deſcribed. Its real length does not exceed the 6th part of an inch.

Later writers have thrown more light on this diſcovery, by exhibiting a great variety of theſe living *Phoſphori*.

40. RHABARBARUM. *S. Ziervogel.* 1752.

A botanical and medical hiſtory of the *Rheum Undulatum*, Sp. Pl. 531. deſcribed here under the idea of its being the *true Rhubarb*, having been ſent from *Ruſſia* as ſuch by Profeſſor *Gerber* to Conſul *Sprekelſen* at *Hamburgh*, and by him introduced into many gardens. The medical hiſtory therefore of this plant muſt be transferred to the *Rheum Palmatum*, which is now generally believed to be the true *Rhubarb*, of which a deſcription and figure may be ſeen in the *Phil. Tranſ.* vol. lv. p. 290. communicated by Dr. HOPE, profeſſor of botany at *Edinburgh*, who raiſed it from ſeeds ſent him by Dr. *Mounſey*, in 1763, and under whoſe culture the plant has greatly thriven, and yielded large quantities of good Rhubarb. Mr. *Pennant* has

has told us, in his late *Tour*, that the Duke of *Athol* has produced it in great perfection, and probably, if particular intereſts did not militate againſt it, the importation of this root might ſoon become unneceſſary. It is not wonderful that the former plant ſhould have been taken for the *true* Rhubarb, as both grow in *China*, and about the famous wall.

41. Cui Bono? *C. Gedner.* 1752.

To what purpoſe are all the reſearches of the naturaliſt? A queſtion which only ignorance or incurioſity can dictate. We will not pay our readers ſo ill a compliment, as to ſuppoſe they need the conviction here referred to. Nevertheleſs, if there are any who wiſh to ſee what reaſons may be alledged by the naturaliſt, againſt thoſe who object the frivolouſneſs and inutility of his reſearches, they will moſt probably receive ſome ſatisfaction from an attentive conſideration of this paper, which is incapable of abridgment, and may be properly read with the 18th, *Curioſitas Naturalis*, and 20th *Oeconomia Naturæ*. The author has introduced a pleaſant and inſtructive allegory, which Linnæus himſelf was wont to uſe on theſe occaſions.

42. Nutrix Noverca. *F. Lindberg.* 1752.

This tract is very recommendable, as containing a compendious view of every material argument that has been urged to prove the propriety and advantage of mothers nurſing their infants at

their own breaſt. Several obſervations on the diſeaſes of children are interſperſed, and ſome local obſervations, which loſe their force in this country.

This ſubject has been ſo ably diſcuſſed by ſeveral maſterly pens in this kingdom, that we ſhall only obſerve, reſpecting the preſent tract, that Dr. *Lindberg* allows more force, than ſome of our own writers, to thoſe arguments which admit of diſeaſes and temperaments being tranſmiſſible from nurſes to their foſter-children.

43. HOSPITA INSECTORUM FLORA. *J. G. Forſkahl.* 1752.

The author of this paper begins by giving a general hiſtory of all the material writers on Inſects, and the method in which they have treated the ſubject, whether in relation to the *metamorphoſes* and economy principally, in the manner of *Swammerdam*; or by giving a detail of the *ſpecies* at large alſo, as *Ray*, *Reaumur*, and *De Geer*, have done. He then does due honour to the Queen of *Sweden*, on account of the magnificent muſeum which her majeſty had conſtructed at the palace of *Drottningholm*, which is very ſuperb in *Inſects*, *Shells*, *Corals*, and *Chryſtals*, &c. He next exhibits his plan: it conſiſts in arranging all ſuch inſects as are natives of *Sweden*, each under the plant on which it is found, or on which it feeds; the references being made to the *Fauna*, and *Flora Suecica* of LINNÆUS. It would be highly acceptable to thoſe who cultivate this branch of natural hiſtory, to ſee this arrangement augmented by the numerous diſcoveries

that

that have been made ſince the publication of this tract, as it is a part of the hiſtory of inſects not ſufficiently attended to before; and nothing would conduce more to extend and facilitate the knowledge of it, or lead more effectually to the means of deſtroying the noxious ſpecies.

44. MIRACULA INSECTORUM. *G. E. Avelin.* 1752.

Intended to awaken curioſity, and excite attention to the ſtudy of inſects, by pointing out the extraordinary inſtincts and properties with which particular kinds are endued; many of whoſe operations were inexplicable, and frequently attributed to other cauſes.

Nothing exemplifies this truth more than the hiſtory of a minute inſect, or rather worm, of which we have, in this diſſertation, the firſt proper intelligence; it is very curious, and worthy of notice. In *Finland*, *Bothnia*, and the northern provinces of *Sweden*, it was not unfrequently that people were ſeized with a pungent pain, confined to a point, in the hand, or other expoſed part of the body, which preſently increaſed to a moſt excruciating degree, and hath ſometimes been ſuddenly fatal. This diſorder was more particularly obſerved in *Finland*, eſpecially about boggy and marſhy places, and always in autumn. At length it was diſcovered, that this pain inſtantly ſucceeded ſomewhat that dropped out of the air, and in a moment penetrated and buried itſelf in the fleſh. The *Finlanders* had tried variety of applications to no purpoſe, until at length a poultice of curds, or

cheeſe, was found the moſt effectual in eaſing the pain; and the event confirmed, that the inſect was allured by this application to leave the fleſh; as on its removal, this worm, no longer than the ſixth of an inch, was found in it, and thus the cauſe of this painful diſeaſe explained. LINNÆUS himſelf once ſuffered from this animal the effect here ſpoken of: but we owe the complete hiſtory of it, and its place in the Syſtem, to Dr. SOLANDER, who gave it in to the Royal Academy of Sciences at *Upſal.* This worm ſtands in the Syſtem under the name of *Furia Infernalis*, p. 1325; but by what means this creature is raiſed into the air, is as yet unknown.

45. NOXA INSECTORUM. *M. A. Baeckner.* 1752.

A curious and uſeful paper, particularly ſpecifying all thoſe inſects that are more immediately hurtful to animals and vegetables. They are claſſed in eleven diviſions, according to the ſeveral ſubjects on which they prey, or to which they bring devaſtation.

1. Such as are particularly offenſive to man. Under this head, the author ſeems inclined to favour that opinion which Mr. *St. André*, and ſome other *French* phyſicians and philoſophers have held, in aſcribing to *Acari* the cauſe of many *cutaneous* and *contagious* diſeaſes.

2. Such as are deſtructive within doors, to furniture, cloaths, grain, *&c.* Among theſe is particularly mentioned the Seed Beetle, (*Bruchus Piſi*, Syſt. 604.) the cauſe of great deſtruction to peaſe

peaſe in *Penſylvania*, &c. and which has found its way into ſouthern *Europe*. See alſo *Kalm*'s Travels, i. p. 176, *Engliſh* edition.

3. To fruit-bearing trees and culinary herbs.
4. To trees, woods, ſtove and green-houſe plants.
5. To corn-fields, paſtures, *&c.*
6. To horſes, horned cattle, and other animals, *&c.*

The ſubjects of theſe three laſt papers are of great importance in rural economy, and would come with all poſſible propriety into an *Economical Herbal*, that ſhould ſpecify, in treating upon each plant, the ſpecies of inſect which inhabits or feeds on it.

46. VERNATIO ARBORUM. *H. Barck.* 1753.

A curious eſſay, perhaps the firſt on the ſubject, relating to the *Leafing of Trees* in *Sweden*, being the reſult of a variety of obſervations, made at the requeſt of LINNÆUS himſelf, in almoſt all the provinces of that kingdom, and intended to lead, as if by the dictates of nature, to the true time of committing the grain to the earth. A table is exhibited, ſhewing at one view the days on which 19 ſpecies of trees, all natives of *Sweden*, put forth their leaves in three ſucceſſive years. The ſame table ſhews alſo the day on which *Barley* was ſown and reaped in all the ſame provinces. From another table it appears, that at *Pitha*, which lies in about 63 degrees north, from the average of 12 years, there intervene 85 days between the ſowing

of barley and its harveſt; and at *Upſal*, in 60 degrees, the average of ſix years turned out to be 105 days. It is concluded, upon the whole, that in *Upland*, the leafing of the *Birch-tree* ſhould direct the time for ſowing barley; but, that different trees will beſt indicate the time in different places. Another curious obſervation follows from this paper: that, notwithſtanding the difference in the number of days between the ripening of barley in *Lapland* and in *Upland*, it will be found that the greater *length* of days in the former country, gives a balance of ſun equal to the greater *number* of days in the latter.

47. INCREMENTA BOTANICES. *J. Biuur.* 1753.

A conciſe hiſtory of the riſe, fate, and progreſs of botanic ſcience, from the firſt traces of it to the preſent time; divided into four periods or epochs. The firſt includes only the antients, by whom are underſtood *Ariſtotle*, *Theophraſtus*, *Dioſcorides*, and *Pliny*; who, as compilers chiefly, did little but deliver the tradition of the times; and whoſe plants, after the commentaries of a century, cannot be known by their deſcriptions to this day, ſo little had they extended their ideas to ſpecific diſtinctions; yet we muſt venerate their writings, as the only remains of this ſcience tranſmitted to our times. The ſecond period commences with the reſtoration of letters, after the taking of *Conſtantinople* by the *Turks*, beginning with *Brunfelſius*, and ending with the *Bauhines*. The third, which is called the period of *Syſtematics*, is continued

tinued to the time of LINNÆUS, who effected that great reformation in the whole ſcience, by which it is fixed as on a new baſis. The concluſion of this paper contains ſome information relating to the introduction of figures cut in wood for the old herbals; whence it appears, that *Plantin*, the famous printer of *Antwerp*, monopolized almoſt all the figures of this kind during his time, and became the principal printer in his day for botanical books. By ſuch means *Norton*, the printer of *Gerard*'s herbal, procured from *Frankfort* all the figures we ſee in his book, which had before ſerved for an edition of *Tabernamontanus*'s herbal in 1588.

48. DEMONSTRATIONES PLANTARUM. *J. G. Hojer*. 1753.

Intended principally for the uſe of thoſe pupils who attended the botanical lectures in the *Upſal* garden, conſiſting chiefly of a liſt of the exotics therein cultivated, as they ſtood in this year, amounting to near 1450 diſtinct ſpecies, which, in 59 deg. 51 min. N. latitude, is no inconſiderable number; all double flowers and varieties being entirely excluded. After the invention of trivial names, this liſt is the firſt ſpecimen of the uſe of them in forming compendious catalogues, and is at once an evidence of the utility of them. There is an obſervation in this paper which may appear ſomewhat paradoxical to ſome readers: ſeveral of the plants that are natives of ſouthern *Europe*, produced ſeeds this year, without ſhewing any *corolla*; ſuch were

two *Ciſti*, &c. It may ſeem ſtrange too that *Lapland* and alpine plants ſhould periſh in the ſame ſituation through cold, but it is true; and the fact is, that in their *native* ſituations, they are, at the change of ſeaſon, inſtantly covered with ſnow, and thus defended from injury.

49. HERBATIONES UPSALIENSES. *A. N. Fornander.* 1753.

As the foregoing catalogue comprehends thoſe of the garden, this exhibits the indigenous plants of the neighbourhood of *Upſal*, as they occur in the ſimpling excurſions which the profeſſor made with the botanical ſtudents, and were uſually performed in about eight days during the courſe of each ſummer.

50. INSTRUCTIO MUSEI. *D. Hultman.* 1753.

The method of conſtructing a muſeum for the purpoſes of natural hiſtory in all its branches, with directions for collecting, preſerving, and diſpoſing the ſubjects. An enumeration of the beſt repoſitories of this kind in *Sweden:* ſuch is that of the *Queen*, rich in ſhells, inſects, and corals; that of the *King*, in amphibia, fiſhes, animals of the Vermes claſs, in ſpirits; and the birds of *Sweden:* that of Count *Teſſin*, abounding in foſſils and gems, ſhells, pictures, *&c.*: that of Chancellor *Gyllenborg:* that belonging to the Royal Academy: *Stobæus*'s at *Lunden*; and *Ziervogel*'s at *Stockholm*. The method of drying and preſerving plants

plants for an *Hortus Siccus:* thoſe of former celebrated botaniſts enumerated. A method, perhaps more curious than uſeful, of caſting an artificial plant, by forming a mould with plaiſter over a real plant placed in a veſſel, then burning the incloſed plant to aſhes, which are to be ſhook out, and the cavity filled with melted ſilver.

This little tract has been publiſhed in *Holland*, for the uſe of merchants who deal in the ſubjects of natural hiſtory; and ſomething of the ſame kind has been lately done here.

AMŒNITATES ACADEMICÆ.
VOL. IV. 1760. pp. 600.

51. PLANTÆ OFFICINALES. *N. Gahn.* 1753.

The ſcope of this paper is entirely *pharmaceutical*; and howſoever it may be ſuperſeded at preſent, it muſt have been very uſeful at the time of its publication, having been drawn up for the benefit of the apothecaries in *Sweden*, in conſequence of ſome new regulations intended by the royal college of phyſicians, under the preſidentſhip of Dr. *Bæck:* and it was alſo highly acceptable to others, as being probably the firſt liſt of the *medicinal* plants, to which the *Linnæan* ſynonyms had been accommodated. This paper contains,

1. A catalogue of the vegetable ſimples of the *Materia Medica*, amounting to near 580, ſpecifying the parts of each uſed in medicine; to which is oppoſed the *Linnæan generical* and *trivial ſpecific* name, from the *Species Plantarum*; marking alſo,

alſo, by a different character, all ſuch as the author thinks might be expunged. Then follow directions for rightly gathering and preſerving the ſeveral plants, or ſuch parts of each as are in uſe.

2. A liſt of ſuch *ſimples* as grow ſpontaneouſly in *Sweden*; many of which had needleſsly been imported.

3. Liſts of ſuch as might advantageouſly be cultivated for medicinal purpoſes; to which is finally added, a liſt of ſuch drugs as are imported from the ſeveral diſtant quarters of the globe.

52. CENSURA SIMPLICIUM. *G. J. Carlbohm.* 1753.

A very inſtructive paper, conſiſting, after ſome pertinent obſervations, principally of two liſts of ſimples: The firſt, ſuch as the writer thinks might without detriment be expunged from the *Materia Medica*. The ſecond, ſuch as might advantageouſly be received into that catalogue; their virtues having been ſufficiently aſcertained to juſtify ſuch an introduction. To this latter, the author has ſubjoined, under every article, the quality of the ſimple, and his authority in general for allowing each its deſigned rank. A paper of this tendency is not unworthy the obſervation of all thoſe who would improve and enrich the *Materia Medica*; and probably conſiderable additions might be made to this liſt. We add the names of theſe ſimples.

Acmella,

Acmella.
Actææ *radix.*
Alkannæ *rad.*
Baccæ Norlandicæ.
Bella donna.
Britannica *herb.*
Chamæmori *baccæ.*
Campeſcanum *lign.*
Camphoratæ *herb.*
Caſſinæ *folia.*
Ceanothi *rad.*
Collinſonia.
Coridis *herb.*
Conyzæ *herb.*
Cotulæ *herb.*
Diervilla.
Dulcamara.
Elaterium album.
Faba Ignatii.
Fungus melitenſis.
Galium luteum.
Geum paluſtre.
Hypociſtis.
Juglandis *fruct.*
Lobeliæ *rad.*
Lapathi ſanguinei *rad.*
Lauro-ceraſi *folia.*
Linum catharticum.
Linnææ *herb.*
Meliſſa canarienſis.
Mentha piperita.
Monardæ *herb.*
Muſcus caninus.
Muſcus cumatilis.
Myrti brabantici *herb.*
Pedicularis.
Peraguæ *folia.*
Phytolaccæ *ſuc.*
Profluvii *rad.*
Ribes nigrum.
Sabadillæ *ſem.*
Saponaria *nuclei.*
Scrophulariæ aquat. *h.*
Senegæ *rad.*
Serpentum *rad.*
Sophora.
Uvæ Urſi *fol.*
Vitis Idææ *bac.*
Vulvariæ *herb.*

53. Canis Familiaris. *E. M. Lindecrantz.* 1753.

This natural hiſtory of the *Dog*, was one of the firſt complete exemplifications of zoological deſcription, according to the principles of the *Linnæan* ſchool, as laid down in the *Methodus Demonſtrandi*. The writer conſiders the whole race as reducible

reducible to one ſpecies, and diſtinguiſhed from other congenerous animals, ſuch as the *wolf*, *fox*, *hyæna*, &c. not only by the curvature of the tail, which is uſually to the left, but by the diſpoſition of the *Suturæ Velleris*, or ridges formed by the meeting of the ſeveral courſes of hair on divers parts of the body; and the number and ſituation of the *Verrucæ*, or warty riſings in the face. In theſe diſtinctions, heretofore unnoticed, all the varieties of this animal agree. Eleven varieties of the *dog*-kind are here ſpecified, after which the properties and uſes, together with the whole of the economy of this *faithful* animal, are fully ſet forth, and his diſeaſes deſcribed. Our author tells us, that the *Laplanders* and *Dalekarlians* are in poſſeſſion of ſome ſecret by which they inſtantly diſarm the moſt furious dog, and oblige him to fly with all his uſual ſigns of fear, becoming ſilent at once, and dropping his tail. This art, however, is ſaid not to be unknown in *England*.

54. STATIONES PLANTARUM. *A. Hedenberg*. 1754.

The intention of this paper is to prove, that the knowledge of the *Natale Solum*, the natural places of growth of plants, is the true foundation on which the art of gardening ſucceſsfully muſt be built. The author laments that botaniſts and writers of *Floræ* have been too remiſs in their obſervations of this kind; whence numbers of exotic ſeeds and plants have failed to produce flowers, or to perpetuate themſelves in gardens. He mentions a remarkable inſtance in the *Nitraria Schoberi*,

(Spec.

(Spec. Pl. 638.) which remained deſtitute of flowers for 20 years in the *Swediſh* gardens; at length LINNÆUS rendered it fertile, by means of ſalt ſcattered about the roots. The knowledge of the *Stationes Plantarum* is alſo equally uſeful to the practical botaniſt, in aſſiſting his reſearches.

Every plant has its natural ſituation and ſoil, in which alone it will thrive, and out of which, in many inſtances, no care or culture will preſerve it alive. The knowledge of this axiom, as far as reſpects indigenous plants, is applicable to purpoſes of agriculture, and with this view the author has given an arrangement of the *Swediſh* plants, divided into ſix claſſes, according to their ſeveral places of growth, as follows:

1. Aquatics.	4. Upland plants.
2. Alpine.	5. Mountainous.
3. Wood-plants.	6. Paraſitic.

Theſe are again ſubdivided; the aquatics, into *marine*, *maritime*, *marſh*, *bog plants*, &c. after which follows the definition of the terms, explaining the nature of theſe different ſoils and ſituations.

55. FLORA ANGLICA. *J. O. Grufberg.* 1754.

At the time of the publication of this paper, the *Linnæan* ſyſtem of botany had made but ſmall progreſs in *England*; to ſuch however as had adopted it, this muſt have been a very acceptable preſent, as being the firſt arrangement, in the *Linnæan* method, that had been given to the *Engliſh*

plants; as alſo the firſt of thoſe compendious *Floræ*, in which the newly-invented *trivial* names had been exemplified, and which have ſince been much uſed, greatly to the emolument of the ſcience.

The author firſt diſcuſſes the utility of ſuch local catalogues, and of adhering to the *trivial* names: he then briefly deſcribes the climate of *Britain*, and its different ſoils and elevations, as favouring the growth of particular plants; enumerating ſome of thoſe which are *peculiar* to *England*; and in what way thoſe of *Sweden* differ from ours. He ſays *Sweden* abounds more in *alpine*, *upland*, and *wood-plants*, than *England*, which excels in *marine* plants, and ſuch as affect a chalky ſoil, of which latter *Sweden* is almoſt deſtitute.

Having given due praiſe to the *Engliſh* botaniſts, and particularly to Mr. RAY, he ſubjoins the catalogue; in which there is a reference from each *Linnæan* name, to the plant as it ſtands in the laſt edition of *Ray*'s *Synopſis* by *Dillenius*. This *Flora* contains nearly a thouſand plants, the Moſſes and Fungi not being introduced. Such as are not found in *Sweden*, are diſtinguiſhed by the Italic type, and of theſe there are nearly three hundred. A liſt of upwards of an hundred, which the author could not inveſtigate, concludes the whole.

56. HERBARIUM AMBOINENSE. *O. Stickman.* 1754.

The *Herbarium Amboinenſe* is one of the greateſt and moſt magnificent botanic treaſures the world ever ſaw; and which we owe to the ſingular zeal and

and induſtry of RUMPHIUS, who lived upwards of 40 years in *Amboina*, and was conſul there under the *Dutch Eaſt India* company. He ſweetened the leiſure hours of his life by an uncommon and ſucceſsful application to the ſtudy of natural hiſtory, which he purſued in all its branches, but particularly in botany. He had the misfortune to loſe his family by the fatal earthquake of 1674; and ſome years after, having collected his materials for this work, and meditated his return to *Europe*, ſuffered the loſs of his ſight from a cataract, in which ſtate he lived 20 years, and died in 1706.

This work comprehends the plants of *Amboina*, *Malacca*, *Banda*, and the neighbouring iſlands; and, allowing for the time when it was written, contains excellent deſcriptions of the ſeveral vegetables of the *Eaſt Indies*, with a copious account of their uſes; and though inferior to the *Hortus Malabaricus* as to the engravings, excels it in the hiſtory of the ſubjects. There are nearly one thouſand vegetables deſcribed in this work, of which a great number were entirely new to the *European* botaniſts: of this number upwards of ſeven hundred are engraved.

The manuſcript was 30 years in the poſſeſſion of the *Dutch Eaſt India* company, and was reſcued from oblivion by the intereſt and extraordinary zeal of the editor, Profeſſor *Burman*, of *Amſterdam*; who, with great induſtry and ſkill, has alſo extricated the ſynonyms as far as poſſible, and ſubjoined them to each deſcription. He began this publication

publication in 1741, and finiſhed it in 1750, in ſeven volumes folio, except a ſmall ſupplement, which was not publiſhed until 1757. In 1769, the editor rendered his work ſtill more uſeful, by the publication of an alphabetical *index* to theſe volumes, with the *Linnæan* ſynonyms; together with a like one adapted to the *Hortus Malabaricus.*

The pupils of the *Linnæan* ſchool much regretted, that the *Herbarium Amboinenſe* had not been completed before the publication of LINNÆUS's *Species Plantarum*, that the ſynonyms might have been introduced. To remedy this defect was the intention of Mr. *Stickman*'s paper, in which the ſubjects are arranged in the order of the original work, with the *Linnæan* name annexed to each; and afterwards, as many as could be extricated, are thrown into a *Flora*, according to the Sexual ſyſtem.

It is to our neighbours the *Dutch* that the botaniſts are obliged for two of the moſt valuable performances that are yet extant in the hiſtory of foreign vegetables: this of *Rumphius*, and the *Hortus Malabaricus* of *Rheede.* But we hope that it will not be long before they will be more indebted to an illuſtrious *Engliſhman*, who, in purſuit of the ſame object, has encountered the perils of a circuit round this globe, for a work, which, from his taſte, his liberality, and zeal for the promotion of ſcience, may be expected to ſurpaſs thoſe above-mentioned, as well in extent, as in grandeur, and elegance of execution.

57. CERVUS TARANDUS. *C. F. Hoffberg.* 1754.

In this tract we have a complete hiſtory of the *Rein-deer*, (*Cervus Tarandus*, Syſt. Nat. p. 93.) an animal which almoſt ſolely conſtitutes the riches, not only of the *Laplander*, but of the other arctic inhabitants of the globe. In *Lapland* more particularly, the whole *res pecuaria* reſpects this animal, as it is in that country in a more eſpecial manner domeſticated. In ſummer the *Rein-deer* feed on various herbs, but reject a conſiderable number that are eaten by others. Of the particular ſpecies thus refuſed, the reader is preſented with a catalogue, from the experiments of a curious obſerver. In winter, they are ſolely ſuſtained by the Rein-deer liverwort, (*Lichen Rangiferinus*) or *Coralline Moſs*, with which the alps of the north are covered. The *Rein-deer* are obnoxious to many diſeaſes, which are all here diſtinctly deſcribed, and particularly thoſe ariſing from the *Gad-fly*, called after its name, (*Oëſtrus Tarandi*, Syſt. Nat. 969.) which depoſits its eggs on the back of theſe animals, and in conſequence of which immenſe numbers of the *Deer* periſh yearly. See alſo *Flor. Lappon.* p. 360.

58. OVIS. *J. Palmærus.* 1754.

This diſſertation contains the natural hiſtory of the Sheep, on the ſame plan as that of the foregoing paper, and abounds with many curious obſervations. The genus, ſpecies, and varieties are deſcribed, and many phyſiological obſervations

given. A liſt of thoſe plants which the ſheep does not eat, amounting, from the experiments of the *Pan Suecus*, to upwards of 140 ſpecies; ſome pointed out that are particularly grateful, of which number are the *Sheep's Feſcue Graſs*, (*Feſtuca Ovina*, Sp. Pl. p. 108.) the *Thlaſpi Burſa Paſtoris*, or Shepherd's Purſe; and an enumeration of ſuch as are highly noxious and poiſonous to this animal; ſuch are, Corn Horſetail, (*Equiſetum Arvenſe*;) Spearwort, (*Ranunculus Flammula*;) *Lancaſhire* Aſphodel, (*Anthericum Oſſifragum*;) Mouſe-ear Scorpion-graſs, (*Myoſotis Scorpioides* β;) Wood Anemony, (*Anemone Nemoroſa*;) Dog's Mercury, (*Mercurialis Perennis.*)

In treating on the diſeaſes of ſheep, the author enquires particularly into the *Dropſy*, or Rot, occaſioned by worms in the liver, (*Faſciola Hepatica*, Syſt. p. 1077.) which he thinks are ſwallowed by the animal in marſh water; and propoſes ſalt as a preventive of their effects. [See the pathology of this diſeaſe by Dr. *Nicholls*, in the *Phil. Tranſ.* vol. xlix. p. 247. We can only add, that this paper cannot be leſs acceptable to naturaliſts, and lovers of rural economy in *England*, than the foregoing to an intelligent *Laplander.*]

59. Mus Porcellus. *J. J. Nauman.* 1754.

A zoological tract relating to the animal uſually with us called *Guinea Pig*, the *Indian Rabbet* of the old authors, and the *Cavia* of the *Braſilians*; which Linnæus ranks under the *Murine* genus, by the name of *Mus Porcellus*, Syſt. p. 79.

The writer treats largely on the manners and whole economy of this little reſtleſs quadruped: his obſervations are evidently the reſult of long acquaintance and attention. He ſays they are delicate food.

60. HORTICULTURA ACADEMICA. *J. G. Wollrath.* 1754.

This paper is intimately connected with N° 54, the *Stationes Plantarum*. It exhibits a compendious ſyſtem of the principles of gardening, particularly as applicable to botanical or academic gardens. In the beginning it is laid down as an axiom, "that the whole depends on a perfect knowledge of the climate of each plant, and the ſoil in which it flouriſhes in its own climate." As a ſtriking inſtance of the neceſſity of paying regard to proper ſoil, and to induce curious people who tranſmit ſeeds and plants to *Europe*, to be more accurate in this particular, the writer mentions that of the *Ricotia Ægyptiaca*, (Spec. Pl. p. 912.) which no management could bring to flower and fruit, until LINNÆUS ſuggeſted mixing the *Argilla Nilotica*, the clay of the *Nile*, with the earth in the pot, and which very ſoon fully ſucceeded.

The *Linnæan* terms applicable to the ſeveral kinds of gardens are defined, the heat of the different climates aſcertained by *Celſius*'s thermometer, and the various ſoils and ſituations proper to each enumerated.

61. CHINENSIA LAGERSTROMIANA. *J. L. Odhelius.* 1754.

At the time that LINNÆUS's great patron, Count *Teſſin*, was chancellor to the King, and preſident of the Royal Academy of Sciences, he obtained, by the concurrence alſo of M. *Lagerſtrom*, then counſellor of the chamber of commerce, and director of the *Swediſh Eaſt India* company, an order, that each ſhip ſhould be provided, at the expence of the Company, with a naturaliſt wholly devoted to his proper purſuits. To this inſtitution we owe the diſcoveries made by *Ternſtrom*, *Toren*, and *Oſbeck*; and in conſequence M. *Lagerſtrom*, who was himſelf a man of letters, and a friend to ſcience, procured, at his own expence, a great number of natural curioſities from *China* and the *Eaſt Indies*, which he preſented to the muſeum of the univerſity at *Upſal*. Among theſe particularly was a collection of the medicinal plants preſerved in the apothecaries ſhops in *China*; alſo a *Chineſe* herbal, in 36 volumes in 8vo, of which two conſiſt entirely of figures.

The tract before us is a ſcientific deſcription of more than 50 ſubjects of natural hiſtory, chiefly birds and fiſhes, collected from *China* by M. *Lagerſtrom*. It is ſtill of value, as being referred to from the Syſtem of our author.

62. CENTURIA PLANTARUM. *A. D. Juſſenius.* 1755.
63. CENTURIA II. PLANTARUM. *E. Torner.* 1756.

Theſe tracts contain the deſcriptions of very rare, or heretofore undeſcribed plants, ſent to

LINNÆUS

LINNÆUS from various parts of the world. Thoſe deſcribed in the ſecond *century* were tranſmitted by *Seguier* from *Verona*; by *Sauvages* from *Montpelier*; by Dr. *Burman*, who had received his from the *Cape of Good Hope*; and ſome by Mr. *Miller* of *Chelſea*. The time elapſed ſince the publication of theſe papers hath not leſſened the uſefulneſs of them, ſince they are cloſely connected with the *Species Plantarum*, are referred to in that work, and remain as ſo many illuſtrations of the ſyſtem of LINNÆUS.

64. SOMNUS PLANTARUM. *P. Bremer.* 1755.

The ſubject of this paper, at the time of its publication, excited the attention of the curious throughout *Europe*. That nocturnal change to which certain plants are liable, and which is here analogically called *Sleep*, is more particularly manifeſted in thoſe vegetables that are furniſhed with pinnated leaves, and of theſe the *Diadelphous* claſs affords the greater number. The change conſiſts in the different poſition which the *folioles*, or ſmall leaves, aſſume in the *night*-time, from that which they exhibit by *day*. Slight notices of this faculty are met with in the antients; in this paper the obſervations have been extended ſo far, as to take in upwards of 40 ſpecies, which are here enumerated, and divided into ten claſſes, according to the differences obſervable in the poſition of the leaves, during this ſleeping ſtate. The late Dr. *Hill*, by a well-inſtituted ſet of experiments, fully confirmed the idea, that this change

was owing to the abſence of light. His experiments were made with the *Abrus Precatorius*, or ſcarlet *Indian* Pea, in which plant this change had been obſerved by *Proſper Alpinus*, and in which it is remarkable.

[The novelty of this paper induced the author of this volume, ſoon after its publication, to give the ſubſtance of it an *Engliſh* dreſs, and it was publiſhed in the *Gentleman's Magazine* for the year 1757, p. 315; to which the *Engliſh* reader, who wiſhes for further information, is referred.]

65. Fungus Melitensis. *J. Pfeiffer.* 1755.

This plant, notwithſtanding the name it bears, is very far removed from the *Fungus* tribe, ſince it produces perfectly diſtinct flowers, and belongs to the *Monandria* order of the *Monoecious* claſs, and is called by Linnæus, *Cynomorium Coccineum*, Sp. Pl. 1375. The *Malteſe Fungus* is a paraſitical plant, ſingular in its form, which is little more than that of a ſimple ſtalk, about a finger's thickneſs, and ſix or ſeven inches long, and in its ſtate of fructification, the whole plant may be conſidered as an *Amentum*, or Catkin. It is found on the coaſt of *Barbary*, in *Sicily*, and ſparingly in *Malta*, ſpringing from the roots of trees and ſhrubs, as does the *Aſarum Hypociſtis*, with which it alſo agrees in its ſenſible qualities and effects, and is much eſteemed, and uſed in the countries above mentioned as an aſtringent medicine. The writer of this paper gives us, from the *Acta Bononienſia*, a detail of experiments made with this and ſeveral other

other ſubjects of the ſame claſs, to determine their comparative aſtringent and antiſeptic powers on the human blood; from the reſult of which, he tells us, that the author was led to conſider this *ſimple* as one of the ſafeſt and moſt powerful aſtringents.

66. METAMORPHOSIS PLANTARUM. *N. E. Dahlberg.* 1755.

The ſubject of this paper will ſcarcely admit of an abridgment, agreeable to our contracted plan. In order the more clearly to underſtand what the author calls the *Metamorphoſis Plantarum*, he delivers, in a brief way, the *Linnæan* doctrine of the phyſiology of plants; which ſuppoſes, that the *flower* is no other than the expanſion or evolution of the trunk or ſtem, in the following arrangement: namely, that the *Cortex*, or outer Bark, is ultimately ſpent in forming the *Perianthium*, or Cup; the *Liber*, or inner Bark, in forming the *Corolla* or Petal; the *Lignum*, or woody part, in forming the *Stamina* or Chives; and the *Medulla*, or pithy part, in forming the *Piſtillum*, or Pointal. Hence, whatſoever cauſes can diſturb the uſual, natural, and regular expanſion and evolution of theſe parts, may be ſuppoſed to occaſion great variety, and changes in the appearance of plants; and that ſuch effects are brought about by change of climate, different ſoil, ſituation, air, culture, and perhaps various other yet unknown cauſes, is certain. To theſe ſources muſt be traced the varieties we obſerve in the leaves, flowers, and roots, whether permanent, as is the caſe in ſome inſtances, or not. This

doctrine is here illuſtrated and confirmed by numerous examples; and the young and inexperienced botaniſt is guarded againſt the deluſion, frequently occaſioned by the operation of theſe cauſes; which are very extenſive in the vegetable creation.

67. CALENDARIUM FLORÆ. *A. M. Berger.* 1756.

The *Calendar* of Flora is intended to exhibit the progreſs of the ſeaſons, as they are manifeſted by the times of the flowering of vegetables; which in each ſpecies appears to be determined from ſome fixed law of nature; and from the due obſervance of which, after a ſufficient courſe of experiments had been made, the author thinks, that the ſowing of grain, and many other branches of rural economy, dependent on the ſeaſons, might, in every country, be better regulated, than by the rules in common uſe. The tables in this tract were formed from obſervations made on the common plants of *Sweden*, in the *Upſal* garden, in 1755. This affair is alſo connected with the return and departure of migrating birds, and furniſhes many curious and uſeful hints; but we do not enlarge, as this *theſis* was tranſlated, and publiſhed with an *Engliſh Calendar of Flora*, by the late Mr. *Stillingfleet*, to which we refer our readers for more ample ſatisfaction. See alſo the *Vernatio Arborum*, N° 46. of this collection, a paper ſtrictly connected with the Calendar of *Flora*.

68. FLORA

68. FLORA ALPINA. *N. N. Amann.* 1756.

The alps of *Europe* produce a ſet of vegetables very different from, and incapable of culture in, the lower ſituations. The author of this tract, who was a native of one of the provinces bordering on the *alps* of *Lapland*, with a laudable zeal for the improvement of his country, enquires what kinds of vegetables might be cultivated in thoſe deſart regions to the moſt advantage, where ſo few thrive, where ſhrubs ſcarcely ever attain even a moderate ſize, and where a tree will hardly grow erect.

To this end, he firſt enumerates all the alpine parts of *Europe*, and gives a liſt of 400 plants peculiar to thoſe ſituations. He expreſſes a wiſh, that at the royal, or public expence, a garden might be planted in the *alps*, to determine with preciſion what exotic plants would bear introduction into *Lapland*; and concludes by pointing out ſome of the eſculent and medicinal kinds, as alſo ſome that are applicable to dyeing, and other arts, which he thinks might be cultivated to advantage in that northern region.

69. FLORA PALÆSTINA. *B. J. Strand.* 1756.

Many commentators have employed themſelves in determining the plants of the ſacred writings, among whom none are thought to have been more ſucceſsful than the late learned Profeſſor *Olaus Celſius*, in his *Hierobotanicon*; who was not only well qualified by his ſkill in the learned languages, and particularly

particularly in the oriental, but was himſelf alſo an excellent botaniſt. He lamented, that by a ſingular fate, whilſt the miſſionaries of the *Romiſh* church had, in various other parts of the world, been very inſtrumental in improving natural ſcience, *Palæſtine* had been totally neglected; hence he was doubly ſolicitous to recover the collection of his countryman *Haſſelquiſt*, and much rejoiced that it was at laſt redeemed; as he hoped a view of the ſubjects would throw great light on his favourite purſuit of illuſtrating the *Phytology* of the ſcriptures. *Haſſelquiſt* had particular inſtructions to attend to this point: how well he performed this function, is proved by the preſent *Flora*, which is chiefly drawn from his diſcoveries.

This catalogue is compiled in the ſame compendious method as the other *Floræ* of theſe volumes, after the *generical*, only the *trivial* name being cited. The author has alſo availed himſelf of other helps from thoſe travellers, whoſe ſkill in this part of knowledge was indiſputable: ſome plants he has introduced on the authority of *Rauwolf*, *Proſper Alpinus*, *Shaw*, *Pocock*, and *Gronovius*. The whole number amounts to ſix hundred ſpecies. Mr. *Strand* has applied *Celſius*'s names to his liſt, whereſoever it was poſſible; but the curious will regret, that the learned author of the *Hierobotanicon* did not live to give the public another edition of his work, after ſuch new materials had come to his hands.

70. FLORA MONSPELIENSIS. *T. E. Nathhorſt.* 1756.

The happy climate, and variety of ſoil and ſituation of *Montpelier*, renders this *Flora* one of the moſt copious of any. The vicinity of ſome conſiderable mountains and foreſts, and the maritime ſituation of the place, conſpire to favour the growth of the plants of northern *Europe*, and of northern *Africa*, many of which are common to the *Eaſt* alſo. This catalogue is compiled from the *Botanicon Monſpelienſe* of *Magnol*, 1688, and the *Methodus Foliorum* of *Sauvages*. The *Flora Monſpeliaca* has ſince been greatly enriched by the publications of *Gouan*.

71. FUNDAMENTA VALETUDINIS. *P. Engſtrom.* 1756.

The author of this theſis derives the foundation of firm health and vigour of conſtitution from two ſources: 1ſt, Good ſtamina tranſmitted by parents. 2dly, Care taken in the education, from the birth to the perfect ſtate of adoleſcence. From the firſt, he thinks, that ſtrength in the *nervous* ſyſtem; and from the ſecond, that ſtrength in the *vaſcular* ſyſtem, muſt be derived. In conſidering his firſt poſition, he has, in a conciſe manner, thrown together a variety of arguments, which he endeavours to confirm by the moſt reſpectable authorities, to prove that various diſorders are tranſmiſſible to the offspring; alſo, that (independent of the ſpecific diſorders thus tranſmitted from the parent) others ariſe in children from enervated and debauched progenitors. To the

firſt

firſt claſs he refers *Mania*, Epilepſy, Gout, Stone, and ſome others; to the latter, particularly the Rickets. In conſidering his ſecond poſition, he preſcribes the appropriate regimen to the mother during pregnancy, and for the nurſe, whom he would always ſuppoſe to be the mother: and finally, concludes with ſome forcible perſuaſives to young men, not to defeat theſe deſirable ends, by a courſe of intemperance.

72. SPECIFICA CANADENSIUM. *J. Von Coelln.* 1756.

In the firſt chapter of this tract, the writer, after preſenting us with a view of the progreſs of medical ſcience through the ſeveral ſchools and ſects of phyſicians, and condemning that *farrago* of compound medicines, with which the practice of phyſic hath been ſo long burthened, conſiders the return to a more ſimple mode of preſcribing as intimately connected with its improvement. This leads him to his ſubject, which is intended to exhibit and recommend to the notice of phyſicians, a number of ſimples from the vegetable kingdom, uſed by the natives of *North America*, in the cure of their diſeaſes, ſome of which may be worth the notice of *European* phyſicians. Theſe may be conſidered as conſtituting the *Materia Medica* of the *Indians*, among whom, as with other barbarous nations, all that can be called phyſic depends entirely on the empirical application of ſimples; nor can it be doubted, that long experience hath confirmed the efficacy of many to them.

This

This catalogue is chiefly compiled from Mr. *Bartram*'s appendix, *Colden*'s papers in the *Upſal Acts*, and from the communications of *Peter Kalm*. It is not within our plan to detail the ſubjects of this paper. Among thoſe mentioned by *Bartram*, we have the exact method of exhibiting the *Lobelia Siphylitica*, Sp. Plant. 1320, the *Indian* ſpecific for the venereal diſeaſe, as delivered to Sir *William Johnſon*, who purchaſed it of the *Indians* at a great price: this is much more largely treated of by *Kalm*. The virtues of many of theſe plants are confirmed by *Colden*. The *Spigelia Anthelmintica*, or Indian Pink; the *Phytolacca Americana*, Poke-weed; *Polygala Senega*; are all conſidered, and the *Geum Rivale*, or Mountain Avens, which is uſed inſtead of *Peruvian* Bark, and that with great confidence, in *North America*. The catalogue contains near 40 plants, and the author finiſhes by propoſing a certain number of theſe, which appear to be moſt worthy of regard, to be cultivated in *Europe* for medicinal purpoſes; ſuch are the

Aralia Nudicaulis; naked baſtard Angelica.
Collinſonia Canadenſis; called Horſe-weed.
Lobelia Siphylitica; blue Cardinal Flower.
Rumex Britannica; *Virginian* Water-dock.
Polygala Senega; Rattle-ſnake Root.
Actæa Racemoſa; capſular Herb Chriſtopher.
Phytolacca Americana; Poke-weed.
Geum Rivale; Mountain Avens.

73. ACETARIA. *H. Von der Burg.* 1756.

This writer, after having pointed out the advantages and diſadvantages of eating crude vegetables, ſhewing to what conſtitutions ſuch food is adapted, and having treated largely on the qualities of *Oil* and *Vinegar*, gives a catalogue, and deſcribes the ſenſible qualities and powers of the different vegetables eaten in the various parts of *Europe* as *Sallads*. Eighteen different ſorts are here enumerated; moſt of which are ſuperſeded among us by *Lettuce*, *Endive*, *Creſſes*, and *Celleri*, the latter of which our author thinks particularly hurtful to ſuch as labour under nervous diſorders.

74. PHALÆNA BOMBYX. *J. Lyman.* 1756.

The hiſtory of the Silk-worm, (*Phalæna Mori*, Syſt. Nat. p. 817.) its culture, and ſome account of the ſeveral ſpecies of *Mulberry* on which the inſect feeds: of theſe the *white* is moſt acceptable, then the *red*, and *black Mulberry*. The writer thinks it probable that *ſilk* was firſt wrought by the *Chineſe*; from whom the art might paſs to the *Perſians*. The Emperor *Juſtinian* attempted to introduce this worm into *Italy*, but it did not then ſucceed; neither was the true culture of it brought to perfection, until about the year 1130, in *Sicily*, from whence it ſpread into other parts of *Europe*.

The author mentions a ſpecies of *Bombyx*, (*Phalæna Atlas*, Syſt. Nat. p. 808.) the coccoons of which are abundantly larger than thoſe of the *Silk-worm*, and the ſilk much ſtronger; but it is to be regretted that they are difficult to wind, and are therefore

therefore commonly ſpun. We fear that M. *Lyman* is rather ſanguine in thinking that the culture of the *Silk-worm* may ſucceed in ſo northern a climate as *Sweden*.

75. MIGRATIONES AVIUM. *C. D. Ecmark.* 1757.

This paper is confeſſedly one of the moſt complete that has been publiſhed on this curious ſubject, which is yet involved in conſiderable obſcurity; the *cauſe* of theſe migrations, with reſpect to ſeveral birds, and the places of their reſort, being yet unknown. With reſpect to the greater number, it cannot be doubted but that the facility of finding their appropriate food in diſtant countries, in the different ſeaſons, and their ſecurity during incubation, have the principal ſhare in this part of their economy.

Mr. *Ecmark* obſerves, that the greater number of migrating birds belong to the *flat-billed* order *(Anſeres)*, particularly to the Gooſe and Merganſer *genera*; and to the Waders, *(Grallæ)*: the former moſtly breed in the extreme north, where, from the relation of LINNÆUS, their number almoſt darkens the air, and they are driven ſouthward by the freezing of the lakes and rivers. Numbers alſo of the ſmall-billed birds *(Paſſeres)*, eſpecially thoſe with *ſlender bills*, are of the migrating claſs. The *inſectivorous* retire ſouthwards when our winter advances, as *others* in that ſeaſon viſit us for the ſake of berries.

It is no ſmall merit in Mr. *Ecmark*, that in this paper he brings together, in one view, more completely

pletely than any other writer had done, all the known ſpecies of migrating birds, whether exotic, or indigenous to *Sweden*. He gives a liſt of all ſuch as are mentioned in the writings of *Cateſby*, *Klein*, and *Haſſelquiſt*; but the moſt conſiderable part of his tract is employed in a methodical enumeration of the indigenous birds of *Sweden*, under each of which he mentions, as fully as is yet poſſible, the particular times of their ſeveral migrations, the places whither they reſort, their food, *&c.* and interſperſes many other remarks, equally curious and ſatisfactory to thoſe who wiſh for information in this part of natural hiſtory.

AMŒNITATES ACADEMICÆ. Vol. V. 1760. pp. 483.

76. Morbi Expeditionis classicæ, 1756. *P. Bierchen.* 1757.

The author of this tract was phyſician to the fleet of obſervation, which was fitted out in the beginning of the laſt war between *England* and *France*, by the *Swedes*, to act in conjunction with the *Danes*, in the north ſea. The *Swediſh* ſquadron conſiſted of eight ſhips of the line, beſides frigates. When M. *Bierchen* took his appointment in *Auguſt*, he found not fewer than 1900 men on the ſick liſt; and that the principal diſeaſes were *Fluxes*, *Fevers*, and the *Scurvy*. The *firſt* were attended with great pain in the bowels, extreme weakneſs, fever, and a very weak pulſe. The *Fevers* were of that kind which has been called

called the *Upſal Fever*, from its having been remarkably epidemical in that city and neighbourhood. This diſeaſe was evidently of that claſs which is called *putrid*, and was much more acute in ſummer than in autumn. It was attended with frequent and obſtinate *hæmorrhages* from the noſe, early in the diſeaſe; a quiet kind of *delirium*; *trembling tongue*; *twitching tendons*; *deafneſs*; *petechiæ*; and *vibices* on the ſkin. As the heat declined, *hæmorrhages* were not ſo much obſerved; the diſorder attacked with *pain* and *laſſitude* of body, *vertigo* and *pain* in the head, *cough* and *oppreſſion* of the breaſt; and was afterwards attended with *cardialgia*, *nauſea*, *vomiting*, *turbid*, and ſometimes in the decline, *bloody urine*. Alſo great *proſtration* of ſtrength, *weak pulſe*, and *ſubſultus tendinum*, were ſymptoms of this fever; and many were ſeized in the beginning with violent *fluxes*. The *Scurvy* ſeems to have been attended with no other than the uſual ſymptoms.

Our author appears to have been very ſolicitous in his endeavours to find out the cauſe of the extreme prevalence of this diſeaſe in the fleet. In the *Scurvy*, beſides the uſe of ſalted meats, he attributes much to the want of ſufficient exerciſe on board the ſhips; and confirms the obſervations of ſome other writers, that the diſeaſe, independent of regimen or diet, decreaſed when the fleet was out at ſea, and conſequently the ſhips more agitated by wind and waves, and the men more employed; and that it augmented when they were in a ſtate of inaction in port. He condemns the uſe

of fat and lard, as difficult of coction, and favourable to the diſeaſe. In the cure, he recommends acids; and ſays, he uſed principally the *vitriolic*: but above all he celebrates the praiſes of *ſourkrout*; for the efficacy of which he alſo cites the authority and experience of Sir *John Pringle*.

He conſiders the *Fevers* as ariſing from impeded perſpiration, co-operating with the effects of cold, moiſt, and foul air; and in *this expedition*, he thinks, the inſufficiency of proper cloathing during the *watches* might not unfrequently be found a prediſpoſing cauſe. He is of opinion that the diſeaſe was contagious; and ſays, many were cured by the early exhibition of *emetics*. In the general method of cure, the practice laid down by our later writers in *England* was ſucceſsfully purſued.

The *Fluxes* and *Dyſenteric* diſorders he aſcribes particularly to the prevalence of *ſaline* and *putrid* acrimony in the food of ſeamen; aided by foul air, and want of exerciſe, and propagated at length by contagion too.

Our author concludes, by ſuggeſting that there are two cauſes, of a general and permanent nature, which prediſpoſe to theſe diſeaſes in all naval expeditions. Theſe are, *impure air*, and a conſtant depreſſion of ſpirits in ſeamen, not hitherto ſufficiently attended to, and inducing a degree of real *Noſtalgia*. He ſeems to be ſufficiently aware of the importance of correcting the firſt, and recommends ſtrongly the uſe of *ventilators*; to the other it is not eaſy to apply a remedy. He informs us, that both *Swedes* and *Swiſs* find the greateſt relief,

relief, in the *Maladie du pais*, next to their return home, from ſtrong exerciſe: however he hints his wiſhes, that the *pay* of the men was advanced, as one of the beſt means of inſpiring them with chearfulneſs and hilarity, neceſſary to counterbalance this evil, at leaſt in ſome degree.

To conclude, the ſubject of this paper has been ſo well treated by ſeveral later judicious writers amongſt us, that the *Engliſh* phyſician cannot expect to meet with much new matter in this diſſertation; but it is nevertheleſs very worthy the regard of all who wiſh to make themſelves acquainted with the diſeaſes of the navy.

77. FEBRIS UPSALIENSIS. *A. Boſtrom.* 1757.

The fever here deſcribed, which had been remarkably epidemical in divers parts of *Sweden*, but particularly at *Upſal*, for ſeveral years before this time, and which had by many been ſuppoſed to be a new diſtemper, Dr. *Boſtrom* conſiders as of the *Remittent* claſs, and common in all other parts of *Europe*. He has determined its type to be that of the *Hemitritæa* of LINNÆUS, (ſee *Gen. Morb.* N° 23.) or the *Semitertian* of authors. In ſome years indeed, he obſerves, that it ſeemed to have changed its form, was attended with *Petechiæ*, and became contagious, under which appearance it was named *Febris Petechizans*, and *Febris Nervoſa*, when attended particularly with *delirium* and ſpaſms. In its milder ſtate, eſpecially in the ſpring, it aſſumed a regular *quotidian*, or *continued tertian* type.

In ſeeking the cauſes of the frequency of this fever, in *Upſal* particularly, our author accedes to that opinion which attributes *intermitting* and *exacerbating* fevers to the effects of *moiſt* and *foul* air, and thinks, from the ſituation of the city of *Upſal*, the cloſeneſs of the ſtreets, and eſpecially from the ſtagnating canals and waters, that its prevalence in that city may fairly be referred to this cauſe. To confirm his opinion, he cites two remarkable inſtances of cities rendered free from theſe fevers, by leading off, and drying up, ſtagnant and putrid waters.

In the *Prognoſtics*, he ſays, a ſtiffneſs of the neck was not uncommon, and that it uſually betokened a long continuance of the diſeaſe; and frequently ended in convulſions, or other dangerous affections of the nervous ſyſtem.

The cure of this fever was uſually begun by giving gentle *emetics*, and repeating them for a few days occaſionally; without which it was obſerved, that the *bark*, and other remedies, failed to have their proper effect. Gentle *paregorics* and ſaline medicines were interpoſed, and the following preparation of the bark exhibited:— One ounce was infuſed in five ounces of red wine for a few hours, the reſiduum boiled in water to eight ounces, and three ounces of ſyrup of oranges mixed with this tincture and decoction. Of this a doſe was given every two hours. Dr. *Boſtrom* entirely forbids bleeding, having commonly found it hurtful.

78. FLORA DANICA. *G. T. Holm.* 1757.

This *Linnæan* catalogue of the plants of *Denmark*, is formed principally from the *Viridarium Danicum* of *P. Kylling*, publiſhed in 1688, which comprehends eleven hundred ſpecies. A few are introduced into this liſt from *Burſer*'s *Herbarium*, and ſome from the author's own obſervations.

Dr. *Holm* was made Profeſſor of *Economy* at *Copenhagen*, and died much regretted in 1759. The plants of *Denmark* are nearly the ſame with thoſe of *England*. [In that ſplendid addition to botanic ſcience, which his *Daniſh* majeſty has made by his patronage of the *Flora Danica*, begun in 1762, of which 840 plates are delivered, nearly four fifths are *Britiſh*.]

79. PANIS DIÆTETICUS. *J. Suenſſon.* 1757.

The author begins his diſſertation by enumerating the ſeveral ſorts of grain uſed for *Bread*, adding briefly their general qualities, and the eſtimation in which they were held by the antients. He then ſpecifies the various kinds of bread, whether leavened, unleavened, or fermented; conſiders it as it is the general food of man; the nature of it as a nutriment, and the different tendencies to aceſcency in the ſeveral kinds; condemning the too liberal uſe of it by the ſtudious, perſons of weak habits, and ſuch as are troubled with flatulency—deſcants upon every part of the proceſs of making it;—treats on mill-ſtones, and reprobates ſtrongly ſuch as are formed of ſand-ſtone;

quoting inſtances of their pernicious effects; ſays, thoſe are beſt which are of a *talky* texture:—the effects of fermentation, kneading, and the different degrees of baking bread, biſcuit, cakes, *&c.*; —the qualities of the unfermented kinds; and condemns in ſtrong terms the uſe of hot new bread. He concludes by briefly reciting the qualities of ſuch as is prepared from *Rice*, *Turkey-wheat*, *Millet*, and *Sago*; and mentions the ſubſtitutes for bread in various parts of the world; ſuch are, the Caſſava, (*Jatropha Manihot*, Spec. Pl. 1429;) Potatoes; Yams; Roots of the Sea Ruſh, (*Scirpus Maritimus*, Sp. Pl. 74;) thoſe of Dropwort, (*Spiræa Filipendula*, Sp. Pl. 702;) of the Clowns-allheal, (*Stachys Paluſtris*, Sp. Pl. 811; the *Lichen Iſlandicus*, Sp. Pl. 1611; the Bark of the Wild-pine, yet in uſe in *Dalekarlia*; Cheſnuts; the Seeds of Spurrey, (*Spergula Arvenſis*, Sp. Pl. 630;) and various others, for which ſee the *Plantæ Eſculentæ*, in the third volume of this work, N° 34.

80. Natura Pelagi. *J. H. Hager.* 1757.

A general view of the contents of that vaſt expanſe of element, the Ocean; and a compariſon between its inhabitants and thoſe of the Earth: intended to excite the young and curious voyager to a more cloſe and diligent inveſtigation of this hitherto almoſt unknown, but fruitful field of ſcience.

In the vegetable kingdom, Mr. *Hager* turns the reader's attention to the Sargazo, (*Fucus Natans*, Sp. Pl. 1628) which, ſwimming in a vegetating ſtate,

ſtate, covers the deep in ſome places for hundreds of leagues. See *Kalm* and *Oſbeck*. The *Madrepores* and *Millepores*, which incruſt as it were the bottom of the Ocean, and form banks, that at length riſe into iſlands. The Corallines, and Seafans, *&c.* are ſpread over them, as Graſs on the Earth.

But what words can expreſs the myriads that belong to the *Vermes* claſs! the *Nereides*, which illuminate the Ocean; the *Meduſæ*, or Blubbers, food for whales; the *Aſteriæ*; the *Scyllæa Pelagica*, feeding amongſt the *Fucus*; the *Sea Pens*; the *Holothuria Phyſalis*, Beſanties; the *Sepiæ*; the *Argonautæ*, &c.

It were endleſs to attempt the *Fiſhes*. The various kinds of flying Fiſhes; the Bonito; the Albicore; the Tunny; the Pilot-fiſh, (*Gaſteroſteus Ductor*, Syſt. 489;) the Sucking-fiſh, (*Echeneis Remora*, Syſt. 446;) the ſplendid Dolphin; the ſpiny *Oſtracion*, &c. affording perpetual entertainment and inſtruction to the curious eye.

Among the *Amphibia*, the whole Turtle genus, ſleeping on the ſurface of the wave; the voracious Shark, thoſe tygers of the ocean; the Toad-fiſh; the Fiſhing-frog of *America*, rioting in the paſtures of *Sargazo*, and feeding on the *Scyllæa Pelagica*; called, by the ſailors, the Sea Hare.

Above; the feathered tribe, the Tropic-bird, (*Phaëton Æthereus*, Syſt. 219,) ſoaring beyond the reach of the eye; the Albatroſs, (*Diomedea Exulans*, Syſt. 214;) the Man of War-bird, (*Pelecanus Aquilus*, Syſt. 216;) the Shearwaters, (*Procellariæ*,)

lariæ,) ſkimming the ſurface; and laſtly, the numerous genera of *Divers*, &c.

Of the *Mammalia*, we admire the enormous Whale; the voracious Grampus; and the unwieldy Porpeſs; the armed Morſe; and the baſking Seal. Finally, *theſe*, which occur even to the moſt incurious eye, afford but a ſmall ſample of what this element offers to the contemplation of the more curious and inquiſitive obſerver.

81. Buxbaumia. *A. R. Martin.* 1757.

The hiſtory, accompanied with figures, of a ſmall plant of the *Cryptogamia* claſs, (*Buxbaumia Aphylla*, Sp. Plant. 1570,) ſingular in being deſtitute of leaves: it was firſt diſcovered near *Aſtracan*, by Mr. *Buxbaum*, profeſſor of botany, and member of the royal academy at *Peterſburgh*; ſince that time, in divers other parts of *Europe*; and was named after the diſcoverer, by *Haller*, in conſideration of his having enriched natural hiſtory with many new plants, from his expedition into the countries around the *Caſpian* ſea for that purpoſe.

82. Exanthemata viva. *J. C. Nyander.* 1757.

The origin of contagious diſeaſes has exerciſed the pens of many ingenious phyſicians, and various theories have been invented, all of which are briefly recited in the beginning of this diſquiſition. The author had been led by ſome ſingular circumſtances to incline to that of *Kircher*, which aſcribes them to *Animalcula*, and who has had many followers, eſpecially in *France*.

He

He next proceeds to ſhew the ſeveral analogies that ſubſiſt in the ſymptoms of contagious diſeaſes; and as *Animalcula* have been demonſtrated in the *Itch*, and, as he thinks, in the *Dyſentery* too; ſo he tells us, they have been ſeen in the Meaſles, by *Langius*; in the Peſtilence, by *Kircher*; in the Siphylis, by *Hauptman*; in Petechiæ, by *Sigler*; in the Small-pox, by *Luſitanus* and *Porcellus*; as alſo in the Serpigo, and other cutaneous affections. He then proceeds to adduce all that occurs in defence of this theory, from the conſideration of facts ariſing in the following diſeaſes; the *Itch*; *Dyſentery*, *Hooping-cough*, *Small-pox*, *Meaſles*, *Plague*, and *Siphylis*.

In the *Itch*, the exiſtence of the *Acarus Siro*, Syſt. p. 1024,) is acknowledged, and he thinks it not leſs certain, that a ſpecies of this genus exiſts as the cauſe of *Dyſenteries*: to this opinion the author was led by a ſingular fact, that occurred to Dr. *Rolander*, during his reſidence in Profeſſor LINNÆUS's houſe; he had been infeſted with the *Dyſentery* for ſome time, and had been relieved twice by taking rhubarb, but the diſeaſe recurred, commonly, at the end of about eight days. He was the only one in the houſe thus affected; and was put by the Profeſſor, upon examining his *egeſta*, with a view to prove the truth of *Bartholine*'s aſſertion, who relates that he had ſeen the alvine dejections full of the moſt minute inſects in this diſeaſe. Dr. *Rolander*'s obſervation on his own ſtate confirmed the fact; and he afterwards diſcovered, that theſe *Animalcula* were conveyed into

into his body in water, received from a veſſel made of juniper wood. This *Acarus* is deſcribed in the *Syſtem*, p. 1024. Our plan will not allow us to follow the author through the whole of his diſquiſition, it muſt ſuffice to ſay, that it is ingenious, and well worthy the attention of all thoſe who wiſh to be acquainted with the doctrine which it favours.

83. TRANSMUTATIO FRUMENTORUM. *B. Hornborg.* 1757.

The purport of this diſſertation is to combat, and aboliſh a long-eſtabliſhed vulgar error, which nevertheleſs prevailed until the time of *Harvey*, among ſome men of conſiderable knowledge, and even now ſtill ſubſiſts among the vulgar, in ſome parts of *Europe*; namely, that one kind of grain was convertible, by different ſoils, into an inferior, diſtinct, and more uſeleſs ſpecies: thus, that *Wheat*, in an impoveriſhed ſoil, would change to *Rye:* this, to *Barley: Barley*, into *Darnel:* this, into *Brome-graſs: Brome-graſs*, into *Oats.* Some of the antients carried their belief farther, ſuppoſing, on the other hand, that in fertile lands, the reverſe would take place. As theſe ideas were repugnant to truth, ſo they were in many caſes unfriendly to improvement. This author, after having obſerved, that among the *Romans* the *Res Ruſtica* was held in ſuch eſtimation, that even the men of quality themſelves diſdained not to cultivate agriculture, laments that in modern times it is too much neglected by the great; he therefore urges gentlemen

men to purſue the hiſtory and philoſophy of vegetables, through the whole extent of them, as the foundation of practical improvements. With this view, he refers them to the many excellent papers thereon, contained in this collection: and from the phyſiology of plants, the conſideration of the mechaniſm of them, and particularly that of the parts of fructification, he ſhews the futility of the opinion, which he had undertaken to confute, and particularly levels his arguments againſt that part of it which has gained the moſt belief, and remained longeſt in the minds of his countrymen and the peaſants, that *Oats* are mutable into *Rye*.

No notice is taken in this diſſertation of the *Secale Cornutum*, or Ergot, which, with other vitiated grain, has been ſuppoſed to occaſion the *Necroſis Uſtilaginea*, (vide *Sauvages*'s *Noſolog.* vol. ii. p. 623.) and which lately engaged the attention of the learned in *England*. See *Phil. Tranſact.* vol. lv. p. 106—126, and vol. lii. p. 523—533.

84. Culina Mutata. *M. G. Oſterman.* 1758.

In a former paper was exhibited a liſt of vegetables that are eaten in a *crude* ſtate, as ſallads. The preſent is intended to ſhew the change which has taken place, ſince the time of the antients, in the choice of vegetable aliments; by ſubſtituting, inſtead of what were then uſed, a number of more bland, agreeable, and nutritive plants.

In

In this review of the alteration, which this part of the culinary ſyſtem has undergone, the author, under each article, gives a comparative ſketch of the qualities of each, and ſhews the ſuperiority of the modern ſubſtitute: to mention ſome of the moſt material;

The *Acorns* and *Nuts* of the primitive days have given way to all the variety of ſweeter farinaceous ſeeds and roots.

To the *Malvaceous* tribe of plants, ſo much uſed by the *Greeks* and *Romans*, hath ſucceeded the more grateful *Spinach*. And to the *Blite*, the *Garden Orach*.

The rough *Borage* is ſupplanted by the aceſcent *Sorrel*; and *Aſparagus* has baniſhed a number of roots, recorded by the *Roman* writers under the name of *Bulbs*, though at this day it is not eaſy to determine the ſeveral ſpecies.

Our author, however, thinks that the *Parſnip* has undeſervedly uſurped the place of the *Skirret*.

The *Bean* of the antients, improperly ſo called, being the roots as well as other parts of the *Nymphæa Nelumbo*, Sp. Pl. 730, or *Indian* Water Lilly, is ſuperſeded by the *Kidney-bean*.

The *Garden Rocket*, (*Braſſica Eruca*, Sp. Pl. 932.) eaten with, and as an antidote againſt, the chilling *Lettuce*, is baniſhed by the more agreeable *Creſs*, and *Tarragon*. The *Apium* by the meliorated *Cellery*, the *Pompion*, and others of the *Cucurbitaceous* tribe, by the *Melon*; and the *Sumach Berries* by the fragrant *Nutmeg*.

The *Silphium*, or *Succus Cyrenaicus*, which the *Romans* purchaſed from *Perſia* and *India*, at a great price,

price, and is thought by ſome to have been the *Aſa fœtida* of the preſent time, is no longer uſed in preference to the *Alliaceous* tribe.

To turn from the vegetable to ſome of the animal ſubſtitutes, we may mention the *Carp* among *Fiſhes*, as having excluded a great number held in high eſtimation in antient *Rome*.

The change of *Oil* for *Butter*; of *Honey* for *Sugar*; of *Mulſa*, liquors made of wine, water, and honey, for the exquiſite *Wines* of modern times; and that of the antient *Zythus*, for the improved *Malt Liquors* of this day, are all recited; not to mention alſo the *Calida* of the *Roman Taverns*, analogous to our bewitching Tea and Coffee.

85. SPIGELIA ANTHELMIA. *J. G. Colliander.* 1758.

A botanical and medical hiſtory of the *Indian Pink*, or Worm-graſs, which has been ſo much uſed, and ſo greatly celebrated, for expelling worms from the human body.

Dr. *Colliander* does more than barely treat of the plant, having enumerated the ſeveral kinds of worms infeſting the human ſpecies; the *Aſcaris Vermicularis*, and *Lumbricoides*, Syſt. p. 1276, the *Lumbricus Terreſtris*, γ. ib. and the *Tænia*, Syſt. 1324. He then gives a diſtinct account of the ſymptoms that indicate their preſence in the human body, and the diſeaſes which they too frequently occaſion: then follows a diſtinct catalogue of all the ſuppoſed *Anthelminthics* from the vegetable and mineral claſſes; and before he comes to the hiſtory of

of the plant in queſtion, he recites the ſeveral ſimples which have been conſidered as *Specifics:* among theſe we may note particularly the *Fern*, mentioned by *Dioſcorides* as anthelminthic, and lately publiſhed in *France*, as ſuch, at the expence of the king.

The hiſtory of the *Spigelia*, with a figure annexed, is then delivered at large, nearly as it ſtands in *Browne*'s Hiſtory of *Jamaica*, and in the *Eſſays and Obſervations phyſical and literary*, by Dr. *Lining*, vol. i. p. 386.

The ſucceſs of this remedy among the negroes and *Indians* introduced it into practice. Dr. *Browne* adminiſtered it in decoction; the *North American* phyſicians give the powder of the root; on which occaſion we may obſerve, that ſubſequent obſervations have proved the *South American* and *North American Spigelia* to differ *in ſpecie:* the former is figured in *Browne*, and the latter in the *Eſſays* abovementioned, vol. iii. p. 154. See their botanical diſtinctions alſo, *Linn.* Syſt. Nat. ed. xiii. p. 166.

86. MEDICAMENTA GRAVEOLENTIA. *J. T. Fagræus.* 1758.

It is a *poſtulatum* in the philoſophy of LINNÆUS, that "the qualities of medicines are, in a general way, to be determined by their effect on the organs of taſte and ſmelling." And further, that the "*Sapida*, or thoſe which more ſenſibly ſtrike the *taſte* than the ſmell, do principally operate on the *vaſcular* and *vital* ſyſtem:" and that the "*Olida*, or thoſe which more ſenſibly ſtrike the organs of ſmelling, operate on the *medullary* or *nervous* ſyſtem." The *Sapor Medicamentorum* of this collection,

tion, N° 30, may be conſidered as a comment on the firſt part of this general diſtribution of medicines, diſtinguiſhed by the term *Sapida*; and the preſent *theſis* as an explanation of a large diviſion of the *Olida*, here called *Graveolentia*, from their ſtrong and ungrateful ſmell.

The combinations of *Sapids* and *Olids* are innumerable; but that ſimples, ſtrictly of the latter kind, do, in a ſudden and extraordinary manner, exert their influence on the nerves, is certain; though our author contents himſelf with the fact, without enquiring whether the functions of the nerves are performed by means of animal ſpirits, by vibration, the medium of electricity, or by any other way. And from the *Graveolentia*, which are the ſubject of his theſis, he juſtly obſerves, that we derive ſome of the moſt powerful remedies. Of theſe he gives a catalogue, dividing them into three claſſes: 1. SUBINSIPID. 2. ACRID. 3. BITTER: each of which is ſubdivided into two orders, as the ſubjects differ in degrees of ſtrength. The *Subinſipid* contains chiefly the Narcotics: the *Acrid* ſeveral of the purging, and fetid roots; the fetid gums, and carminative ſeeds: the *Bitter* contains others of the purging roots and leaves; and ſome of the bitter herbs. Under each, the author ſpecifies, in technical terms, very briefly, the quality, and the diſeaſes to which it has been appropriated.

He then preſents us with a conciſe, but very inſtructive theory, of the operation of this diviſion of the *Olida*; leaving to the conſideration of others, the *Suaveolentia*: after which, follows a general pathology

pathology of thoſe diſeaſes which are remedied by the *Graveolentia*.

In treating on the uſe of external applications, Dr. *Fagræus* appears to be diſſatisfied with the common theory of repellents, which are uſually drawn from the ſtyptic claſs; and thinks, that the firſt claſs of *Graveolentia*, the *Narcotics*, which he ſuppoſes to induce a relaxation, or temporary palſy, in an inflamed part, more effectually promote a return of the ſtagnating and accumulating fluids into the circulation, than any ſtyptics can poſſibly effect, and are therefore more juſtly entitled to that term.

87. ARBORETUM SUETICUM. *D. D. Pontin.* 1759.
88. FRUTETUM SUECICUM. *D. M. Virgander.* 1758.

The deſign of theſe papers nearly coincides with that of the *Flora Oeconomica*, (N° 17.) having for its object the culture of the native trees and ſhrubs of *Sweden*, and ſome of exotic origin, which time hath naturalized, amounting to 106 ſpecies. In theſe excellent papers, no botanical deſcriptions are given, the name only by which they ſtand in the *Linnæan* ſyſtem being introduced; the provinces in which they are moſt plentifully found; the ſoil in which they beſt thrive; their times of leafing, flowering, and ripening their fruit; their duration; the beſt methods of ſowing or propagating each; and their uſes as applicable to the arts, but particularly in rural economy, are conciſely and diſtinctly treated of.

At the end of the *Arboretum* are ſubjoined ſome *general* rules, to ſecure the propagation and growth

of trees: and at the concluſion of the *Frutetum* the author has pointed out the proper kinds of ſhrubs for all ſorts of hedges, adapted to different ſituations and ſoils.

89. PANDORA INSECTORUM. *E. O. Rydbeck.* 1758.

Mr. *Rydbeck* purſues the plan of the *Hoſpita Inſectorum*, N° 43, the completion of which cannot but be ſubſervient to the art of gardening, agriculture, and the economy of cattle, in a variety of inſtances; and is even neceſſary to facilitate the enquiries of the entomologiſt.

The author, in his preliminary ſections, preſents his reader with a hiſtory of the *metamorphoſis* of inſects, from the worm or maggot, through that of the chryſalis, to the perfect ſtate, when it comes out in its full beauty, and performs all the functions of its being.

The catalogue, as that of the *Hoſpita*, exhibits a liſt of the vegetables of *Sweden*, arranged in the ſexual method, and under each is given the inſect which it nouriſhes. It has this advantage beyond the former theſis, that the inſects are better defined, by the more complete addition of the trivial names, taken from the enlarged edition of the *Syſtem of Nature*, which had been publiſhed in the interval of theſe two papers. It is accompanied with a plate, containing near 50 of the more rare ſpecies, with references to the numbers in the tenth edition of the *Syſtem*.

90. SENIUM SALOMONEUM. *J. Pilgren.* 1759.

A paraphraſe and comment on *Solomon*'s deſcription of old age, which has ſo frequently employed the pen both of medical and theological critics. With the reader's leave, this may be called a phyſiological and pathological explanation of the text; not that the author has failed to interſperſe ſuitable moral reflexions. *Solomon*'s alluſions are probably too obſcure, at this diſtance of time, to admit of uncontroverted explanation. The preſent attempt muſt be allowed to be an ingenious one, and worthy of the regard of thoſe who wiſh to turn their attention to this ſubject.

91. AUCTORES BOTANICI. *A. Loo.* 1759.

We are here preſented with an alphabetical catalogue of botanic writers, amounting to upwards of 350, on the following plan:—After the name of the writer, follows the time of his birth; his rank or profeſſion; the period in which he flouriſhed, commonly taken from the date of his firſt publication, the title of which is given in brief; and laſtly, the year of his death. The catalogue takes in ſome authors yet living.

Such as have been eminently conſpicuous for their merit, are, in this liſt, denoted by an aſteriſk affixed to the name. After the alphabetic catalogue, other arrangements of the ſame authors take place; in one, particularly, they are arranged according to the countries of which they were natives. The catalogue concludes by pointing out

out ſuch capital writers as are indiſpenſably neceſſary to ſuch as would make any conſiderable progreſs in the knowledge and hiſtory of botany.

92. INSTRUCTIO PEREGRINATORIS. *E. A. Nordblad.* 1759.

After ſome pertinent inſtructions to the young traveller for his conduct in foreign countries, and uſeful hints relating to thoſe requiſite qualifications, in which, it is to be regretted, too many who travel are deficient, we are preſented with the complete method of keeping a journal, on the moſt extenſive ſcale, pointing out whatſoever is worthy of obſervation. It is not eaſy to conceive a plan of inſtruction on this head more perfectly deſcribed; in which the traveller will not only find his memory much aſſiſted, by having proper objects of inquiry ſuggeſted to him, whether in nature or art, but the method of arranging them alſo, greatly facilitated.

One part of his advice is of the utmoſt importance, without the due and regular obſervance of which, nothing will effectually be done. "*Nulla dies ſine linea.*" He muſt, if he would excel, moſt ſtrictly obſerve to enter and arrange the obſervations of each day, before the next arrives.

93. PLANTÆ TINCTORIÆ. *E. Jorlin.* 1759.

Intended to bring into one general view all the vegetable ſubſtances, whether indigenous or imported, uſed in the art of dyeing. The author determines the exact plant from which each is

produced, adding ſhort obſervations on the colours they yield, and the methods of extracting them. In this *Materia Tinctoria* occur many of the indigenous plants of *England*, not commonly known to be poſſeſſed of any colouring quality; and though their uſe, at preſent, may be ſuperſeded by the facility of procuring better from abroad, yet theſe nevertheleſs remain fit objects of inquiry with the encouragers of arts. The catalogue conſiſts of 100 articles, excluſive of a few from the animal kingdom. We ſubjoin the names of thoſe *Engliſh* plants, under the ſeveral colours which they are ſaid to yield.

YELLOWS.

Bark of Buck-thorn,	*Rhamnus catharticus.*
Berry-bearing Alder,	——— *Frangula.*
Berbery,	*Berberis vulgaris.*
Plum-tree,	*Prunus domeſtica.*
Apple-tree,	*Pyrus Malus.*
Horn-beam,	*Carpinus Betulus.*
Root of Meadow Rue,	*Thalictrum flavum.*
Common Nettle,	*Urtica dioica.*
Herb, Saw-wort,	*Serratula tinctoria.*
Buſhy Hawk-weed,	*Hieracium umbellatum.*
Hemp-agrimony,	*Bidens tripartita.*
Gale, or Dutch Myrtle,	*Myrica Gale.*
Sweet Willow,	*Salix pentandra.*
Birch-tree,	*Betula alba.*
Hedge-nettle,	*Stachys ſylvatica.*
Spotted-arſmart,	*Polygonum Perſicaria.*

Herb,

Herb, Yellow Looſeſtrife,	*Lyſimachia vulgaris.*
Devils-bit,	*Scabioſa Succiſa.*
Kidney-vetch,	*Anthyllis Vulneraria.*
Common yellow Liverwort,	*Lichen parietinus.*
Flowers of St. John's Wort,	*Hypericum perforatum.*

REDS.

Roots of Ladies Bedſtraw,	*Galium verum.*
Herb Woodroof,	*Aſperula tinctoria.*
Sorrel,	*Rumex Acetoſa.*
Tormentil,	*Tormentilla erecta.*
PurpleCinquefoil,	*Comarum paluſtre.*

PURPLES.

Herb, or Tops of Wild-Marjoram,	*Origanum ſylveſtre.*

BLUES.

Bark of the Aſh,	*Fraxinus excelſior.*
Flowers of Larkſpur,	*Delphinium Conſolida.*
Bell-flower,	*Campanula rotundifolia.*
Berries of Black Heath,	*Empetrum nigrum.*

GREENS.

Herb of Ragwort,	*Senecio Jacobæa.*
Cow-weed,	*Chærophyllum ſylveſtre.*
Panicle of Brome-graſs,	*Bromus ſecalinus.*
Common Reed,	*Arundo phragmites.*

BLACKS.

Bark of Oak,	*Quercus Robur.*
Water Horehound,	*Lycopus europæus.*

94. ANIMALIA COMPOSITA. *A. Back.* 1759.

Under the term *Animalia Compoſita* are comprehended the two laſt orders of the claſs of *Vermes*, making the laſt links in the chain of animal nature; and thus connecting it with the vegetable kingdom. Theſe (in oppoſition to thoſe of the three foregoing orders of the ſame claſs, which live ſimple and ſeparate from each other) are called *Compound Animals*, as being connected together by one common baſe or ſupport, either in the form of irregular or rudely-branched ſtony maſſes, of a calcareous nature, as the *Lithophyta*, or Corals; or, as fixed to one common ſtalk more or leſs branched, as the *Zoöphyta*, or Corallines, and ſome others.

In order to give a more perfect idea of the nature of theſe animals, the author holds forth the general analogy between animals and vegetables, principally to ſhew that the former are not, like the latter, endowed with that multiplicative power of propagating themſelves without the particular energy and exertion of the generative function; whereas the *Animalia Compoſita* ſeem to unite theſe powers, ſince they not only appear to propagate by *eggs*, or *viva ſoboles*, but alſo by progreſſive extenſion and ramification.

The animals of the LITHOPHYTA, like the *Teſtacea*, fabricate their own baſe of calcareous matter,

matter, forming the whole mass into tubes, each ending on the surface, in pores or cells, according to their specific difference, where alone the animal seems to dwell, and extending these habitations progressively, in the manner of vegetables, leaving the base at length to perish.

The animals of the *Zoophyta*, containing the Corallines, *&c.* particularly the *fixed* ones, approach much nearer than the foregoing to vegetables, both in their texture and form in general, arising as if from a root, and forming a stem and branches, which are beset at the extremities and articulations with the animals, or *Polypes*, appearing by the help of glasses like so many flowers.

Since this tract was written, the subject has received much farther illustration from the discoveries of the late Mr. *Ellis*.

95. Flora Capensis. *C. H. Wannman.* 1759.

In the time of the *Romans* it was a trite proverb, *that Africa was the land of wonders*; and it still remains true, as in these days it affords, both in the animal and vegetable kingdoms, some of the most stupendous and singular productions of nature. From the first discovery of the *Cape of Good Hope*, from whence *Europe* has chiefly been furnished with the plants of *Africa*, their uncommon aspect, so very different from those of *Europe*, has attracted the notice, not only of naturalists, but of all mankind; and as the mildness of that climate allowed of their cultivation here, they soon became favourites in the *English* gardens.

Some of the firſt *Cape of Good Hope* plants that were brought to *Europe*, we owe to *J. Heurnius*, who ſent them to his brother, a profeſſor at *Leyden*; and they are figured in *Bodeus á Stapel's Theophraſtus*, p. 333; among theſe were the Indian Reed, *(Canna Indica)*, the *Hæmanthus Coccineus*, *Stapelia*, the *Aletris Uvaria*, and a few others. But the firſt botaniſt who viſited the *Cape* was *Paul Herman*; he collected 800 ſpecies, then unknown in *Europe:* after him *H. B. Oldenland*, a *Dane*, and *J. Hartog*, a *Dutchman*, both made collections of *African* plants, which at length falling into the hands of the preſent able profeſſor of botany at *Amſterdam*, Dr. *John Burman*, he publiſhed engravings of *ten decads* of the more rare kinds. From theſe materials chiefly the preſent *Flora* is compoſed, according to the uſual plan, with the *trivial* names only.

Among the plants of the *Cape*, there are 38 *genera* peculiar to that part of the world, ſeveral of which excel all others in the number of ſpecies, as well as in their uncommon and ſuperb appearance. The vaſt number of ſpecies under the ſame genus, ſo frequently met with in that country, ſtrongly favours the idea of the perpetual new origin of plants; and that many, which elſewhere are only *hybrid*, there propagate and become permanent. But *Caffraria*, beyond all other countries, abounds with extenſive genera of plants: the ſucculent kinds, particularly, cover the ſandy ſoil, where nothing but the fact could convince us that vegetation would in any degree ſucceed. Such are the

Fig-

Fig-marygolds, *(Meſembryanthema)*, Aloes, *Purſlanes*, &c. Among the others, we are aſtoniſhed with the variety of the *Heaths*, (Ericæ), *Gerania*, *Protææ*, and *Gnaphalia*.

Since the publication of M. *Wannman*'s theſis, great diſcoveries in botany have been made in ſouthern *Africa* by *Thunberg* and *Sparmann*, and by Mr. *Maſſon*; and we have reaſon to expect a complete account of the plants of that country from Dr. *Laurence Burman*, ſon of profeſſor *J. Burman*, who has already given us a compendious liſt of them in his *Flora Indica*.

96. FLORA JAMAICENSIS. *C. G. Sandmark.* 1759.

The author begins his *Flora* with a general account of the geography of the iſland, and its produce; ſpecifying particularly ſome of the moſt uſeful articles thence imported: as, *Guaiacum*, *Fuſtic*, *Ebony*, *Logwood*, *Braſiletto*, *Mahogany*, *Indigo*, *Sugar*, *Coffee*, *Cotton*, *Pimento*, and *Ginger*. He then ſubjoins an account of the two principal works, from which his catalogue is compiled; theſe are Sir *Hans Sloane*'s Hiſtory and Dr. *Browne*'s. The former of theſe writers appears to have been the firſt *naturaliſt* who viſited that iſland, and he brought back with him 800 ſpecies of plants. The latter is ſaid to have made a collection amounting to 1200, which, after the publication of his Hiſtory, he preſented to LINNÆUS. As Dr. *Browne* followed the *Linnæan* ſyſtem, his book is referred to in this *Flora*.

97. PUGILLUS

97. PUGILLUS JAMAICENSIUM PLANTARUM. *G. Elmgren.* 1759.

A deſcription of one hundred and thirty ſpecies of the *more rare* among the foregoing plants, made from Dr. *Browne*'s collection, which was in the hands of profeſſor LINNÆUS.

98. NOMENCLATURA PLANTARUM. *B. Berzelius.* 1759.

Contains the vernacular names of the *genera* of plants, particularly of *European* and *garden* kinds, in *Italian*, *French*, *Engliſh*, *Dutch*, and *German*, placed in columns, oppoſed to the *Latin* name. It would have been an acquiſition to have had the plan of this paper extended much farther, ſo as to have included not only the name of the *genus*, but that by which each *ſpecies* is known in the ſeveral countries; a thing too much neglected by almoſt all writers of local catalogues, although highly neceſſary to render them more extenſively uſeful. Nay farther, even the provincial names, if poſſible, ſhould be collected, as they are frequently very different for the ſame plant. LINNÆUS, in his *Flora Suecica*, is almoſt the firſt and only one who has taken due notice of, and ſupplied this deficiency. There is extant on this ſubject the *Index Plantarum Polyglottus* of *Mentzelius*, publiſhed in 1682; but the writer of this *Nomenclator* found it inſufficient to his purpoſe: neither indeed can the plan be completed, otherwiſe than by the united endeavours of botaniſts throughout the world.

99. AER HABITABILIS. *J. V. Siefvert.* 1759.

The comprehenſive nature of the ſubject, and the conciſe manner in which the hiſtory of the air is treated in this diſſertation, render it impoſſible to give a proper abſtract in our confined plan. This element is here conſidered in all the various changes to which it is ſubject; its properties under the different and oppoſite alterations diſcuſſed; its effects on the earth in the various quarters of the globe; and its influence on the health and economy of life, and manners of the inhabitants.

1. With reſpect to its *heat* and *cold* in the different quarters of the earth: of theſe the general reſult is given according to the computation of the *Swediſh* thermometer, or *Celſius*'s, in which (0) is the point of congelation, and (100) that of boiling water; five degrees in this being equal to nine of *Farenheit*'s.

2. Its *dryneſs* and *moiſture*, and the general effects of thoſe qualities pointed out. The torpid ſtate of the inhabitants of hot countries during ſummer: heat in thoſe countries defoliates trees, as cold does in temperate climes.

3. Its *gravity*, and the different degrees and effects of it conſidered.

4. The effects of the different *winds*, and their ſalutary and pernicious tendencies. That of *Calms* alſo. In the Iſle of St. *Thomas* there is a dead calm for two months, during which the worſt diſeaſes prevail.

5. The effects of an hot atmoſphere farther illuſtrated by the ſtate of the *Indians*. Diſeaſes thereby produced in more moderate climates.

6. Temperate

6. Temperate air, and its exhilarating qualities on the animal creation, &c.

7. *Moiſt air*, and the diſeaſes thence ariſing.

8. *Air* impregnated with *exhalations* of various kinds; a comm on cauſe of fevers, dyſenteries, head-ach, &c.

9. *Stagnant air*, in vaults, in ſubterraneous granaries, and mines.

10. *Effluvia* from burning ſubſtances: inſtances of their pernicious effects, largely treated of. *Mineral* vapours; thoſe from wine, &c. Premature deaths of the inhabitants of a village in *Wermland*, attributed to ſtagnant and putrid water.

11. The advantages to valetudinarians of changing the air, particularly to arthritics, hypochondriacs, and others. Finally, although the intelligent reader may not meet with much new matter in this tract, yet he will ſee facts ſo well illuſtrated by pertinent obſervations, that we may venture to pronounce this ſhort hiſtory and philoſophy of this element, a uſeful paper, and well worth attention.

100. Sus Scrofa. *J. Lindh.* 1759.

A complete natural hiſtory of the *Hog*, as it appears particularly in its cultured and tame ſtate; in which the whole œconomy alſo of the animal, and its uſes to mankind, are perhaps more completely treated of, than in any other publication, and which cannot fail to be acceptable and uſeful to thoſe who make this animal an object of merchandize.

AMŒNITATES

AMŒNITATES ACADEMICÆ. Vol. VI. 1764. pp. 486.

101. Generatio Ambigena. *C. L. Ramſtrom.* 1759.

The author begins his ſubject with a conciſe view of the antient and modern theories relating to this obſcure affair He obſerves, that the antient doctrine of *equivocal* generation prevailed in general, until *Harvey* exploded it, and taught that every animal is generated *ex ovo*; and that his ſyſtem may now be conſidered as including a double hypotheſis: firſt, that taught by himſelf, which ſuppoſes the entire rudiments of the future *fœtus* to be preſent in the *ovum*, and only waiting for animation from the vivifying principle, or *aura genitalis maſculina*; the other, that of the *ſeminal animalcule* entering into the *ovum*, according to the theory ariſing from *Lewenhoeck*'s microſcopical diſcoveries. We have before obſerved that Linnæus very early forſook *Lewenhoeck*'s theory, in conſequence of attending *Liëberkuhn*'s demonſtrations. The argument of the preſent hypotheſis tends to ſhew, that both ſexes are equally efficient in this work; leaning however to the following opinion, "that the external form, as well as the ſpecific energy, of the vital functions, are principally derived from the male parent." This is partly the opinion alſo of the very eminent Dr. *Haller*, Phyſ. § 786. Our intended brevity does not allow us to purſue our author through all his arguments

arguments in behalf of his hypotheſis; we muſt reſt ſatisfied with obſerving, that after drawing a phyſiological analogy between vegetables and animals, he thinks it *evident* that in both, the *male* is moſt commonly conſpicuous in the *external form*: and this he illuſtrates by ſeveral examples of *hybrid* ſpecies in both the vegetable and animal kingdom.

102. POLITIA NATURÆ. *H. C. D. Wilcke.* 1760.

Intended to diſplay that perfect order and juſt ſubordination of all the ſeveral parts of nature, by which they are rendered mutually ſubſervient to the conſervation of each other, and of the whole; and which, collectively conſidered, our author, not unaptly, has named *the Police of Nature*.

This phyſico-theological deſign is purſued nearly on the ſame plan as that of the *Oeconomia Naturæ*, N° 19, by exhibiting,

1. A general view of the *Foſſil* kingdom, as conſtituting the ſurface of the globe, and as diſpoſed into land and water, hills, mountains, vallies, *&c.*

2. That innumerable variety of *Vegetables*, with which the ſurface of the earth is cloathed and adorned, as adapted to the different ſoils, climates, and elevations; and again, as affording nutriment to animals of various kinds.

3. In the *Animal* kingdom, a general view of their relations to each other, and the proportion they bear in the ſcale through the ſeveral claſſes, from the *Vermes* up to the higheſt and moſt perfect;

fect; in which are conſidered their ſpecific uſes in the general economy.

Our author has illuſtrated his ſubject, by adducing numerous examples from all parts of the *Vegetable* and *Animal* kingdom, to ſhew how admirably the whole is ordained, to contribute to the generation, nutrition, and due proportion of each, in the grand ſcheme of nature and providence.

103. THESES MEDICÆ. *J. C. D. Schreber.* 1760.

In this diſſertation, Dr. *Schreber* delivers a brief view of the *Linnæan* doctrine, relating to the anatomy and phyſiology of plants, in which he endeavours to ſuſtain the following theſes:—That all plants conſiſt of a *medullary* and *cortical* ſubſtance; in the former of which is manifeſted the life of the plant, and through which it is perpetuated, either by ſeeds or buds, which are conſidered as the ultimate extenſion of this part. The *cortical* part is conſidered as the organ of nutrition to the whole. —That, as in a number of certain ſpecies of plants, which in artificial ſyſtems form a *genus*, we ſee a ſimilar proportion and agreement of the parts of fructification, howſoever different the external form of the whole plant; and as we not unfrequently ſee *hybrid* plants produced, he therefore propoſes it as a matter worthy of ſpeculation, whether, originally, *all* the ſpecies have not been produced in the ſame way, by the various admixtures of the *farina*. From this power in the *medullary* part, of perpetuating itſelf, and modifying the whole

internal ſtructure, the author alſo deduces the ſimilar qualities which are commonly found in plants of the ſame genus, as manifeſted by the *taſte* and *ſmell*.

104. FLORA BELGICA. *C. F. Roſenthal.* 1760.

A *Linnæan Flora* of the indigenous plants of the *United Provinces*, compiled from the catalogues of *Commeline*, printed in 1709, and of Dr. *David de Gorter*, printed in 1745, at that time profeſſor at *Harderwick*, and afterwards phyſician to the Empreſs of *Ruſſia*. The author refers to the page for each plant in both theſe works. He premiſes a general account of the country, with reſpect to its diviſions into provinces, the climate, the inhabitants, the commerce; enumerates their univerſities and gardens; then gives conciſe liſts of the plants found in particular ſituations, in the canals, for inſtance, on the dykes, in the woods, oſieries, *&c.*

The plants of *Holland*, as far as ſoil and ſituation admit, are nearly thoſe of *England*; but as the country is deſtitute of mountains, rapid rivers, alps, and chalky ſoil, a great variety are neceſſarily excluded.

Theſe works are ſuperſeded by an enlarged edition of Dr. *De Gorter*'s book, under the title of this theſis, printed in 1767; and which contains upwards of 1050 ſpecies.

105. ANTHROPOMORPHA. *C. E. Hoppius.* 1760.

The hiſtory of the *Simia* genus, eſpecially as it reſpects thoſe ſpecies which ſo nearly approach the human

human form and feature, is yet involved in no ſmall obſcurity. After a general account of the manners of theſe animals, the reader is here preſented with an hiſtory of four remarkable ſpecies.

1. *Simia Pygmæus*, the Wild Man of the Woods, deſcribed and figured by *Edwards*, t. 213. (*Simia Satyrus*, Syſt. p. 34.)

2. *Simia Satyrus*, of *Tulpius*, which LINNÆUS conſiders as the ſame animal with the foregoing, differing only in having the abdomen more prominent, and leſs furniſhed with hair.

3. *Simia Lucifer*, or *Homo Caudatus* of *Bontius*, ſaid to exiſt in *Java* and *Nicobar*, of which travellers have related ſtrange ſtories. The author deſcribes this animal on the authority and teſtimony of *Koping*, a *Swede*, who aſſerts that he had ſeen both male and female; nevertheleſs it may juſtly be ſuſpected, that there is ſomewhat of fable, or much exaggeration, mixed with this relation. The reader may ſee more relating to this animal and *Koping*'s book, in a letter from LINNÆUS himſelf to the author of "The Origin and Progreſs of Language," vol. i. ed. 2d, p. 260, note.

4. *Simia Troglodytes*, or Orang Outang of *Bontius*; the *Homo Nocturnus*, or *Troglodytes* of the Syſt. Nat. p. 33. Concerning theſe the author takes great pains to prove that they are really children of darkneſs, and incapable, from the extreme dilatation of the pupil, of ſeeing in the daytime. [The length of the arms would incline one to rank this creature with the *Gibbon* of M. *Buffon*, or that of which an account, accompanied with a figure, was tranſmitted by Mr. *De Viſme* from *Can-*

ton, and publiſhed in the *Phil. Tranſ.* vol. lix. p. 72. t. 3. See alſo *Lin. Mant. alter.* p. 521.] Figures of theſe ſeveral animals, taken from the reſpective authors, accompany this diſſertation.

106. PLANTÆ AFRICANÆ RARIORES. *J. Printz.* 1760.

Of all the quarters of the globe, no one diſplays ſuch luxury and variety in the production of plants as ſouthern *Africa*; from whence the *European* gardens have derived their moſt ſuperb and ornamental ſpecies. This catalogue contains the deſcription of a century of the moſt *rare*, ſome entirely new, and others before imperfectly noticed. It was drawn up by the author from an inſpection of the plants themſelves, in a collection ſent from *the Cape of Good Hope*; with a view of which Dr. *Laurence Burman* gratified LINNÆUS, when he paid him a viſit in the ſummer of 1760. Extremely different as the plants of *the Cape* are from thoſe of *Europe*, many of the latter nevertheleſs thrive well in that climate. The author has prefixed a liſt of 70 kinds, which occurred in looking over this collection. He concludes this paper with a liſt of *African* plants, as an *Appendix* to the *Flora Capenſis*, N° 95, before publiſhed in this collection. It comprehends near 200 ſpecies from *Oldenland's Herbarium*, made in 1695. Mr. *Printz*'s catalogue is yet of uſe, as being referred to from our author's *Species Plantarum*.

107. MACELLUM OLITORIUM. *P. Jerlin.* 1760.

Under this title our author includes the plants of the kitchen-garden; and we are here preſented with

with a catalogue, amounting to 77 kinds, of culinary herbs, principally ſuch as are found ſpontaneouſly growing, or are eaſily cultured. It is drawn up on the ſame plan with LINNÆUS's *Materia Medica*, ſpecifying briefly the duration of each, whether annual, biennial, or perennial; the part of the plant in uſe; and the mode of dreſſing it: after theſe follows a brief indication of the taſte or other ſenſible qualities, and their reputed effects on the human body.

The author divides the culinary herbs into three claſſes.

1. Roots: and theſe into fuſiform, and tuberous.

2. Stalks: comprehending particularly the young and blanched ſhoots; as *Aſparagus:* and the *diſk* of the flower; ſuch is the Artichoke.

3. Leaves: divided into *Olera*, or boiling herbs, ſprouts, and greens; and *Accetaria*, or ſallads, eaten crude.

Our author commends *Parſnips*, in preference to Turnips and Carrots, as being leſs flatulent, and more nutritive. He condemns the uſe of *Muſhrooms*: ſays the *diſk*, and the young ſtalks of the Cotton Thiſtle, *(Onopordon Acanthium)* may be eaten, and reſemble Artichokes. It is here repeated, that *Cellery* is prejudicial to people ſubject to nervous diſorders. The contents of this paper would enrich an *Economical Herbal.*

108. MELÖE VESICATORIUS. *C. A. Lenæus.* 1762.

A complete hiſtory of the *Melöe Veſicatorius*, Syſt. p. 679, or the Bliſtering Fly or Beetle, an

inſect of the *Coleopterous order*, with filiform antennæ, and diſtinguiſhed from the other *genera* by the rounded thorax, and gibbous inflexed head. The ſpecies in common uſe is found all over *Europe*, more or leſs, on the *Privet*, the *Aſh*, and the *Elder*; but there are alſo three others endued with the ſame veſicating acrimony, two of which are *European*, and the other common all over the *Eaſt*, and particularly in *China*, where it is uſed in the ſhops; and there are many reaſons mentioned by our author to prove, that this laſt (the *Meloe Cichorii*, Syſt. 680.) is the true *Cantharis* of *Dioſcorides*.

After a copious natural hiſtory of the inſect, our author gives the form of ſeveral veſicating plaſters, and preſcribes the places and mode of application. In his laſt chapter, which is profeſſedly medical, he treats on the internal and external uſe of *Cantharides*, principally conſidering how far they are ſafe and uſeful as diuretics, when adminiſtered internally: under this head he introduces a caſe, which furniſhes a caution againſt the uſe of them as *Aphrodiſiacs*. After premiſing ſome general obſervations on the action and uſe of bliſters, he concludes by enumerating all thoſe diſeaſes in which they are ſalutary, and thoſe in which they are particularly contra-indicated. In *England*, where it is thought the uſe of bliſters is better aſcertained than in ſome other nations, the intelligent phyſician will not expect to meet with much new matter on this ſubject.

109. DIÆTA ACIDULARIS. *E. Vigelius.* 1761.

It is not ſurprizing, that in a country abounding with iron, chalybeate waters ſhould be frequent. In fact, theſe *Acidulæ* are ſo in *Sweden*, and their efficacy has been known, and much extolled in that country, as our author obſerves, from the moſt antient times. He thinks the inhabitants of thoſe northern climes were led to the frequent uſe of the *Acidulæ*, by long experience of the ſalutary effects of them as *diuretics* and *tonics*, in remedying the inconveniences ariſing from a long winter's diet of ſalted meats, which diſpoſed the conſtitution to ſcorbutic, cachectic, and dropſical diſorders. The later phyſicians of *Sweden* have regulated the uſe, and confirmed the good effects of them: and Mr. *Vigelius*, in this diſſertation, has, in a conciſe, elegant, and perſpicuous manner, preſcribed the regimen adapted to ſuch as enter upon a courſe of theſe waters, digeſted under the ſix well-known heads of the *Non-naturals*.

110. POTUS COFFEÆ. *H. Sparſchuch.* 1761.

A very circumſtantial, botanical, and medical hiſtory of the Coffee-tree, and its fruit, (*Coffæa Arabica*, Sp. Pl. p. 245.) The writer is one of the laſt of 20 authors who have written profeſſedly on this ſhrub, all of whom he enumerates by name, with the date of their writings, from 1621 to *Kalm*'s treatiſe in 1755.

Coffee, originally the produce of *Arabia Felix*, where the beſt is *now* moſt ſucceſsfully cultivated, is called, by the *Egyptians*, *Bon*, and is firſt mentioned by the *Arabians* about the year 900. Our author ſays, it was brought into *Europe* about the year 1645, and that the firſt public coffee-houſe was ſet up at *Marſeilles* in 1671. The ſhrub itſelf was introduced into the *European* gardens about the year 1710, by means of ſeeds procured from *Arabia*, by Governor *Van Hoorn* of *Batavia*, who alſo firſt cultivated it in *America*, at *Surinam*.

We are next preſented with the claſſical, generical, and ſpecific character of this plant; to which ſucceeds a copious liſt of ſynonyms, and the deſcription at large, as it ſtands in the *Hortus Cliffortianus*. The culture of the ſhrub; the preparation of the berry; the different times and modes of drinking this liquor, which cuſtom hath eſtabliſhed in the various nations; and the *ſuccedanea* to this berry, are then diſcuſſed. Among the latter are mentioned *Peaſe*, *Beans*, *Beech-nuts*, *Almonds*, *Maiz*, *Wheat*, and the ſeeds of the *Sunflower*, (*Helianthus Annuus*). Vide *Gouan. Flor. Monſp.* p. 456. Of theſe he prefers Almonds, but he obſerves that they diſpoſe to flatulency much more than Coffee.

In ſpeaking of the qualities and virtues of Coffee, our author thinks it ſhould rather be claſſed with medicines, than conſidered as a nutritive article in diet. He appears to be no friend to its frequent and indiſcriminate uſe: he thinks it deſtroys rather than creates appetite: that it occaſions

watchfulneſs;

watchfulneſs; and promotes *flatulence* and *indigeſtion*, inſtead of relieving them, as is generally believed: that it *debilitates the nerves*, and occaſions *tremblings*. On this occaſion he thinks it worth enquiry, whether it may not contribute to thoſe ſudden deaths which are frequent at *Stockholm* about the winter ſolſtice, as they have been obſerved to happen to ſuch as were inordinate drinkers of this liquor: that it is *antiaphrodiſiac*, he ſays, is generally allowed; and he illuſtrates and confirms this quality by a pleaſant tale from *Olearius*'s Travels: that it *weakens the ſight*; is noxious to *melancholic*, *hypochondriacal*, and *hyſterical* people: that it promotes *hemorrhages* of all kinds; and that a free indulgence in the uſe of this liquor cannot be ſafe, except to the corpulent.

Conſidered as a medicine, from its heating quality it is forbidden in *fevers*. From its ſtimulating and drying quality, allowed by all phyſicians, is deduced its uſefulneſs in *corpulency*, and in the *leucorrhæa*. It has been conſidered as an *anthelminthic*; but its ill effects on the tender habits of children, more than balance any good ones in that way. In *ſoporoſe affections*, in *phlegmatic* and *corpulent* habits, our author allows its uſe; and from its known effect in promoting hemorrhages, it muſt be conſidered as an *emmenagogue*. That *head-achs* are frequently relieved by Coffee, is confirmed by daily experience; and our author relates that LINNÆUS himſelf found it ſingularly uſeful in taking off a *cardialgia*, with which he was affected at the time he was phyſician to the fleet, in 1740; and which he attributed to the effluvia of the hoſ-

pital, as it conſtantly ſucceeded his morning viſits to the ſick.

III. INEBRIANTIA. *O. R. Alander.* 1762.

Inebriants are almoſt univerſally derived from vegetables. They are defined by our author to be ſuch things as affect the nerves in a particular and agreeable manner, and through them alter and diſturb the functions of the mind. They are properly divided into *native* and *artificial*; the former chiefly in uſe among the oriental and other nations, the latter principally throughout *Europe*. Of *native Inebriants* the following are enumerated, and the mode of adminiſtration and effects of them deſcribed.

1. *Opium*; in uſe all over the Eaſt, and of which the *Turks*, through cuſtom, ſwallow a drachm.

2. *Peganum Harmala*, Sp. Pl. 638. Syrian Rue. The ſeeds are ſold in *Turkey* for this purpoſe; and with theſe, as *Bellonius* relates, the *Turkiſh* Emperor *Solyman* kept himſelf intoxicated.

3. *Maſlac*, of the *Turks*, or *Bangue*, of the *Perſians*; prepared from the duſt of the male flower of *Hemp*, or from the leaves.

4. *Bangue*, of the *Indians*, from the leaves of the *Hibiſcus Sabdariffa*, Sp. Pl. 978.

5. Seeds of various ſpecies of the *Datura*, or *Thorny Apple*, of which ſee *Rumph.* Herb. *Amb.* 5. p. 243.

6. *Pinang*, or *Betle* of the *Indians*.

7. Roots of *Black Henbane*, (*Hyoſcyamus Niger*, Sp. Pl. 257).

8. The

8. The *Hyoſcyamus Phyſaloides*, Sp. Pl. 258.

9. Berries of the deadly Nightſhade. *Atropa Bella Donna*, Sp. Pl. 260.

10. Leaves of *Millfoil*, (*Achillæa Millefolium*), are uſed by the *Dalekarlians* to render their beer intoxicating. See *Flor. Suec.* N° 770.

11. *Tabacco*, and ſeveral others leſs material, are mentioned; ſuch are *Clary*, *Saffron*, and *Darnel*.

Artificial Inebriants are *fermented Liquors* from farinaceous ſeeds; *Wines* and *Spirits* drawn by diſtillation. With theſe our author ranks the *Nectar* of the gods, and the anodyne medicine of *Homer*, commonly called *Nepenthes*; and the ſpells by which *Medea* and *Circe* produced their inchantments. He then, in a moſt ſtriking and lively manner, introduces a fable to illuſtrate the effects of intoxicating liquors on the human frame and paſſions, and after having ſhewn when they may be ſafely allowed, concludes with cautions and exhortations againſt the abuſe of them.

112. MORSURA SERPENTUM. *J. G. Acrell.* 1762.

In this tract on the venomous bites of *Serpents*, after a general deſcription of the ſtructure of this order of *Amphibia*, and ſome obſervations relating to the *Boa Conſtrictor*, Syſt. 373, (Gigantic Serpent of the *Eaſt Indies*) and its capacity of ingorging large animals; of the faſcinating power of the *Rattle Snake*, with which alſo, he ſays, the *Coluber Berus*, Syſt. 377, or Viper, is in ſome degree endued; the author deſcribes the mechaniſm of the jaw, and the venomous apparatus in Serpents; and theſe are illuſtrated with a figure. He then gives

gives an abſtract of *Redi*'s Experiments, and diſcuſſes the theory of the operation of the *virus*, in the explication of which, he inclines to that of the mechanical theoriſts, in attributing the effects rather to an almoſt inſtantaneous alteration induced in the fluids, than to its immediate action on the nervous ſyſtem. The ſymptoms enſuing the puncture of the various ſpecies are then deſcribed; thoſe from the *Viper* particularly; and thoſe of the *Aſp*, which kills by inducing *ſopor* and *lethargy*. Three *Aſps* are mentioned by the antients; that called *Ptyas*, he ſuppoſes to be the *Coluber Ammodytes* of the moderns. See Syſt. p. 376, deſcribed and figured in the *Surinamenſia Grilliana* of this collection, N° 16. Beſides thoſe of the *Rattle Snake* genus, there are eighteen of the *Viper* genus, furniſhed with venomous organs; of which a liſt is ſubjoined. Among theſe none ſtrike more ſuddenly fatal than the *Coluber Naja*, called *Cobra de Capello*.

This author next treats briefly on the various remedies in uſe among the antients, and notes their general inefficacy. He then comes to diſcuſs the three noted antidotes of *Europe*, *Aſia*, and *America*, which are regarded as ſpecifics, againſt the venom of the moſt dangerous kinds, in the reſpective quarters of the globe: ſuch are, *Oil of Olives*, againſt the *Viper* of *Europe*; the *Ophiorrhiza Mungos*, againſt the *Naja* of *Aſia*, (vide N° 21 of this collection;) and the *Senega*, againſt the *Rattle Snake* of *America*. There is nevertheleſs a ſmall venomous Viper (*Coluber Cherſea*, Syſt. p. 377.) in *Sweden*, againſt the bite of which the oil of olives failed to produce its uſual

uſual good effects, and the patient died. The author mentions a ſucceſsful caſe of the adminiſtration of the *Senega* in *Sweden*. He concludes with deſcanting on the *Pſylli* of the Eaſt, or the Charmers of Serpents; and tells us that M. *Jacquin* of *Vienna* purchaſed a ſecret of this kind in the *Weſt Indies*.

113. TERMINI BOTANICI. *J. Elmgren.* 1762.

This paper is incapable of abridgment; it is a methodical arrangement and complete explanation of all the *terms*, amounting to 673, uſed in deſcribing plants, according to the *Linnæan* method of botany. Somewhat of the ſame kind was begun in the *Hortus Cliffortianus*, and is alſo prefixed to the enlarged editions of the *Syſtem*. Theſe terms alſo neceſſarily occur, and are explained, in our author's *Philoſophia Botanica*. In this paper the whole is amplified, improved, and methodiſed in ſo excellent a manner, that no one who would gain preciſe ideas on the ſubject would wiſh to be without it.

114. PLANTA ALSTROMERIA. *J. P. Falk.* 1762.

This plant is of *American* origin, and belongs to the *Hexandrous* claſs and *Monogynous* order of the Syſtem. There are three ſpecies, the two firſt of which were deſcribed and figured by *Pére Feuillée* in *Peru*, who ranked them with the *Hemerocallis*, or Day Lily. LINNÆUS received the ſeeds of this ſingular and beautiful plant from *Cadiz*, by means of *C. Alſtromer*, ſon of a gentleman of that name, counſellor of the College of Commerce in *Sweden*; and finding it a new genus, gave it his name.

The ſpecies, here ſo completely deſcribed and figured, is the *Alſtromeria Pelegrina*, Sp. Pl. 461. The virtues of this ſpecies are not aſcertained, but the ſenſible qualities of the root rank it with the *Sarſaparilla*; and it appears by *Feuillée*'s account, that there is a third ſpecies in *Chili*, which the natives uſe as a ſubſtitute for the above plant; and LINNÆUS has hence given it the trivial name of *Salſilla*.

115. NECTARIA FLORUM. *B. M. Hall.* 1762.

Dulci diſtendunt nectare cellas. Virgil. Georg. iv. 164. Hence LINNÆUS gave the term *Nectarium* to a particular gland or repoſitory, which in moſt plants contains the honey. This part in flowers had been but little noticed before LINNÆUS raiſed it to importance; and, in his Syſtem, it affords an excellent mark of diſtinction, in divers genera and ſpecies.

Our author premiſes ſome ſhort obſervations relating to the *glands* of plants in various claſſes, which are moſtly ſituated on the leaves or petioles. He then proceeds to the direct deſign of his tract, which is to point out the ſeveral kinds of *Nectaria* in flowers, and to ſpecify the different ſituation of this part in different claſſes, orders, or genera. It is therefore an inſtructive paper to thoſe who would attain a more complete idea of this ſingular, and heretofore neglected part, the uſe of which, however, is as yet imperfectly aſcertained.

116. FUNDAMENTUM

116. Fundamentum Fructificationis. *J. M. Graberg.* 1762.

Having briefly ſtated the improvement of botany, and defined it as a ſcience, M. *Graberg* proceeds to the explanation of his term. Under the word *Fructification*, he includes not merely the *Corolla*, *Pericarpium*, and *Semina*, ſimply conſidered, as *Tournefort* had done, but alſo the *Calyx*, *Nectarium*, *Stamina*, and *Piſtilla*. All theſe parts, therefore, conſtitute the organs of *fructification*, and on which the *foundation* of all true ſyſtem muſt be laid. He then briefly traces the riſe of ſyſtem from *Geſner*, through the improvements of *Cæſalpinus*, *Columna*, *Moriſon*, and *Tournefort*, down to Linnæus, who, by defining, as above, the parts of fructification, firſt laid the baſis of true *generical* diſtinctions. He then inlarges on *ſpecifical* diſtinctions, and ſhews what conſtitutes *varieties* in plants. He proceeds to conſider the generation of *hybrid* plants, concerning which he favours the opinion laid down in the *Generatio Ambigena*, N° 101 of this collection; that the internal ſtructure, or parts of fructification in hybrid plants, reſemble the *impregnated* plant, and the habit, or external parts, that which furniſhed the *farina fœcundans*. A ſingular inſtance of this kind is brought from the *Verbaſcum* genus. Finally, he propoſes a queſtion, whether all the *ſpecies* may not have ſprung from one original in each *genus*, by hybrid impregnations. He thinks the contemplation of the numerous ſpecies, under many *African* and

and *American genera*, adds weight to his hypotheſis.

On the whole, this paper abounds with curious matter for ſpeculation on this ſubject, and is highly worthy the regard of thoſe who would enter more minutely into the knowledge of botany.

117. REFORMATIO BOTANICES. *J. M. Reftelius.* 1762.

We are here preſented with a very entertaining hiſtory of the riſe, progreſs, and preſent improved ſtate of botany. To this end it is divided into three epochs: 1. Under the *founders* of the ſcience after the reſtoration of letters. 2. Under the *ſyſtematics*. And, 3. under the auſpices of the great *Swediſh* botaniſt.

1. Among the reſtorers of botany, *Brunsfelſius*, *Tragus*, *Geſner*, *Fuchſius*, and *Cordus*, ſtand foremoſt in the liſt. They may be ſaid to cloſe with *Caſpar Bauhine*, who by his incomparable *Pinax*, in which he collected all their ſynonyms into one work, gave uſe to their writings and improvement to the ſtudy, which otherwiſe it could not have acquired.

2. *Bauhine* having laid this foundation, the knowledge of plants made a rapid progreſs in the ſeventeenth century, and received vaſt addition from the diſcoveries of *Cornutus*, *Marcgrave*, and *Piſo*, in *America*; from thoſe of *Herman*, *Rheede*, and *Commelin*, in *Aſia*; from *Sloane*, *Plukenet*, *Petiver*, and *Sherard*; from *Tournefort*, and *Plumier*: during which period alſo it was reduced to *ſyſtem*, from the hints of *Geſner*; firſt, by *Cæſalpinus*, and afterwards, more ſucceſsfully, by *Moriſon*, *Ray*, and *Tournefort*.

3. This

3. This author dates the *epoch* of *reformation* from the firſt publication by LINNÆUS in 1735; and then collects together into one view the improvement it has received from the labours of this great man. He enumerates the ſeveral diſciples of LINNÆUS, who aſſiſted him, by their travels into foreign parts; adds a liſt of thoſe writers that have followed his method; and cloſes with a ſketch of what is yet wanting to give further perfection to the ſcience.

118. PROLEPSIS PLANTARUM. *H. Ulmark.* 1760.

The theory of vegetation built by *Malpighi* and *Grew*, on the anatomy of plants, and that of *Hales* and others, drawn from what may be called their phyſiology, has not been followed in the *Linnæan* ſchool. LINNÆUS early conceived the idea of an analogy between plants and animals, and ſpeaks of vegetables alſo, as conſiſting of a *medullary* and *cortical* ſubſtance, (in the former of which the proper life and principle of vegetation reſides, and by which alone it is propagated) conſidering the latter as the organs of nouriſhment to the former. This idea ſeems alſo to have led him to adopt the opinion of *Cæſalpinus*, relating to the evolution of theſe two parts, in the order which is mentioned in the 66th theſis; namely, that the *Cortex*, or outer Bark, is ultimately ſpent in forming the *Perianthium*, or Cup of the flower, beſides which, it muſt be obſerved, that the leaves are produced from the cortical ſubſtance only; the *Liber*, or inner Bark, in the Corolla or Petals; the *Lignum*, or woody part, in

in the *Stamina* or Chives; and the *Medulla*, of pithy part, in the *Piſtillum* and Seed.

Principally to confirm and illuſtrate theſe *data* is the deſign of this *theſis*, which in fact is a comment on a part of the 24th ſection of the Introduction to the ſecond tome of the *Syſtem*, p. 9, containing a conciſe view of this doctrine. Before the author proceeds to his immediate ſubject, he recapitulates, with the forementioned, ſome other principles, relating to the life and organization of vegetables, and then endeavours to prove, by appearances obſervable in plants, that this arrangement of parts, and this evolution actually exiſts. As this cannot be ſo aptly illuſtrated in annual and other plants, on account of the tender texture, and quick growth, the author endeavours to exemplify it from obſervations made on the bud-bearing trees; in which he obſerves, that the full evolution of the parts, from the origin of the bud to the expanſion of the flower, as the final act of vegetation in each, is a progreſſive work, the accompliſhment of which requires five or ſix years, and that it takes place in the following order: That the *Leaves*, which are unconnected with the *medullary* ſubſtance, and derive their origin from the *cortical*, are the produce of the firſt year; and in plants and trees that are furniſhed with *Bracte*, or floral Leaves, that ſuch are the iſſue of the ſecond year; and the *Perianthium*, or Cup of the flower, of the third; the *Petals* of the fourth; the *Stamina* of the fifth; and the *Piſtil*, &c. of the ſixth. Our author endeavours to ſuſtain this theory by

by a number of facts and obſervations, tending to corroborate the doctrine advanced in this diſſertation.

119. FRUCTUS ESCULENTI. *J. Salberg.* 1763.

The deſign of the *Plantæ Eſculentæ*, N° 34, *Acetaria*, N° 73, and the *Macellum Olitorium*, N° 107, is in this paper purſued, and extended to the eſculent fruits, which are here enumerated to the number of 133, and their nature and uſes briefly pointed out. To which end they are diſpoſed into ſix claſſes, as follow:

1. Berries.
2. Plumbs.
3. Pomaceous Fruits.
4. Podded Fruits.
5. Grain.
6. Nuts.

120. PROLEPSIS PLANTARUM. *J. J. Ferber.* 1763.

Mr. *Ferber*, who is probably the ſame perſon that has publiſhed *Phyſico-geographical Travels into Italy*, endeavours, in this paper, as Mr. *Ulmark* hath done, to illuſtrate and confirm the theory of vegetation received in the *Upſal* ſchool.

He firſt treats on the food of plants; which, without entering into any ſubtle diſquiſitions relating to its elementary principles and compoſition, is defined to be the watery tincture of the ſoil, received by the roots, and tranſmitted to the *medullary* by the vaſcular part of the *cortical* ſubſtance. He eſtabliſhes it as a fact, that too great an afflux of nutriment thrown into the *cortical* part, retards the fructification, by compreſſing the *medullary*. He

thinks this is proved by the ſtate of luxuriant plants in general, and by the effects of depriving them of this ſuperfluity: on which head he quotes the experiments of Mr. *Fitzgerald*, recorded in the *Philoſ. Tranſact.* vol. lii. p. 71, as confirming the truth of the theory here advanced.

After having eſtabliſhed the cortical part as the organ and depoſit of nutriment, he proceeds to ſhew, that *heat alone* excites to action and vigour, the life or protruſive and expanſive force of the medullary part; which is ever ſpent in propagating the plant, by forming *buds*, *bulbs*, or *ſeed*, as its final and moſt perfect iſſue: and that this intention of nature ſucceeds in a proportion equal to the degree of nutriment afforded by the cortical, to that of the heat adminiſtered to the medullary part reſpectively.

In the ſecond chapter, M. *Ferber* treats on the origin and evolution of buds; in which he accedes to the doctrine of the progreſſive perfection of them, mentioned in the diſſertation juſt reviewed.

The laſt chapter is appropriated to the *Involution of Plants* in the Seed, Buds, and Bulbs; in which he aſſerts, that in the ſeeds of the *Nymphæa Nelumbo*, the very leaves of the future plant are viſible. In bulbs the rudiment of the next year's plant is alſo conſpicuous: in like manner buds contain the perfect plant, although the evolution in theſe requires a longer proceſs.

Thoſe who would attain a complete idea of the theory of vegetation, advanced in the works of our author, are referred more particularly to the following

following papers in the *Amœnitates Academicæ*, N° 24. *Gemmatio Arborum*, 63. *Metamorphoſis Plantarum*, 101. *Generatio Ambigena*, 118, 120. *Prolepſis Plantarum*; and to the *Introduction to the Vegetable Syſtem.*

[It may be obſerved, that there is a ſet of experiments made by M. *Muſtel*, printed in the *Phil. Tranſ.* vol. lxiii. p. 126, which ſeem to favour the theory of vegetation here advanced, as far at leaſt as relates to the *cortical* ſubſtance being the depoſit of nutriment, and the effect of warmth on the expanſive and protruſive force of the medullary. Yet it muſt be allowed that too many difficulties attend every theory on this obſcure ſubject.]

121. CENTURIA INSECTORUM. *B. Johanſſon.* 1763.

Inſects were ſcarcely noticed before the time of *Conrad Geſner*, whoſe comprehenſive mind extended over the whole field of nature. He, together with *Mouffet*, and *Aldrovand*, may be ſaid to have laid the foundation of entomological ſcience. To theſe ſucceeded another ſet of writers, who were principally employed in inveſtigating the economy and ſurprizing metamorphoſes of inſects; ſuch were *Geodart*, *Liſter*, *Swammerdam*, and *Reaumur*, to whom may be added Madam *Merian*, who took a voyage to *Surinam*, with the ſole view of gratifying a taſte for this branch of natural hiſtory.

Nevertheleſs, after all the reſearches of theſe ingenious perſons, and the labours of our excellent Mr. *Ray*, a defect of ſyſtem rendered this ſubject the moſt difficult to ſtudy of any part of na-

tural knowledge: and it will eaſily be granted, that the true æra of this ſcience commences with LINNÆUS, who very early turned his attention to it, and has eſtabliſhed that method, which has been ſince univerſally followed, and by which the hiſtory of theſe minuter animals has been greatly extended.

The preſent catalogue contains the deſcription of an hundred rare, and moſtly undeſcribed ſpecies, ſent to LINNÆUS from *Carolina*, *Penſylvania*, *Surinam*, and *Java*.

As all theſe zoological deſcriptions are ſupplemental to, and illuſtrative of, the author's *Syſtema Naturæ*, they yet retain their value; and cannot be ſuperſeded, but by a general hiſtory of animals on the ſame plan.

122. LIGNUM QUASSIÆ. *C. M. Blom.* 1763.

The *Quaſſia Amara* (Spec. Plant. p. 552, and p. 1679) or *Bitter Aſh*, as it is called in the *Weſt Indies*, is a tree of the decandrous claſs, the root of which was brought into uſe firſt at *Surinam*, by a negro, named *Quaſſi*, who revealed its virtues. The medicine was known, but the ſpecies and true hiſtory was long undefined, till at length a branch of the tree, with the flower and fruit, was ſent to LINNÆUS from *Surinam*. The root is the part uſed; and appears to be the moſt pure and intenſe of all bitters. At *Surinam* it has acquired a high character in curing the intermitting, exacerbating, and malignant fevers, ſo endemial to that country; and this (as the author aſſerts) in caſes

caſes where the *Quinquina* has failed. It is given in any form, but moſt commonly in an aqueous infuſion, in the proportion of one drachm to a pint, the doſe of which is one ounce.

The hiſtory of this drug is accompanied with a figure of the leaf, and parts of fructification. Three caſes of its good effects (from trials made in *Sweden*) are inſerted, and which are not confined to fevers only.

[There is a confirmation of its virtues in febrile caſes from Mr. *Farley* of *Antigua*, inſerted in the *Phil. Tranſ.* vol. lviii. p. 81, in circumſtances where the Peruvian bark would not ſtay on the ſtomach.]

123. RAPHANIA. *G. Rothman.* 1763.

The diſeaſe here deſcribed is defined in the *Genera Morborum* of our author to be "a ſpaſtic con-"traction of the limbs or joints, attended with "convulſions, and excruciating periodical pains." The author gives a full deſcription of this diſeaſe from the two moſt capital *Swediſh* writers on the ſubject. He had ſeen it himſelf, and obſerves, that it had frequently been epidemical in that country: moreover, that ſome phyſicians had thought it a new diſtemper. He has however traced it in the writings of a numerous ſet of authors, from the year 1596 to 1727; by which it appears to have been common to other parts of *Europe*.

This dreadful diſtemper ſometimes held the ſick for three or four weeks, and thoſe who periſhed

generally ſunk under a diarrhœa, or died in convulſions. *Valerian*, *Caſtor*, *Camphor*, and Antiſpaſmodics of the like kind, appear to have been the moſt beneficial remedies.

He next brings together in one view the *hypotheſes* of the various authors, relating to the cauſe of this malady, ſome of whom ſuppoſe it owing to a certain conſtitution of the air, others to vitiated grain, Darnel, or the *Secale Cornutum*; which were all rejected as unſatisfactory by Dr. *E. Roſen*, one of the laſt and moſt intelligent writers on the ſubject. Our author ſays, that in *Sweden* it always commenced in autumn, was frequent only among the lower order of people, and conſequent upon eating bread made of the new corn. Hence he ſought for its origin in impure admixtures with the grain, and finally his own hypotheſis attributes it to the ſeeds of the *Raphanus Raphaniſtrum*, (Sp. Plant. p. 935) or Charlock; and hence the name given to the diſeaſe. The diſſertation cloſes with a figure and botanical deſcription of the plant.

The hand of a maſter is no where more viſible, than in the ſcientific manner obſerved by Dr. *Rothman* in drawing up the hiſtory of this diſeaſe; and it may be propoſed as a model in its kind.

124. GENERA MORBORUM. *J. Schroder.* 1759.

Of this arrangement of diſeaſes, as it ſtands in LINNÆUS's own publication made in the year 1763, a detailed account hath been given before, to which the reader is referred.

AMŒNITATES ACADEMICÆ, Vol. VII. 1769. pp. 506.

125. Motus Polychrestus. *C. Lado.* 1763.

There are few who do not require rather to be reminded, than convinced of the many benefits ariſing from proper exerciſe. Its ſignal uſes, both as a preſervative and reſtorer of health, are, in this diſſertation conciſely, but very ſtrikingly delineated.

After ſome general phyſiological obſervations on the effects of exerciſe, the writer diſplays its efficacy as a *preſervative*; in ſtrengthening the body, procuring the moſt genial warmth, helping digeſtion, increaſing perſpiration, and promoting all the excretions in due time and proportion; in procuring the moſt refreſhing ſleep, and, in valetudinary habits particularly, ſubduing that fruitful ſource of diſeaſe, acidities in the firſt paſſages.

He then enumerates thoſe diſeaſes in which exerciſe is to be conſidered in a *medicinal* view. In hypochondriac caſes, habitual debility, languid appetite, obſtructions of the viſcera, conſumptions, aſthma, and in various diſeaſes from laxity, its uſe has been indiſpenſable.

In ſpeaking of the *Hemicrania*, he relates that Linnæus himſelf had been ſubject to violent paroxyſms of that kind, which uſually held him 24 hours, with intervals rarely of little more than a week; and that theſe fits were excited by very ſlight cauſes, even ſuch as the drinking only a ſpoonful of wine: and that after trying ineffectually various

remedies, the profeſſor attributed the reſtoration of his health to the uſe of daily morning exerciſe, after drinking a large draught of pure water. A caſe is alſo related of one who, from his infancy to his 25th year, had never been free from *Aſcarides*, but he entirely got rid of them by taking a journey on horſeback, as far as *Tornoa*, in *Lapland*.

126. HORTUS CULINARIS. *J. C. Tengborg.* 1764.

Exhibiting a view of all thoſe vegetables, which are, or which the author thinks might, advantageouſly be cultivated in the fields and gardens of *Sweden*; and deſcribing, in a ſuccinct way, the manner of propagating the ſeveral kinds of grain; hops, tobacco, ſaffron; kitchen or boiling herbs, ſallads, pot-herbs; fruit-trees and ſhrubs; and finally, plants for ornament; their proper ſoil, and the methods of guarding them againſt the ſeverity of the climate.

127. HIRUDO MEDICINALIS. *D. Weſer.* 1765.

There are nine ſpecies of Leeches deſcribed in the *Syſtema Naturæ*, p. 1079. That uſed for medicinal purpoſes is diſtinguiſhed under the name of *Hirudo (Medicinalis) depreſſa nigricans, ſupra lineis flavis ſex: intermediis nigro-arcuatis ſubtus cinerea nigro-maculata.* The anatomical ſtructure and natural hiſtory of this worm, the opinion of the antients relating to it, the proper time of procuring it, the method of preſerving and applying it, are all diſcuſſed. After this, the author points out thoſe diſeaſes in which the mode of blood-letting by

by means of Leeches hath been preferred to others; previous to this, however, he quotes *Zacutus Luſitanus* for a caſe, where the Leech, during its application, made its way into the *Rectum*, and takes occaſion to recommend, in any ſimilar inſtance, the immediate injection of ſalt water; and thinks it would be equally efficacious in the ſtomach, if the animal has unwarily been ſwallowed, which has ſometimes fatally happened.

128. OPOBALSAMUM DECLARATUM. *W. Le Moine.* 1764.

Among ſeveral articles of the *Materia Medica*, of the production of which phyſicians had a very imperfect knowledge, none excited more curioſity than this drug, called alſo *Balm of Gilead*, and *Balſam of Mecca*, from the place of its growth: a drug, the virtues of which were highly extolled throughout all the Eaſt, from the moſt antient times. Near twenty authors are here mentioned, who have written profeſſedly on this production, but few had ſeen the ſhrub that produced it. *Proſper Alpinus* ſays, he ſaw the plant growing in a cultivated ſtate in gardens near *Cairo*; but it is now doubtful whether that he ſaw was the true ſpecies, though of the ſame genus. We owe the full diſcovery of the ſhrub which yields it to Dr. *Forſkal*, one of thoſe unfortunate gentlemen, who were ſent to *Arabia Felix*, on the expedition planned by Profeſſor *Michaelis*, which did ſo much honour to the late *Frederick* V. of *Denmark*. He ſaw it growing plentifully in that country, particularly about *Medina*,

Medina, and tranſmitted a branch to LINNÆUS in 1763. It is now known to be a plant of the *Monogynous* order, in the *Octandrous* claſs, and belongs to the ſame genus with the plant that in *America* yields the gum *Elemi*. It now ſtands in the Syſtem under the name of *Amyris (Gileadenſis) foliis ternatis integerrimis; pedunculis unifloris, lateralibus*, Mant. 65, Syſt. Nat. Veg. xiii. p. 299. A complete hiſtory of the ſhrub, and the virtues of the balſam, are exhibited; concerning which we need only obſerve, that modern phyſicians have found a ſubſtitute in other *natural balſams*, and therefore do not entertain ſo high an opinion, as the antients did, of the wonderful reſtorative powers of this drug. The preſent age hath made us acquainted with the plants which afford the Gum *Elemi*, *Animæ*, and *Copaiba*; we yet wait for the full diſcovery of the *Balſam of Peru*, *Ammoniacum*, *Caranna*, *Myrrh*, *Bdellium*, and *Sagapenum*. This tract cloſes with a deſcription of the plant, which LINNÆUS honoured with the name of *Forſkalea*. It is figured in *Plukenet's Phyt.* t. 275, f. 6, and ſtands among the *Decandriæ Pentagyneæ*, next to the *Spergula*.

129. DIÆTA ÆTATUM. *D. J. Ohrquiſt.* 1764.

A ſuccinct view of the changes which the human body paſſes through, in the ſeveral ſtages from the birth to extreme old age, inculcating the due obſervance of all thoſe rules reſpecting diet and regimen, which are beſt adapted to give vigour to the conſtitution, and permanence of health, during

during theſe viciſſitudes. Pointing out alſo, under each period, the diſorders incident thereto, and laying down proper inſtructions how beſt to eſcape the influence of them.

130. Morbi Artificum. *N. Skragge.* 1764.

It is too well known that artificers in various trades are almoſt neceſſarily ſubject to dangerous and ſometimes lingering diſeaſes, which frequently ſhorten the period of their lives. Miners, hewers of free-ſtone, workers of metals, painters, and various others, are notorious inſtances of this truth. But, as our author obſerves, they are not the only ſufferers in this way, inaſmuch as a too cloſe application to any buſineſs or profeſſion, will ever be attended with inſalutary effects. In this conciſe view of the diſeaſes of tradeſmen, the author profeſſes to have made all poſſible uſe of *Ramazzini*'s work on the ſubject; but he has extended that author's catalogue, and availed himſelf of ſubſequent obſervations from various authors, and interſperſed ſeveral of his own. In brief, by confining his view, through the ſeveral employments of mankind, to the immediate operation of cauſes, and their effects, he has rendered this tract at the ſame time agreeable, inſtructive, and intereſting.

131. Lepra. *J. Uddman.* 1763.

The diſtemper here deſcribed has been long endemial in *Norway*, and in ſeveral parts of *Sweden*, particularly on the eaſtern coaſt of the *Bothnian* Gulph,

Gulph, and in *Finland*; alſo in the iſlands of *Oeland* and *Gothland*. So long ſince as the year 1631, a peſt-houſe was erected in the pariſh of *Croneby*, for the reception of the ſick of that neighbourhood. Our author defines the *Lepra* from LINNÆUS's *Genera Morborum*, as "a diſtemper ſhewing itſelf in puſtules, throwing off dry ſcales or ſcurf; attended with moveable diſcoloured nodes in the fleſh, and *rhagades* or dry fiſſures on the ſkin." N° 272. Whether the diſtemper he undertakes to give the hiſtory of be the ſame with the *Lepra Arabum* or *Alexandrina*, the *Javanenſis*, and the *Americana*, of all which he has given the characters, he does not abſolutely determine, as he inclines to think it a diſeaſe various in its appearance. Being a native of *Bothnia*, he had frequent opportunities of inſpecting it, and deſcribes it under the following appearances in that country.

It ſhewed itſelf in *tubercles*, or nodes, fixed in the fleſhy parts, in the forehead, cheeks, arms, hands, and thighs; theſe were indolent, moveable with the finger, and of a livid hue. There were alſo tubercles of a livid, or ſometimes brownish-yellow caſt, in the mouth, palate, fauces, and about the root of the tongue; *ulcers* in the noſtrils; *tumours* or thickenings of the edges of the outer ears; *thick lips*; *feet* and *hands* enlarged and inflamed. And in ſome, ulcers, or rather *fiſſures*, on the ſkin, creeping, broad, and deep, with callous edges, bleeding from ſlight preſſure or handling, but deſtitute of pain, as were all the *nodes* and *tubercles*, as far as the author ever obſerved; but,

but, he ſays, they were inclined to itch round their baſes.

We cannot purſue our author through his enquiries into all the hypotheſes relating to the cauſe of this diſorder, howſoever ingenious; it muſt ſuffice to obſerve, that he favours the theory of *Exanthematic Animalcula*, and, from the frequency of this diſorder on the ſea-coaſt, where the inhabitants live much upon fiſh, and particularly herrings, which abound with the *Gordius Marinus* (Syſt. 1075) or Sea Hair-worm, adduces a train of arguments to ſhew, that this diſtemper probably originates from theſe worms.

In the cure, he deſcants upon the *viper-broth* of the antients; and remarks, that the famed viper of the Eaſt is a different ſerpent from ours. He next treats on the inefficacy of mercurials as vermifuges, and quotes Dr. *Scopoli* as obſerving, that no people are more troubled with worms than thoſe that work in the quickſilver-mines of *Carniola*. At length, againſt this obſtinate and formidable malady, Dr. *Uddman* informs us, that Dr. *Ruſſel*'s method of cure, which conſiſts in giving large quantities of ſea-water, aſſiſted by the other part of the proceſs, to which were joined frictions with warm and acrid oils, had been attended with more ſucceſs than any other.

132. FUNDAMENTA ORNITHOLOGICA. *A. P. Backman.* 1765.

To all lovers of Ornithology this muſt have been an acceptable morſel, as containing the rudiments

ments of the ſcience according to the *Linnæan* method, and a full explanation of the terms therein employed. It is divided into four parts. In the firſt, the author gives a brief hiſtory of Ornithologiſts, amongſt whom he places *Belon* and *Geſner*, as the firſt authors worth attention, deſcending to *Aldrovandus*, *Marcgrave*, WILLOUGHBY, and RAY, before any thing like ſyſtem was introduced. To theſe ſucceed *Rudbeck*, whoſe collection of paintings, yet unpubliſhed, are in the hands of M. *de Geer*; *Albin*, *Cateſby*, and *Edwards*, the laſt of whom, from his unwearied diligence, and the opportunities that his ſituation at *London* afforded him, had excelled all others. To theſe muſt be added M. *Briſſon*'s publication of *Reaumur*'s collection, as alſo *Klein*, *Brunniche*, and *Barrere*.

In the ſecond part, the anatomical ſtructure and external form of this order of animals are deſcribed. Firſt, the form in general; then the particular parts, explaining under each the terms uſed in deſcribing them, and in forming the *generical* and *ſpecific characters*. This part is illuſtrated with a plate, which has been copied into ſeveral ſucceeding works on this ſubject.

The third treats on the hiſtory of birds; reſpecting their habitations, migrations, incubation, and the whole of their natural economy. To which is ſubjoined the method of conſtructing ſcientific deſcriptions, and generical characters.

The fourth exhibits a general view of the uſe of birds in the police of nature; in diet, and their utility to man: and here we cannot but note the *Chavaria* of

of *Jacquin*, a ſpecies of the *Parra* (Syſt. p. 260) which is trained by the *Indians* in the neighbourhood of *Carthagena*, who breed large flocks of poultry, that ſtray in the woods, to defend them againſt the numerous birds of prey, no one of which will dare to encounter this bird. It is never known to deſert the flock, and returns every evening to rooſt. Our author touches on the prognoſtics of birds in preſaging weather, ſo well underſtood by ſeamen; and finally, as beautiful and pleaſurable objects to man.

133. FUNDAMENTA ENTOMOLOGIÆ. *A. J. Bladh.* 1767.

The knowledge of inſects may be ſaid to be the laſt branch of natural hiſtory that raiſed its head; notwithſtanding which, it has of late attained a high degree of perfection: nor can it be too much to attribute this to the excellent arrangement of LINNÆUS, under whoſe auſpices it has extended itſelf beyond all other parts of zoology.

The plan of this paper is exactly that of the foregoing, and will amply ſatisfy thoſe who wiſh to enter on the ſtudy of inſects. In his firſt chapter, Mr. *Bladh* gives a chronological liſt of 32 writers on the ſubject, beginning with *Mouffet*, who publiſhed in 1634, and ending with *Schæffer* in 1767. But the ſubſtance of this diſſertation has been tranſlated and publiſhed in *Engliſh* by Mr. *Curtis*, ſo that any further account of this work is now ſuperſeded.

134. FUNDAMENTA AGROSTOGRAPHIÆ. *H. Gahn.* 1767.

M. *Gahn* profeſſes to have undertaken this tract, partly with a view to aid the good deſigns of thoſe *ſocieties*, which, to the honour of their founders, have been eſtabliſhed in ſeveral parts of *Europe*, for the advancement of agriculture; with which the ſubject of this paper is intimately connected.

In this large natural claſs of plants, called *Gramina*, are comprehended alſo the *Cerealia* or Grain, and, including all that are hitherto known, do not amount in the Syſtem of our author to fewer than 430 ſpecies; in that of others to many more. Such a number of plants, ſo nearly alike in their habit as theſe, muſt require numerous ſubdiviſions, and nice diſtinctions, to diſcriminate each ſpecies. To effect this is the intention of this tract, in which, after ſome curious preliminary obſervations, relating to the ſtation and uſes that nature ſeems to have aſſigned to ſome particular ſpecies, and a liſt of the common graſſes, claſſed according to their native places, the author preſents us with an hiſtorical account of the principal writers who have treated ſeparately on this claſs, exhibiting under each a brief view of their ſyſtems of claſſification. Theſe are *C. Bauhine*, *Rudbeck*, *Ray*, and above all, *Scheuchzer*, who with incredible labour has deſcribed all the ſpecies. To theſe might be added ſeveral other writers, who have alſo illuſtrated this branch of botany, particularly *Moriſon* and *Haller*. Then follows the deſcription of the natural character

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and habit of a plant of this claſs, intended to convey a full explanation of the *terms*, referring to two explanatory plates, on which is engraven a flower of each genus.

Various have been the methods invented to claſs this tribe; our author here gives them a new diſpoſition, entirely independent on the ſexual ſyſtem, eſtabliſhed on the *figure* and *number* of the valves compoſing the Glume or *Calix*; and thoſe of the *flower*, claſſed under two general heads, as they grow either in the form of *Spikes* or *Panicles*.

In all *natural claſſes* the diſtinctions of the genera depend on minute differences, which require very nice diſcriminations; the author therefore proceeds to point theſe out in ſeveral inſtances of this tribe: he has alſo added the *exceptions* that ariſe under the ſeveral genera in various ſpecies, an imperfection that attends all ſyſtems. He concludes with a full explanation of his tables, which are better adapted to convey to a learner a true idea of this claſs, than any that we are yet acquainted with; ſince *Schreber*'s tables are not adapted to common uſe in *England*.

135. VARIETAS CIBORUM. *A. F. Wedenberg.* 1767.

The immenſe variety in food, which cuſtom, neceſſity, and luxury have introduced, is here in a conciſe way diſplayed: the ſimplicity of ſome nations, whether ariſing from penury or from climate, the *Apician* luxury of others, and the various effects of the culinary art, are alſo briefly pointed out; then follows a diviſion of aliments into claſſes, thus,

1. Watery.
2. Dry.
3. Pinguious.
4. Styptic.
5. Acid.
6. Bitter.
7. Viſcous.
8. Salt.
9. Sweet.
10. Acrid.

Under each are ſubjoined ſummary obſervations, relating to the effects of a regimen, in which any of theſe claſſes form the prevailing part; and to its tendency in producing particular diſeaſes. The author then ſpeaks on the great power of cuſtom on the habit, and concludes with inculcating the *Ne quid nimis*, an axiom of much higher importance than any of thoſe nice diſcriminations relating to the *wholeſome* and *unwholeſome*, which ſo often perplex the minds, and diſturb the peace of many well-meaning people.

136. FERVIDORUM *et* GELIDORUM USUS. *C. Ribe.* 1765.

Dr. *Ribe* fixes the heat of the human body between 35 and 37 of the *Celſian* thermometer, and pronounces all *foods* and *drinks* which ariſe to 40, to be *fervid*. He conſiders the conſtant and daily uſe of hot aliments as an abuſe that calls for the ſtricteſt animadverſion; and ſhews, by the effects of them on the ſolids of the human body, their tendency to produce a variety of chronical diſeaſes, which he here ſpecifies. Man is the only animal accuſtomed to hot foods, and is almoſt alone affected with carious teeth. Hence he takes occaſion to condemn, in a forcible manner, the cuſtom of drinking hot tea, coffee, and chocolate, and diſſuade

diſſuade his countrymen from the practice of eating hot bread, boiled rice, puddings, and other like foods, to which perhaps, from the ſeverity of the climate, the *Swedes* are more addicted than ſome other nations. He does not however conclude this part without pointing out thoſe caſes where *tepid*, and even *fervid* liquors, are both allowable and beneficial; ſuch are ſome fevers, ſeveral of the ſpaſmodic diſeaſes, and thoſe reſulting from rigidity of the fibres.

In the ſecond part, the author reprobates the uſe of *iced creams*, *jellies*, and *drinks*; and diſſuades eſpecially from a ſort of food, unknown among us, though frequent in *Sweden:* this is *congealed oyſters*. The pernicious quality of theſe he endeavours to prove by ſeveral caſes. He is alſo not leſs deciſive in condemning a kind of *iced* malt-liquor, drunk in *Sweden* in the ſummer months. Obſervations on the diſeaſes occaſioned by the abuſes of all theſe, and a recital of the advantages of ſimply *cool* liquors, conclude this diſſertation.

137. Potus Theæ. *P. C. Tillæus.* 1765.

At the time of its publication, this treatiſe had perhaps the merit of being the moſt complete hiſtory of this ſhrub; occaſioned by the lucky incident of its arriving ſafe in a vegetating ſtate in *Sweden*, through the care and ſkill of Capt. *Ekeberg*, who is ſaid to be the firſt that ſucceeded in the ſeveral attempts that had been made to introduce it into *Europe*. Linnæus had ſuggeſted the putting the ſeeds into earth juſt as the ſhip left *China*;

and the ſucceſs confirmed the propriety of his method.

Tea is now known to be the leaves of a plant of the *monogynous* order, belonging to the *polyandrous* claſs; the flower of which is ſucceeded by a *tricoccous Capſule*. The writer deſcribes the ſhrub at large, gives all the ſynonyms, and mentions thoſe authors who have given figures of it: among theſe, *Kæmpfer*'s is the only exact one. It was long believed that there was but one ſpecies; but the *Green Tea* is now ſaid to be the produce of another, which differs from the *Bohea*, in having nine petals in the flower, whereas the Bohea hath but ſix. It is not known to grow ſpontaneouſly elſewhere than in *Japan* and *China*, in which latter kingdom it is cultivated in all the provinces from *Canton* to *Pekin*.

Mr. *Tilley* delivers the mode of preparing the leaves, of which we have a diffuſe and moſt exact account by *Kæmpfer*, who, having reſided two years in *Japan*, was enabled to give the moſt complete information. The origin of the uſe of *Tea* in thoſe countries is too remote to be aſcertained, and commerce has now extended its uſe to almoſt every corner of the globe. The high price of *Tea*, at its firſt introduction, induced many phyſicians to think of a ſubſtitute; and it is well known that *Simon Pauli* thought the *Myrica Gale*, Sp. Pl. p. 1453, to be the ſhrub itſelf. Other *ſuccedanea* are mentioned alſo by our author; ſuch as the leaves of the

Prunus ſpinoſa, Sp. Pl. 681. Sloe Tree.

Origanum vulgare, Sp. Pl. 824. Wild Marjorum.

Rubus

Rubus arcticus, Sp. Pl. 708. Arctic Bramble.

Veronica officinalis, Sp. Pl. 14. Male Speedwell.

Veronica Chamædrys, Sp. Pl. 17. Wild Germander.

Chenopodium Ambrosioides, Sp. Pl. 320. Mexican ſweet Blite.

Capraria biflora, Sp. Pl. 875. Sweet-weed or Goat-weed.

To this part of our author's treatiſe may be added the well-known ſophiſtication of Tea practiſed by the ſmugglers, in ſome of the ſouthern parts of this kingdom, who have reduced to a regular proceſs the management of the leaves of the *Aſh* and *Elder* particularly; which, when prepared, is called *Smouch*, and mixed, as is ſaid, in the proportion of one third, with the ordinary *Teas*. To what an extent the trade in this ſophiſticated Tea had been carried, to the detriment of the trees, may be imagined, when the reader is informed, that an act of parliament has lately been obtained to prohibit it, under very ſevere penalties. But to return to our author.

He next conſiders the ſenſible qualities of *Tea*, its fragrant odour, and ſtyptic taſte; and from its place in the Syſtem, botanically conſidered, with reſpect to the *natural orders*, he thinks it highly probable, that what *Kæmpfer* relates of its *narcotic* quality, when green, is conſonant to truth. And, from ſimilar inſtances, he proves that this quality may readily be thrown off by that degree of heat which the ſudden exſiccation of the leaves require.

In diſcuſſing the virtues of Tea, he obſerves, that the *Chineſe* recommend the uſe of it in all lethargic

diſeaſes, but condemn it in ophthalmies, colics, and palſies. From *Kalm*, he tells us, the *Indians* of *North America* knew not the inconveniences of carious teeth, debilitated ſtomachs, nor the women difficult labours, until the introduction of Tea among them. That the phyſicians at *Hamburgh*, *Amſterdam*, &c. attribute the frequency of the *Leucorrhæa* among the women of condition to their indulgence in this liquor. And further, that *Boerhaave* aſcribed to the ſipping hot Tea, a ſchirroſity in the glands of the œſophagus, which he met with on diſſection, and which he thought a diſeaſe not known to the antients.

The author ſubjoins ſome obſervations on the important and extenſive influence of Tea in a mercantile view, and as an article of luxury; and concludes with the hiſtory of the introduction of the living plant into *Europe*, as above mentioned, hinting alſo at the poſſibility of naturalizing it in other countries. A plate of the *Bohea Tea* ſhrub is annexed.

138. Potus Chocolatæ. *A. Hoffman.* 1765.

We are now come to the laſt, and what our author thinks the moſt ſalubrious, of the three elegant articles of luxury that the moderns have acquired by the diſcovery of the *Eaſt* and *Weſt Indies*. Chocolate is the produce of an *American* intertropical tree, flowering twice in a year, and ſingular in producing its fruit from the body or trunk, and not from the branches. It belongs to the *Pentandrous* order of the *Polyadelphous* claſs; and is diſtinguiſhed by the name of *Theobroma (Cacao) foliis integerrimis*, Sp. Pl. 1100.

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We are preſented with three methods of preparing Chocolate, as practiſed by the *Indians*, by the *Spaniards*, and by others, as follow: The *Indians*, to one pound of the roaſted nuts, put half a pound of ſugar, diſſolved in roſe-water, and half a pound of flour of Mays, or *Indian* corn. The *Spaniards*, to ſix pounds of the nut, add three and an half of ſugar, ſeven pods of vanillas, one pound and an half of flour of *Indian* corn, half a pound of cinnamon, ſix cloves, one drachm of capſicum, and whatſoever is thought requiſite of the roucou-nut to improve the colour, together with ambergreaſe or muſk, to impart an agreeable ſcent. In *the other*, and more common way, to ſeventeen pounds of nuts are added ten pounds of ſugar, twenty-eight pods of vanillas, one drachm of ambergreaſe, and ſix ounces of cinnamon.

The *Vanillas* are the pods filled with minute ſeeds, from a paraſitical climbing plant, deſcribed under the name of *Epidendrum Vanilla*, Sp. Pl. 1347, belonging to the *Gynandrous* claſs, with the *Orchides*, and like them reputed an aphrodiſiac. Spices are added to give pungency, and mitigate the oleaginous quality of the nut.

Having detailed the hiſtory of the *nut*, the author conſiders Chocolate as an *aliment*, and in a *medicinal* view. He recommends it in *emaciating* diſeaſes, both as aliment and medicine; and next very ſtrenuouſly in *hypochondriacal* caſes, and in confirmation adduces that of Cardinal *Richelieu*, who, he ſays, was reſtored to health by living on Chocolate. He is not leſs copious on its good effects againſt the *Hemorrhoids*; in aid of which he

relates a ſingular caſe, communicated to him by the Preſident himſelf.

139. SPIRITUS FRUMENTI. *P. Bergius.* 1764.

The *Arabians* have the credit of inventing the alembic, and the diſtillation of ardent ſpirits; which they are ſaid to have uſed principally, if not at firſt entirely, as ſolvents only, to extract the virtues of ſimples, and exhibit them in the form of tinctures. Our author obſerves from *Raymond Lilly*, that they were unknown in *Europe* at the commencement of the 14th century; but the diſtillation of *ſpirit from fermented grain* is attributed to *Arnoldus de Villa Nova*, about the year 1315. Soon after this time *Brandy* was made in *Sicily*, firſt from ſpoiled grapes, and very early became an article of great commerce at *Venice*.

Having enumerated the properties of this inflammable fluid from *Boerhaave*'s chemiſtry, and deſcribed a method of preparing the grain for diſtillation, as practiſed in *Sweden*, which is different from ours, the author diſcuſſes the ſalutary effects of *Spirits*, medicinally taken, as analeptic, diuretic, cordial, and ſtomachic; under all which heads, he lays down appoſite rules for their uſe. Diluted with coffee, he recommends brandy as a diuretic in calculous caſes. He much prefers it to wine, as a preſervative againſt contagious dyſenteries; and aſſerts, that this was clearly proved among the ſeamen of the *Swediſh* fleet, in the expedition of 1742. He then conſiders the imprudent uſe of it; and, from its power in *coagulating the fluids* and *indu-*

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rating the ſolids, deduces its effects in producing inflammatory fevers, conſumptions, dropſy, jaundice, hemorrhoids, tremors, phrenſy, *&c.* and concludes with ſome well-digeſted obſervations on the general abuſe of fermented liquors, and upon their influence on ſociety, both in a political and moral view.

140. MENTHÆ USUS *C. G. Laurin.* 1767.

Mint is one of thoſe vegetables which have retained their character in medicine from the earlieſt ages, it having been uſed by the *Greeks* and *Romans*. *England*, above all other countries, abounds with plants of this genus, of which there are not leſs than eleven ſpecies mentioned by the *Engliſh* botaniſts as indigenous, the *Pulegium*, which is a true ſpecies of Mint, being included.

In the *natural orders* of botany, *Mint* is among the *verticillated* plants, which are in general ſuppoſed to have *reſolvent* and *nervine* qualities: and from theſe powers ariſe the good effects uſually aſcribed to this plant, in a variety of diſorders here particularly ſpecified.

141. PURGANTIA INDIGENA. *P. Strandman.* 1766.

After ſome preliminary obſervations relating to the opinions of the *empirical* and *dogmatic* ſects in medicine, as connected with his ſubject, and ſome encomiums on the inſtitution of hoſpitals, as affording a field of obſervation and experiment to the phyſician, which private practice does not allow, the writer preſents us with a catalogue of

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ſuch vegetables as are endued with a purgative quality, confining his tract to ſuch as are either indigenous, or eaſily cultivated in the gardens of *Sweden*. Under each he mentions the place of growth, the part uſed, its preparation, the doſe, the effects, and the diſorders in which it has principally been employed as a purgative. We ſubjoin a ſummary catalogue.

1. *Rhamnus Frangula*, Sp. Pl. p. 280. Frangulæ Cortex. *Bark of berry-bearing Alder.*

2. *Rhamnus Catharticus*, Sp. Pl. 279. Spinæ Cervinæ Baccæ. *Buckthorn Berries.*

3. *Linum Catharticum*, Sp. Pl. 401. Purging Flax.

4. *Eupatorium Cannabinum*, Sp. Pl. 1173. Hemp-agrimony. Leaves. Root.

5. *Geniſta Tinctoria*, Sp. Pl. 998. Dyers-weed. Seeds and Flowers.

6. *Prunus Spinoſa*, Sp. Pl. p. 681. Acaciæ Noſtratis Flores. *Flowers of Black-thorn*, or *Sloe-tree.*

7. *Berberis vulgaris*, Sp. Pl. 471. Berberry Bark.

8. *Convolvulus Sepium*, Sp. Pl. 218. Root of the great Bindweed.

9. *Valeriana officinalis*, Sp. Pl. 45. Valerian Root.

10. *Bryonia alba*, Sp. Pl. 1438, Bryony Root.

11. *Sambucus Ebulus*, Sp. Pl. 385. Root of Dwarf Elder.

12. *Lichen Aphthoſus*, Sp. Pl. 1616. Fine green Liverwort, or aphthoſe Liverwort. The author relates the caſe of a young woman, to whom this medicine had been given as an anthelminthic,

who voided under its operation, inſtead of the uſual inteſtinal worms, a large quantity of the *Larvæ* or Maggots, of the *Phalena Pinguinalis*, a ſpecies of Moth, deſcribed in the Syſtem, p. 882.

13. *Lycopodium Selago*, 1565. Firr Club-moſs.

14. *Thalictrum aquilegifolium*, Sp. Pl. 770. Feathered Columbine, or Meadow Rue. The Root.

15. *Polypodium vulgare*, Sp. Pl. 1544. Polypody.

16. *Viola odorata*, Sp. Pl. 1324. Root. Doubtful.

17. *Gratiola officinalis*, Sp. Pl. 24. Hedge Hyſſop.

18. *Aſarum europæum*, Sp. Pl. 633. Aſarabacca.

19. *Rheum palmatum*, Sp. Pl. 531. Rhubarb.

20. *Mirabilis longiflora*, Sp. Pl. 252. The author thinks it probable that the *Jalap* of the ſhops is a root of this genus. Some *Engliſh* botaniſts have rather ſuppoſed it to be a *Convolvulus*.

21. *Momordica Elaterium*, Sp. Pl. 1434. Wild or Spirting Cucumber. The fecula of the Juice.

The *Hedge Hyſſop*, and *Aſarabacca*, are emetics; and the author thinks the root of the *Sweet Violet* is endued with the ſame quality as the *Ipecacuanha*, which is now pretty well determined to be of that genus. See *Syſt. Nat.* 2d ed. xiii. p. 669.

142. SIREN LACERTINA. *A. Oſterdam.* 1766.

A complete hiſtory of the *Lizard Siren*, or Mud-Inguana, of *Carolina*, a new amphibious, biped, eel-ſhaped animal, furniſhed both with gills and lungs; the former placed entirely without the body. This animal is ſo ſingular in its ſtructure, as to have occaſioned LINNÆUS to form a new *order*, under the term *Meantes*, which is placed between the *Amphibia* and *Nantes*. It is ſometimes

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ſeen two feet long, and ſends forth a cry ſomewhat like that of the young of the Duck kind, but more acute and clear. It is deſcribed and figured by Mr. *Ellis*, in the *Phil. Tranſ.* vol. lvi. p. 189.

143. METAMORPHOSIS HUMANA. *J. A. Wadſtrom.* 1767.

An ingenious and elaborate diſſertation on the changes which the human ſyſtem undergoes in the ſeveral ſtages of life, from the birth to extreme old-age, divided into twelve periods. Under each of theſe, Man is conſidered, with reſpect to all thoſe changes which ſucceed each other, in the ſtructure and diſcharge of the ſeveral functions of the body; or otherwiſe, both anatomically and phyſiologically; with reſpect to the diſeaſes of each ſtage; and finally, he is throughout contemplated in regard to the powers of the mind, the affections, and the paſſions.

This detailed view is ſucceeded by tables, in which, under the ſame periods, is delineated the different temperature of the body; the different degrees of muſcular ſtrength; the powers of motion; the appetites; affections; paſſions; the exerciſe of the mental faculties, and their aptitude to works of genius, ſcience, and judgment; the powers of ſpeech and oratory; and the whole cloſes with a *Scala Ætatum*, containing all the tables brought together, and ſcientifically oppoſed to each other. This paper is cloſely connected with, and properly accompanies, the *Senium Salomoneum*, N° 90, and the *Diæta Ætatum*, N° 129.

144. CURA

144. CURA GENERALIS. *J. G. Bergman.* 1766.

In a foregoing part of theſe memoirs, a ſhort account was given of LINNÆUS's *Theory of Phyſic*, or his *Clavis Medicinæ*; in which was obſerved the diſtinction that he has made between the *cortical* and *medullary*, or in other words, the *vaſcular* and *nervous* ſyſtems of the human body. The preſent diſſertation is a comment on the firſt part of the *Clavis*, relating to the diſeaſes of the vaſcular ſyſtem. Dr. *Bergman* traces the immediate effects, both upon the ſolids and fluids, of any exceſs or defect in the *Air*, *Nouriſhment*, *Motion* and *Reſt*, *Sleep* and *Watching*, *Excretions* and *Retentions*. The *Paſſions*, as being more immediately connected with the *medullary*, or nervous ſyſtem, do not belong to his ſcheme. Having diſcuſſed the ill conſequences of theſe errors to the conſtitution, and remarked the diſeaſes originating from thence, he turns to the conſideration of the old canon, "that diſeaſes are cured by their contraries," and, agreeably to the theory of his maſter, that ſuch as ſpring from theſe errors are principally the objects of dietetic medicine, and are to be cured by *Sapids*, he produces the ſeveral claſſes of *Aquoſa*, *Sicca*, *Acida*, *Amara*, *Pinguia*, *Styptica*, *Dulcia*, *Acria*, *Mucoſa*, *Salſa*, and ſhews their power in preventing and curing diſeaſes; concluding his tract with the diſtinction between the rational and empirical phyſician.

In mentioning the ſcurvy, and the effects of ſalted meat, he relates a memorable inſtance of

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an arthritic patient, who, after taking, in one ſummer, 1800 boles of Mrs. *Stephens*'s medicine, became in the higheſt degree afflicted with the genuine ſcurvy, which he thinks might fairly be attributed to the quantity of alkaline ſalt contained in that medicine.

145. Usus Muscorum. *A. H. Berlin.* 1766.

The uſes of this claſs of vegetables in well-cultivated countries, and in benign climates, can be but little known; in the northern regions they are conſpicuous. The writer, after having mentioned thoſe botaniſts who have particularly attended to this claſs, and given due praiſe to the matchleſs work of *Dillenius* on the ſubject, diſplays the particular advantages of moſſes in the general economy of nature; for inſtance, the *terreſtrial Liverworts* lay the firſt foundation of ſoil on barren rocks, as the *Sphagnum*, and many other *bog moſſes*, do in marſhy and boggy places. In human economy, nothing is more remarkable than the utility of the *rein-deer moſs*, in the arctic regions. Many of the liverworts are ingredients in dyeing; and ſeveral moſſes have their place in medicine, among which particularly may be mentioned the *Lichen Iſlandicus*, Sp. Pl. 1611. Iceland, or Eryngo-leaved Liverwort, of the virtues of which, in conſumptions, Dr. *Scopoli* has written a diſtinct treatiſe, publiſhed in the *Annus 2^dus Hiſtorico-naturalis*. Lipſ. 1769.

The reader will find a paper, written by the author of this volume, on the uſes of this *order* of plants,

plants, in the *Philoſophical Tranſactions* for the year 1758, vol. l. p. 652—687.

146. MUNDUS INVISIBILIS. *J. C. Roos.* 1767.

The ſubjects of this theſis have been much agitated of late years by the philoſophical *literati*, who have been ſkilled in the uſe of microſcopes. It turns principally on the diſcoveries of the Baron *Munkhauſen*, relating to the *ſmut* of wheat and barley, and to the duſt of the *Lycoperda*, or Puff-balls; *Agarics*, and other *Fungi*; which he has aſſerted to be no other than the *ova* of *animalcula*: from whence had ariſen a doubt, whether muſhrooms ſhould be ranked with vegetables or animals. LINNÆUS adopted, though with great heſitation, the Baron's opinion, as appears from his *Syſtema Nat.* p. 1326; but his ſentiments on this ſubject, after the experiments made by our late Mr. *Ellis*, who, at his requeſt, inſtituted a courſe profeſſedly to determine this point, do not appear. The reſult of Mr. *Ellis*'s enquiry proved the negative, as may be ſeen by his papers, publiſhed in the *Phil. Tranſ.* vol. lix. p. 138, and *Gent. Magazine* for 1773, p. 316. Much curious matter on this ſubject occurs in Mr. *Roos*'s paper; but we conclude with an important fact, related from the Baron's book, who recommends the ſeed wheat to be waſhed in a lye made of lime and ſea-ſalt; by which practice, for twenty years, he had ſecured his crop from ſmut, although his neighbours around him had ſometimes loſt a third part of theirs. In the lat-

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ter part of the theſis, the author deſcants on *exanthematic animalcula*, and appears to favour that hypotheſis; candidly confeſſing, however, the difficulties that occur, and concluding with a ſtring of doubts, propoſed by way of queries, relating to this abſtruſe point.

147. Usus Historiæ Naturalis. *M. Aphonin.* 1766.

This ingenious diſcourſe, written by a young *Ruſſian* nobleman, a ſtudent at *Upſal*, is one of the moſt entertaining and beſt-digeſted papers on the ſubject, that this collection affords, and cannot fail to carry conviction with it. It is divided into two parts: in the firſt, he diſplays the neceſſity of a knowledge of natural hiſtory at large, in leading the way to improvements in all branches of agriculture, and in gardening: the utility eſpecially of being acquainted with the indigenous plants of the country, an object greatly neglected, and which, if more attended to, muſt lead, as he endeavours to ſhew, to the improvement of woods, hedges, the culture of barren ground, wet meadows; to the extirpation of hurtful plants, and the better adapting paſtures to the ſeveral kinds of cattle. To illuſtrate this latter poſition, he mentions a memorable fact, related by Linnæus in the *Iter Scanicum*, of a number of goats which were periſhing in an iſland that abounded with the Reed Bent Graſs, *(Agroſtis arundinacea)* a plant on which horſes feed with avidity, and thrive greatly.

greatly. Thus alſo, on the other hand, goats will riot and fatten on the Meadow Sweet, *(Filipendula Ulmaria)*, whilſt horſes, and horned cattle eſpecially when they are young, will not touch it.

The ſecond part abounds with curious obſervations concerning the economy of domeſticated animals; in treating on which he points out both the moſt nutritive and noxious herbs to each ſpecies; deſcending afterwards to domeſtic fowls, and the inferior parts of the animal creation, which are more particularly the objects of huſbandmen. A plate is added, on which is engraven, together with a rare ſpecies of *Henbane*, the *Actæa Cimicifuga*, Sp. Pl. 722, famous in *Ruſſia* and *Tartary*, beyond all other things, for expelling bugs, and ſome other noxious inſects.

148. NECESSITAS HISTORIÆ NATURALIS ROSSIÆ. *A. De Karamyſchew.* 1766.

This paper is alſo written by a *Ruſſian* nobleman, and is intended to excite his countrymen to a diligent cultivation of the ſtudy of natural hiſtory, as a ſcience eminently beneficial to a riſing people. To this purpoſe he endeavours to raiſe their emulation, by ſhewing the progreſs it has made in the eaſtern nations of *Europe*, diſplaying its beneficial influences; and by exhibiting the vaſt field which the empire of *Ruſſia* affords. He then gives ſome biographical anecdotes of thoſe who have improved the natural hiſtory of that country, under the patronage and command of their ſovereigns, from the time of *Peter* the Firſt.

Such were *Meſſerchmidius*, *Buxbaum*, *Gmelin*, the laſt of whom ſojourned in *Siberia* from 1733 to 1743. *Kraſcheninnikow*, *Martin*, *Steller*, *Amman*, and others. He then recites, from the *Muſeum Petropolitanum*, a liſt of zoological ſubjects for further inveſtigation, which, although natives of *Ruſſia* and *Siberia*, are yet very imperfectly known. He endeavours to perſuade his countrymen to the culture of a number of uſeful vegetables, by preſenting them with a long catalogue of exotics, that have been in ſome ſort naturalized at *Abo* in *Finland*, under the care of Profeſſor *Kalm*. His tract concludes with a liſt of plants which are natives of *Siberia*, extracted from the MSS. of *Heinzellmann*, *Gerber*, *Lerche*, and *Schober*; all which MSS. were in the hands of LINNÆUS. A figure of a ſpecious *Siberian* plant accompanies this tract. It is the *Fumaria Spectabilis*, Sp. Pl. p. 933.

149. RARIORA NORWEGIÆ. *H. Tonning*. 1768.

The pen of a learned, ingenious, and ſkilful naturaliſt is viſible in this agreeable ſpecimen of natural hiſtory. The writer firſt traces the origin of the ſcience among the *Danes*, whoſe monarchs have lately been its celebrated patrons. Among the principal modern writers ſtands *Gunner*, the late Biſhop of *Dronthem*, who, to the higheſt merit in his ſacred profeſſion, alſo added an exquiſite taſte for natural hiſtory, and a conſummate knowledge in that ſcience, as his writings fully teſtify. Neither is Mr. *J. Strom* forgotten, who publiſhed, in 1762, a natural hiſtory of *Sondmore*, in the dioceſe

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of *Bergen*. After this literary introduction, the principal intention of the writer is to exhibit liſts of the more rare ſubjects of nature, eſpecially ſuch as are not common in *Sweden*. Agreeably to this deſign, we have a catalogue of the peculiar plants of *Norway*, the alpine, ſome other rare ſpecies, and particularly of the *Fuci*, or Sea Wracks, with which the coaſt of *Norway* abounds. Alſo a liſt, from the *Dronthem Acts*, *tom.* II. of all the *American* fruits, which are thrown on the *Norway* ſhore every year, and which have raiſed much ſpeculation among the curious, to account for their tranſmiſſion ſo particularly to that part of *Europe*. The author aſks the ſolution of this difficulty from the learned; inaſmuch as they are ſometimes found in no inconſiderable quantity, and ſo recent as to germinate, upon being properly ſecured from the climate. Theſe fruits are uſually the *Caſſia Fiſtula*: *Anacardium*, or Cuſhew Nuts: *Cucurbitæ Lagenariæ*, Bottle Gourds: Pods of the *Mimoſa Scandens*, Sp. Pl. p. 1501, called *Cocoons* in the *Weſt Indies*: Pods of the *Piſcidia Erythrina*, called Dog-wood Tree by *Sloane*: and Coco-nuts.

The author next purſues his catalogue through all the claſſes of animals, uſing only the *Linnæan* trivial names, and referring to the *Fauna Suecica*, to *Gunner*, and to *Strom*. It may be obſerved, that the latter writer thinks that what deceived the fiſhermen, and by their means Biſhop *Pontoppidan*, under the appearance of a ſerpent of the extraordinary length deſcribed in his *Hiſtory of Norway*, was no other than a ſtring of ſturgeon, which, at the ſtated time of the year, follow each other in a line in immenſe

numbers, with only their backs above water; which might ſuggeſt the idea of the waving motion of a ſerpent.

The remaining part of the tract chiefly reſpects the medicinal plants, and the diſeaſes of the country. An account of ſome vegetable productions, which form an article of commerce, being exported in conſiderable quantities, among which are reckoned the Cloud-berry, (*Rubus Chamæmorus*, Sp. Pl. 708), and the *Lichen Iſlandicus*, mentioned in the account of the *Uſus Muſcorum*, N° 145. Then follows a liſt of medicines eaſily obtained, or ſuch as are in uſe among the country people. Among theſe the good effects of the *Linnæa borealis*, Sp. Pl. 880, in rheumatic diſorders, are well known, and much celebrated. He relates, on the authority of the Preſident himſelf, that two men, who had been confined to their bed for ſeveral months by iſchiatic pains, were cured in three days by a ſtrong decoction of it. Its operation appears to have been of the ſedative kind, ſince the patients were thrown into a ſleep, which laſted ſixteen or twenty hours. He confirms the opinion of the *Lepra* ariſing from the *Hair Worm*, as mentioned in N° 131 of this collection; and has ſome obſervations relating to the *Colica Lapponum*, deſcribed in M. *Montin*'s theſis, N° 27. The diſſertation cloſes with the deſcription of an *African* plant, called by LINNÆUS *Gunnera*, in honour of the Biſhop of *Drontheim*.

150. ITER *in* CHINAM. *A. Sparrman.* 1768.

We preſume this is the ſame perſon who afterwards made the voyage round the world with Dr. *Forſter*, in Capt. *Cook*'s ſhip, and has ſince travelled over a large tract of country in ſouthern *Africa*, in purſuit of thoſe gratifications which his zeal for natural hiſtory enabled him to enjoy. The preſent voyage, which was begun *Dec.* 28, 1765, and finiſhed *July* 21, 1766, was made with Capt. *Ekeberg*, who has been mentioned as having firſt introduced the *tea* ſhrub into *Sweden*. This epitome of the voyage conſiſts of little more than an enumeration of thoſe ſubjects of natural hiſtory, which occurred to the journaliſt, both at land and at ſea; for as he makes uſe of the *trivial* names, all deſcriptions are ſuperſeded; except that, in the notes, ſome of thoſe imperfectly known are more amply detailed.

OBSERVATIONS, tending to ſhew the Utility of botanical Knowledge in Relation to Agriculture, and the feeding of Cattle: accompanied with a Tranſlation of LINNÆUS's *Pan Suecus*, accommodated to the *Engliſh* Plants, with references to Authors, and to Figures of the Plants.

THE ſcience of botany certainly holds its moſt dignified ſtation when ſubſervient to *medicine*; but its utility does not terminate in this alone, though it has too long been conſidered as having no other connection. This, notwithſtanding, is but a partial, nay even an injurious idea of it, for nothing has more retarded its uſefulneſs than this contracted notion. It has a relation, in a variety of ways, to many other arts and ſciences. Among which may be mentioned the *art of painting and dying*; but of all others *Agriculture* certainly claims the ſtricteſt relation, ſome of its moſt important branches being greatly dependent upon it, and others, from an happy application of it, being perhaps capable of further emolument. The ſubſequent paper, it is preſumed, will, in ſome meaſure, illuſtrate this truth. But howſoever great the real dignity and importance of this art, yet, it muſt be allowed, that it has not been cultivated ſufficiently on ſcientific principles, nor advanced in equal proportion with other branches of knowledge. It is not many years ſince Dr. *Home* obſerved,

ſerved, that *Virgil* and *Columella*, old as they are, remained almoſt the only writers worth conſulting upon this ſubject. The writings of Mr. *Hart*, Dr. *A. Hunter*, Lord *Kaims*, Mr. *Young*, and of many others ſince publiſhed in our own nation, we hope have ſuperſeded Dr. *Home*'s remark; and, from that laudable ſpirit now diffuſing among us throughout *Great Britain*, for the improvement of *Arts* and *Sciences*, under the protection of our public inſtitutions, we may expect to ſee every branch of agriculture ſtudied as it deſerves, and attended with that ſucceſs which commonly reſults from the right application of knowledge to the purpoſes of human life. On the continent, the *Swedes* are making large and daily progreſs in the improvement of this branch of *economics*. In *France*, Mr. *Du Hamel* has rendered himſelf conſpicuous by his writings on this ſubject; and in various parts of *Europe*, ſocieties have been formed with a profeſſed view to this end. We cannot help mentioning, with peculiar pleaſure, that of *Padua*, over which Dr. *Arduin* preſides, who, by the munificence of the *Venetian* ſtate, has a garden allotted for the cultivation of ſuch vegetables as they wiſh to ſubject to experiments in agriculture, dyeing, and other arts. A noble inſtitution, and worthy of imitation!

Amidſt that almoſt infinite variety of vegetables, with which the beneficent hand of nature has repleniſhed our earth, thoſe which go under the general name of *Graſſes* form the principal food of our cattle; next to theſe, among the *natural claſſes* of plants, none are more acceptable than the

diadelphous or leguminous herbs: of this claſs is the *Clover*, ſo much cultivated in *England*; the *Saint Foin*, or *Cocks-head*; and the *Lucern*, or Medic-fodder, in *France*. Beſides theſe, our horſes, horned cattle, ſheep, *&c.* will all, in their turn, eat with equal pleaſure, and ſome with more avidity, a great variety of other vegetables. Numerous inſtances occur where one ſpecies of animals will feed greedily upon thoſe herbs which others refuſe to touch, and will even almoſt famiſh rather than eat. Some plants are highly noxious, and even poiſonous, to certain kinds of animals, while they are eaten by others without the leaſt ſubſequent ill effect: to inſtance, the *Cicuta Viroſa*, or long-leaved Water Hemlock, the moſt virulent plant which grows ſpontaneouſly in *England*, (but happily is not common) is fatal to cows, when, through ſcarcity of food, they are obliged to eat it; yet ſheep and horſes feed on it with impunity, and goats even greedily devour it.

--------- *Videre licet pingueſcere ſæpe* Cicutâ
Barbigeras pecudes, homini quæ eſt acre venenum.
LUCR.

Facts of this kind muſt, in ſome meaſure, have been obvious to the moſt incurious of mankind, even in the earlieſt ages. The firſt race of ſhepherds had daily inſtances, among their flocks, of the ſelection and refuſal of particular herbs, and ſubſequent obſervations muſt have multiplied and confirmed them. But they were ſtill only known in the general, and no *experiments* had been inſtituted to aſcertain the *preciſe ſpecies* thus eaten or rejected.

rejected. The facts are, at this time, undeniable. It is well known that *Flag-flowers*, *Hounds-tongue*, *Henbane*, *Mullein*, *Nightſhade*, *Hemlock*, ſeveral *Docks*, *Arſmart*, *Agrimony*, *Celandine*, ſeveral *Crowfoots*, *Marſh Marigold*, *Horehound*, *Figwort*, many *Thiſtles*, *Fern*, and other plants, are commonly neglected by our horſes, and horned cattle, and ſtand untouched, even in paſtures where it might be expected that neceſſity ſhould conſtrain them to eat any thing. Theſe are but a few out of many inſtances; there are more than is commonly imagined, and it was deſirable, in conſequence of theſe obſervations, that a courſe of experiments ſhould be inſtituted to elucidate this inſtinct, in that part eſpecially of the brute creation which is ſo immediately ſubſervient to mankind. The utility of ſuch experiments muſt be evident, as they muſt neceſſarily lay the foundation of farther improvements in the economy of cattle. The intelligent huſbandman would, by this means, have it in his power to rid his paſtures of noxious and uſeleſs plants, and give room for the ſalubrious ones.

In this view of the affair, it will be ſeen that phyſicians are not the only perſons who may ſtudy botany to advantage; many others would find, not only a fund of pleaſure from this ſtudy, but numberleſs other advantages reſulting from the knowledge of the plants of their own country. In the inſtance before us, ſcience has opened the way, and ſurely it is not too much to ſay, that it evidently points to greater improvements, in one of the moſt important branches of agriculture, as it relates to the economy of cattle. More than this

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ought not to be expected from its aid. It is to the intelligent grazier and the gentleman, well verſed in the knowledge of the *indigenous* plants, fraught with careful obſervation, and practiſed in the economy of cattle, that the reſt muſt be owing. Nothing but the want of this knowledge, in ſuch gentlemen as reſide in the country chiefly, can deprive us of the benefit which might otherwiſe accrue from reducing it into practice. The eradicating from paſtures poiſonous and uſeleſs weeds, would be but one, although indeed no mean one, among many other advantages. Further than this, the huſbandman would be better enabled to ſuit his ſeveral ſorts of cattle to the different paſtures in his poſſeſſion, more to their benefit, and conſequently his own. Even in marſhy grounds, where it is a difficult undertaking to mend the ſoil, the growth of many plants might be encouraged, and the ſeeds of others ſown, which are highly acceptable to different kinds of cattle. By degrees too we ſhould undoubtedly be led to the cultivation of other vegetables beſides *clover*, as fodder; and the foregoing obſervations imply, that this might be done in ſoils and ſituations where that would not thrive. Our hay would in conſequence be much improved; for although cattle will eat thoſe herbs among hay, which they reject while green and growing, yet it does not follow that all are in their dried ſtate equally nutritive and wholeſome. The benefits, in fine, which would ariſe from a diligent and general purſuit of theſe hints, would undoubtedly be various and extenſive, and many more, in all probability,

lity, in a courſe of years, than can at preſent be thought of.

Agreeably to theſe ideas, a beginning has been made, under the auſpices of our celebrated author, whoſe attempt was truly laudable, and worthy of himſelf. To this end, it is indeed certainly the province of the botaniſt to make the plants of his own country the principal objects of his attention. This has been eminently the caſe with LINNÆUS, and his country will continue to reap the fruit of his labours. The reſult of theſe experiments may be ſeen in a paper, called PAN SUECUS, printed in the ſecond volume of the *Amœnitates Academicæ*, the ſubſtance of which, ſo far as the experiments were made with plants common to this country, will be exhibited in the ſubſequent pages.

LINNÆUS conceived the firſt deſign of this inſtitution from obſervations made in his *Dalekarlian* journey, which has been mentioned in the courſe of the preceding pages: he obſerved, that his horſes left untouched, among other plants, *Meadow-ſweet*, *Great Wild Valerian*, *Lilly of the Valley*, *Angelica*, *Roſe-bay Willow Herb*, *Marſh Cinquefoil*, *Mountain Crowfoot Crane's-bill*, *Globe Crowfoot*, and various ſhrubs. It was not till ſeveral years after, that theſe experiments were inſtituted; in which a number of his pupils were engaged; eight or nine of whom he mentions by name, and he had himſelf a large ſhare in directing and conducting them. More than two thouſand experiments were tried upon the *horned cattle*, *goats*, *ſheep*, *horſes*, and *hogs*: many were repeated ten, and ſome twenty times,

times, with the ſole view of determining what vegetables theſe ſeveral animals would eat or reject. It is eaſy to ſee that numberleſs difficulties muſt ariſe in the proſecution of this ſcheme, and that imperfection, in a variety of inſtances, muſt at laſt attend their greateſt accuracy. In the mean time, care was taken, as far as circumſtances would admit, that the experiments were made as unexceptionably as poſſible; and it muſt be concluded, that the reſult upon the whole is true, as they have a real foundation in thoſe unerring laws of inſtinct, to which nature has ſubjected the whole brute creation. The plants were all freſh gathered, not bruiſed in collecting, nor offered to the cattle when they were either almoſt famiſhed, or glutted with variety; nor yet in the ſpring-time, when many of them greedily devour almoſt any vegetable they can get, ſometimes ſuch as are fatal to them, and which at other times they will not touch. The plants were alſo, in many examples, offered to ſeveral individuals of the ſame ſpecies.

Theſe trials were made only with the indigenous plants of *Sweden*, which are (at leaſt three fourths) the ſame as ours in *England*. The plants growing ſpontaneouſly in *Sweden*, excluſive of the moſſes and funguſes, amount to about 900 ſpecies. Of ſuch a number, in every country, many muſt be very rare; it is not therefore to be expected that all theſe could be brought to trial. Some, although plentiful in one part of the country, would be very ſparingly found in another. From the reſult it appeared, that the *horned cattle* eat of the plants which were offered to them, only 276 ſpecies, and

that they rejected 218. The *goats*, of 449 kinds, refuſing 126. The *ſheep*, of 387, refuſing 141. The *horſes*, of 262 ſpecies, refuſing 212. And of thoſe which were offered to *ſwine*, they eat 72 kinds, and refuſed 171.

The *Pan Suecus*, it may be preſumed, is but in few hands, at leaſt of ſuch whom the ſubject moſt concerns. It is written in Latin, and put into the moſt compendious form imaginable, by inſerting only the *trivial* names of the plants, and referring to the number in the *Flora Suecica*, where the ſynonyms are given. In this form it is almoſt uſeleſs to perſons unacquainted with LINNÆUS's writings, and from an *Engliſh* reader is entirely hid. It appeared of importance enough to be thrown into an *Engliſh* dreſs, to which end it was neceſſary to give it a form different from the original.

So far as the trials were made with plants which are common to both countries, the reſult may be ſeen in the following pages, and they amount to no very inconſiderable number. Being taken *nearly* in the order in which they ſtood in the original paper, ſo the ſexual ſyſtem is of courſe preſerved. Yet perhaps a more apt diſpoſition of them might have been given, by arranging them according to their uſual places of growth.

In order to render it more generally intelligible and acceptable, the *Engliſh* name of the plant is firſt given, then the *Linnæan* generical and trivial name, by which it may inſtantly be found, either in LINNÆUS's own works, or in Mr. *Hudſon's Flora Anglica*. To theſe follow three columns. The firſt contains the reference to the page in Dr. *Hill's*

Hill's *Britiſh Herbal*, which it may be preſumed is in many hands, and which has now ſuperſeded, in a great meaſure, the *Herbals* of *Gerard* and *Parkinſon*, being better accommodated to the purpoſes of botanic intelligence, and furniſhed alſo with figures. The ſecond column refers to the page in RAY's *Synopſis of Britiſh Plants*, where the ſynonyms of the two *Bauhines*, and thoſe of *Gerard* and *Parkinſon*, are quoted. By this means the reader is very compendiouſly directed to a variety of authors on each plant. For the ſake of thoſe who wiſh to ſee an accurate figure, a reference to the *Flora Danica* is added, a work coming out at the expence of the King of *Denmark*, and intended to contain all the indigenous plants of that kingdom, of which 840 plates are already done. Of theſe above 500 are natives of this kingdom, on which account it ſupplies, ſo far, the want of a work of the ſame kind here. It muſt, however, be obſerved, that in this column, under the *Graſſes*, thoſe excellent tables in *Moriſon*'s *Hiſtoria* * *Plantarum Oxonienſis* are referred to. The columns on the other page contain the reſult of the experiments, for brevity's ſake expreſſed as in the original, by numerical characters, which it will be neceſſary to illuſtrate. There is a column retained for every

* On this head it is much to be regretted, that theſe tables are not republiſhed ſeparately, with the hiſtory of the *Graſſes* and *Grain* annexed; a work which, if executed by a proper hand, could not but be acceptable to all lovers of rural economy. This view might be rendered ſtill more complete, by extending it to *all* thoſe plants which are particularly the objects of this paper.

ſpecies of animals with which the experiments were made in *Sweden*; for, although *goats* are not ſo commonly kept with us, as in that country, yet it will at leaſt be matter of entertainment, if not of utility, to ſee what choice of vegetables they will make.

When this figure (1) is made uſe of, it denotes that the plant is eaten by that animal to which the column is appropriated; *(O.)* horned cattle or *Oxen*; *(G.) Goats*; *(Sh.) Sheep*; *(H.) Horſes*; *(S.) Swine*. Two units, thus (11) denote that the animal is very fond of the plant. When the cypher (0) occurs, we are to underſtand that the plant is rejected by that animal. When both are found together in a column, thus (10), or (01), they denote that it was ſometimes eaten and ſometimes rejected: the former is ſuppoſed to ſignify, that it was generally eaten, but ſometimes refuſed; the latter, the reverſe. Where no figure occurs, it is to be underſtood that no opportunity had been taken of making a trial of that plant upon thoſe animals. The native place of each plant is added, and the month in which it flowers, in as compendious a manner as poſſible, as this ſeemed to be a requiſite addition; alſo its duration, whether annual *(A.)*, biennial *(B.)*, or perennial *(P.)*. To the whole are collected and ſubjoined, from the laſt edition of the *Flora Suecica*, the *Flora Oeconomica*, RAY'S *Hiſtoria Plantarum*, HALLER'S *Enumeratio Stirpium Helvetiæ*, and others, a few notes, pointing out particularly the noxious plants, or directing the reader's obſervation to any other article that ſeemed worthy of regard.

TABLES

TABLES of the PAN SUECUS,

	Hill.	Ray.	Flora Dan.
MONANDROUS PLANTS.			
1. JOINTED Glaſswort. *Salicornia Europæa.* A. —— ——	482.1.	136.1.	303.
2. Mare's Tail: Paddow Pipe. *Hippuris vulgaris.* P. —— ——	481.1.	136.	87.
DIANDROUS PLANTS.			
3. Privet Buſh. *Liguſtrum vulgare* ——	519.	465.	
4. Inchanter's Nightſhade. *Circæa lutetiana.* P.	138.	289.	210.
5. Male Speedwell. *Veronica officinalis.* P. —	91.2.	281.	248.
6. Wild Germander. *V. Chamædrys.* P. —	91.3.	281.	448.
7. Germander Speedwell. *V. agreſtis.* A. —	92.6.	279.4.	449.
8. Ivy-leaved Speedwell. *V. hederifolia.* A. —	92.5.	280.7.	428.
9. Common Brooklime. *V. Becabunga.* P. —	95.1.	280.8.	511.
10. Long-leaved Brooklime. *V. Anagallis aquat.* P.	95.2.	280.9.	
11. Narrow-leaved Brooklime. *V. ſcutellata.* P.	95.3.	280.10.	209.
12. Butter wort, Yorkſhire Sanicle. *Pinguicula vulgaris.* P. — ——	107.1.	*281.1.	93.
13. Vervain. *Verbena officinalis.* P. ——	356.	236.	328.
14. Water Horehound. *Lycopus Europæus.* P. —	355.	236.	
15. Vernal Graſs. *Anthoxanthum odoratum.* P.	479.	398.	666.
TRIANDROUS PLANTS.			
16. Great wild Valerian. *Valeriana officinalis.* P	340.1.	200.1.	570.
17. Marſh Valerian. *V. dioica.* P. ——	340.3.	200.3.4.	87.
18. Lambs Lettuce: Corn Sallet. *V. Locuſta.* A.	342.1.	201.1.	738.
19. Flag-flower: Yellow Flower-de-luce. *Iris Pſeud Acorus.* P. —— ——	472.1.	374.	194.
*20. Stinking Gladwyn. *I. fœtidiſſima.* P. —	473.3.	375.3.	
GRASSES.			Morif. Hiſt.
**20 Long-rooted Baſtard Cyperus. *Schænus Mariſcus.* P. —— ——	504.1.	426.4.	§ 8.
20. Millet Cyperus Graſs. *Scirpus ſylvaticus.* P.	504.5.	426.5.	11.15.
21. Bull Ruſh. *S. lacuſtris.* P. ——	504.1.	428.1.	10.1.
22. Club Ruſh, or Aglet-headed Ruſh. *S. paluſtris*	504.6.	429.7.	10.32.
23. Cotton Graſs. *Eriophoron polyſtachion.* P. —	506.	435.	9.1.
24. Mat Graſs. *Nardus ſtricta.* P. ——	497.1.	393.2.	7.8.
25. Reed Canary Graſs: Great Reed Graſs, with chaffy heads. *Phalaris arundinacea.* A.	500.	400.1.	6.41.

5. *Male Speedwell.* *Gunner,* in the *Flora Norwegica,* ſays this ſpecies is more particularly acceptable to ſheep. The ſame author obſerves, that all the animals on whom theſe experiments were tried, greedily eat the *Paul's Betony: Veronica ſerpyllifolia,* which is not uncommon on our dry paſtures.

12. *Butter-wort,* or *Yorkſhire Sanicle.* Wherever this plant is found, it is a certain indication of a boggy ſoil. It has long had the reputation of being noxious to ſheep, among our country people, who believe it gives them the *rot,* whenever they eat it, which they will not, but from great neceſſity: they hence called this plant *White Rot.* *Parkinſon.*

15. *Vernal Graſs.* Fine hay owes much of its grateful odour to the abundance of this graſs amongſt it. *Scheuchz.* It is one of the firſt flowering graſſes in the ſpring, and is very common in our fertile paſtures.

19. *Flag-flower.* This ever remains untouched by all theſe animals except goats, (though every herb around it is conſumed to the ground. *Lin.* The ſame obſervation we have

accommodated to the ENGLISH Plants.

	O.	G.	Sh.	H.	S.	
1.	o		o	o	1	In ſalt marſhes, common. 8, 9.
2.	o	1	o	o	o	In ſtanding waters and ponds. 5.
3.	1	1	1	o		In hedges and woods. 5.
4.			1			In woods and thickets. 6, 7.
5.	1	1	1	1		In dry paſtures and woods. 5.
6.	1	1				In meadows and paſtures, very common. 4—6.
7.	1	1	1	1		In dry paſtures, common. 5—8.
8.	1	1	1	1		In corn fields and fallow ground. 4—6.
9.	1	1		1	o	In ſhallow waters, common. 6, 7.
10.	1	1	1	o	o	With the foregoing. 7, 8.
11.	1	1	1	1		In watery places, not common. 6.
12.	o	o	o	o		On bogs, eſpecially in the North. 5, 6.
13.	o	o	1	o		By way ſides, and waſte places. 6, 7.
14.	o	1	1	o		By ditches and brooks, common. 7.
15.	1	1	1	1		In meadows and paſtures every where. 5.
16.	o	1	1	o	o	In woods, hedges, and by waters. 6.
17.		1	1			In moiſt and boggy meadows. 7.
18.		1	1			Amongſt corn, and on corn grounds. 4, 5.
19.	o	1	o	o	o	In watery places. 7.
*20.	o		o	o		Under hedges and buſhes, in the South. 7.
**20.						On bogs, and in ſalt marſhes. 7, 8.
20.	1	1	1	1	o	By rivers and brooks. 7.
21.	o	1	o		1	In waters. 7, 8.
22.	o	1	o	1	1	In brooks and watery grounds. 7.
23.	o	1	1	o	o	On bogs. 6—8.
24.	10	1	1	1	o	On dry paſtures and heaths. 6, 7.
25.	1	1	1	1	o	By waters, very common. 7.

have made relating to the *Stinking Gladwyn*, which is not uncommon in lanes, and under hedges, in the Weſt of England.

**20. *Baſtard Cyperus.* This plant is ſaid to be very noxious, and even fatal to cows that eat it. *Gunner.*

21. *Bull Ruſh.* The peaſants of *Sweden*, in defect of hay, fodder their cows with Bull Ruſhes.

22. *Club Ruſh.* Swine are extremely fond of the roots of this kind of Ruſh, and ſeek it with great avidity; and the peaſants of *Sweden* ſtock themſelves with theſe roots for winter food for theſe animals.

23. *Cotton Graſs.* Both horſes and cows will eat this plant in its young ſtate, before it throws out the Cotton. *Gunner.*

25. *Reed Canary Graſs.* Cows are very fond of this graſs, and the peaſants in the ſouthern provinces of *Sweden* are ſenſible of it, and mow two crops in a year for their uſe. *Fl. Suec.*

	Hill.	Ray.	Morif. Hift. § 8.
*26. Cat's-tail Graſs: Timothy-Graſs. *Phleum pratenſe.* B.		398.1.2.	4.1.
26. Meadow Fox-tail Graſs. *Alopecurus pratenſis.* P.	498.	196.1.	4.8.
27. Flote Fox-tail Graſs. *A. geniculatus.* P.	498.	396.2.	4.15.
*27. Rough Cocks-foot Graſs. *Dactylis glomerata.* P.	502.33.	400.2.	5.38.
28. Millet Graſs. *Milium effuſum.* A.	500.	402.1.	5.10.
29. Melic Graſs. *Melica nutans.* P.	500.6.	403.6.	7.49.
30. Silky, or Corn Bent Graſs. *Agroſtis Spica Venti.* A.	500.4.	405.17.	5.1.
31. Brown Bent Graſs. *A. canina.* P.			
32. Red Bent Graſs. *A. rubra.* (nunc *Milium lendigerum*) A.		394.4.	
33. Creeping Bent Graſs. *A. ſtolonifera.* P.		402.2.	
		404.9.10.	
34. Fine Bent Graſs. *A. capillaris.* P.		402.4.	
35. Turfy Hair Graſs. *Aira cæſpitoſa.* P.		403.5.	
36. Mountain Hair Graſs. *A. flexuoſa.* P.		407.8.9.	7.9.
37. Water Hair Graſs. *A. aquatica.* P.	500.2.	402.3.	
38. Purple Hair Graſs. *A. cærulea,* (nunc *Melica cærulea*) P.		404.8.	5.22.
39. Meadow Soft Graſs. *Holcus lanatus.* P.		404.14.	
40 Creeping Soft Graſs. *H. mollis.* P.		404.15.	
41. Reed Meadow Graſs. *Poa aquatica.* P.	501.24.	411.13.	5.25.
42. Creeping Meadow Graſs. *P. compreſſa.* A.		409.5.	
43. Suffolk Graſs: Annual Meadow Graſs. *Annua.* A.	501.	408.1.	5.21.
44. Great Meadow Graſs. *Poa pratenſis.* P.		399.3.	5.18.
45. Common Meadow Graſs. *P. trivialis.* P.		409.2.	
46. Narrow-leaved Meadow Graſs. *P. anguſtifolia.* A		409.4.	5.19.
47. Quaking Graſs. *Briza media.* P.	502.	412.1.	6.45.
48. Creſted Dog-tail Graſs. *Cynoſurus criſtatus.* P.	499.	398.2.	
49. Blue Dog-tail Graſs. *C. cæruleus.* P.	499.	399.4.	
50. Field Brome Graſs. *Bromus mollis.* A.	501.	413.5.	7.18.
51. Corn Brome Graſs. *B. arvenſis.* P.		414.8.	7.16.
*51. Wall Brome Graſs. *B. tectorum.* A.		413.2.	7.13.
52. Spiked Brome Graſs. *B. pinnatus.* P.		392.	5.4.
53. Barren Brome Graſs. *B. ſterilis.* A.		412.1.	7.11.
54. Sheep's Feſcue Graſs. *Feſtuca ovina.* P.	501.	410.9.	3.13.
55. Hard and Purple Feſcue Graſs. *F. rubra.* P.	501.	413.4.	
56. Small Feſcue Graſs. *F. decumbens.* P.	501.	408.11.	1.6.
57. Tall Meadow Feſcue Graſs. *F. elatior.* P.	501.	411.15.16.	2.15.
58. Flote Feſcue Graſs. *F. fluitans.* P.	501.	412.17.	3.16.
59. Meadow Oat Graſs. *Avena pratenſis.* P.	501.	405.1.2.	

*26. Notwithſtanding the character this graſs acquired from *Le Roque*'s recommendation, ſheep diſlike it, neither are cows or horſes fond of it.

26. *Meadow Fox-tail Graſs.* This is amongſt the moſt grateful of all graſſes to cattle.

40. *Creeping Soft Graſs.* This is one of the graſſes ſtrongly recommended for culture by M. *Schreber*, Profeſſor of Economy at *Erlang*; in his book on this ſubject, he ſays it is peculiarly grateful to cattle, and particularly to ſheep.

41. *Reed Meadow Graſs.* *Linnæus* ſtrenuouſly recommends the culture of this graſs, which is common by our river ſides, as a moſt excellent food, and what horſes, cows, and ſheep, are exceedingly fond of.

43—45. *Meadow Graſſes.* Amongſt that variety of graſſes with which our country abounds, theſe are the moſt frequent in all thoſe paſtures that we call fertile and good: there are ſcarcely any paſtures that do not alſo contain a variety of other graſſes, many of which are equally acceptable to cattle.

54. *Sheep's Feſcue Graſs.* Of all others this graſs is the peculiar delight of the ſheep, and they will ſelect it with the greateſt care,—*Eodem deſtituti colles aut ericeta nec ovibus grata*

	O.	G.	Sh.	H.	S.	
*26.	1	1		1	c	In paſtures, and on the borders of fields. 7.
26.	10	1	1	1	10	In meadows and paſtures every where. 5.
27.	1	1	1	1	o	In watery places, very common. 6—8.
*27.	o	1	1	1		In meadows and paſtures every where. 6—8.
28.	1	1	1			In woods and thickets. 6, 7.
29.	1	1		1		In woods and dry paſtures. 6, 7.
30.		1	o	1		In corn fields, among ſtanding corn. 7.
31.		o		11		In low paſtures, common. 7, 8.
32.		o	1	1		In low paſtures, not common. 7.
33.	1		1	1		In meadows and about thickets. 8.
34.	1	1		1		On hilly paſtures every where. 8.
35.	1	1	1	10	1	In woods, paſtures, in moiſt places. 7, 8.
36.	1	1	1	1		On dry paſtures. 7, 8.
37.	1		1	1		In marſhy wet grounds, not common. 6, 7.
38.		1	1	:		On bogs, heaths, and marſhes. 8.
39.	1	1	1	1		In meadows and paſtures every where. 6, 7.
40.	1	1	1	1		In woods and hedges. 7.
41.	1		1	1		About waters, common. 7, 8.
42.	1	1	11	1		In dry places, and on walls. 6.
43.	1	1	1	1	1	In meadows and paſtures every where. 5—9.
44.	1	1	1	1	1	With the foregoing. 6, 7.
45.	1	1	1	1	1	With the foregoing. 6, 8.
46.	1	1	1	1	1	In hedges and woods. 7.
47.	1	1	1	1		In meadows and paſtures every where. 6.
48.	1		1	1		In paſtures every where. 8.
49.		1	1	1	o	In mountainous paſtures, not common. 7.
50.	1	1	1	1		In meadows and paſtures every where. 5, 6.
51.	1	1	1	1		On the borders of fields. 7.
*51.	1	1	1	1		On dry paſtures, not common. 5.
52.		1	1	1		On dry paſtures. 6.
53.	1	1	1	1		About hedges, very common. 6, 7.
54.	1	1	11	1		On hilly and mountainous paſtures. 6, 7.
55.		1		1		On dry paſtures, common. 6.
56.						On barren moiſt paſtures, near the ſea. 8.
57.	1	1	1	1		In meadows and paſtures, not uncommon. 7.
58.	o	1	1	1	1	In ditches and watery places every where. 6, 7.
59.	1	1	1	1		On heaths, dry meadows, and paſtures. 7.

grata erant.—This is not the obſervation of *Linnæus* alone: *Gmelin* has confirmed it; he tells us, that the *Tartars*, who live a migratory life, tending their flocks and herds, always in the ſummer-time chooſe places where this graſs abounds, on account of its acceptableneſs, eſpecially to the ſheep. It is found on dry mountainous paſtures in moſt parts of *Europe*, and in *England* is common on downs and uplands. The ſuperiority of our wool in ſome parts of *England* may poſſibly be owing to a particular food which the ſheep meet with in different places; and it might be worth enquiry, whether this graſs may not have a great ſhare in producing this effect. In general, we know that wool to be the fineſt which is bred on high paſtures; but all ſuch paſtures are not equal in this reſpect. Until a better reaſon be aſſigned for this difference, may it not be aſcribed to the difference of their food?

57. *Tall Meadow Feſcue Graſs.* Wherever this graſs is found, it indicates the beſt of ſoil, and it is among the moſt acceptable of all to cattle. Its culture is much enforced by *Schreber*.

60. Bearded

	Hill.	Ray.	Morif. Hift. § 8.
60. Bearded Oat Grafs: Haver. *Avena fatua.* P. —		389.	7.5.
61. Tall Oat Grafs. *A. elatior.* P. — —	501.	406.4.	7.38. & 37.
62. Yellow Oat Grafs. *A. flavefcens.* P. ——		407.5.	7.42.
63. Common Reed. *Arundo phragmites.* P. —	500.	401.1.	8.1.
64. Branched Reed Grafs. *A. Calamagroftis.* P. —		401.2.	8.2.
65. Corn Darnel. *Lolium temulentum.* A. ——		395.1.	2.1.
66. Perennial Darnel Ray Grafs. *L. perenne.* P. —		395.2.	2.2.
67. Dog's Grafs, Couch Grafs, or Wheat Grafs. *Triticum repens.* P. —— ——		390.1.	1.8.
68. Sea Lyme Grafs. *Elymus arenarius.* P. —		390.3.	
69. Water Chickweed. *Montia paluftris.* A. —	181.16.	352.	131.
70. Wall Barley. *Hordeum murinum.* A. —		391.1.2.	2.6.
			Flor. Dan.
TETRANDROUS PLANTS.			
71. Field Scabious. *Scabiofa arvenfis.* P. —	464.1.	191.1.	447.
72. Leffer Field Scabious. *S. columbaria.* P. —	464.2.	191.2.	314.
73. Devil's Bit. *S. fuccifa.* P. ——	464.3.	191.3.	279.
74. Little Field Madder. *Sherardia arvenfis.* P.	396.	225.	439.
75. Woodroof. *Afperula odorata.* P. ——	398.	224.	562.
76. Squinancy-Wort. *A. cynanchica.* P. ——	399.	225.	
77. Ladies Bed-Straw. *Galium verum.* P. —	397.	224.	
78. Great Baftard Madder. *G. Mollugo.* P. ——	397.1.	223.4.	455.
79. Croffwort Madder. *G. boreale.* P. ——	397.2.	224.3.	
80. Croffwort: Mugweed. *Valantia Cruciata.* P.	396.	223.	
81. Goofe Grafs: Clivers. *Galium Aparine.* A. —	398.	225.1.	495.
82. Great Plantain. *Plantago major.* A. —	152.1.	314.1.	461.
83. Hoary Plantain. *P. media.* P. ——	153.2.	314.3.	581.
84. Ribwort Plantain. *P. lanceolata.* P. ——	153.3.	314.5.	437.
85. Buck's-horn Plantain. *P. Coronopus.* A. —	153.6.	315.8.	272.
86. Sea Plantain. *P. maritima.* P. ——	153.5.	315.7.	243.
87. Burnet. *Sanguiforba officinalis.* P. ——	346.	203.2.	97.
88. Dogberry Tree. *Cornus fanguinea.* —	517.	460.	481.
89. Ladies Mantle. *Alchemilla vulgaris.* P. ——	492.	158.1.	693.
90. Cinquefoil Ladies Mantle. *A. alpina.* P. —	492.	158.2.	49.
91. Broad-leaved Pondweed. *Potamogeton natans.* P.	488.	148.1.	
92. Perfoliated Pondweed. *P. perfoliatum.* P. —	488.	149.4.	196.
93. Long-leaved Pondweed. *P. lucens.* P. —	489.	148.2.	195.
94. Pearl Wort. *Sagina procumbens.* A. ——	226.2.	345.2.	
PENTANDROUS PLANTS.			
95. Mouſe-ear Scorpion Grafs. *Myofotis fcorpioides. a.* P. —— ——	391.	229.1.	583.
96. Water Scorpion Grafs. *M. paluftris. b.* ——	391.	229.4.	
97. Gromwell. *Lithofpermum officinale.* P. ——	390.	228.	
98. Baftard Alkanet. *L. arvenfe.* A. ——	387.	227.3.	456.
99. Hound's-tongue. *Cynogloffum vulgare.* P. —	386.	226.1.	

64. *Branched Reed Grafs.* Cows will fometimes eat this grafs, but it is hurtful to them on account of its purging quality.

67. *Couch Grafs* is to be found in great plenty in fome parts of *Europe* in the cornfields, even to the obftruction of the plough. *Gunner* fays he has feen horfes and horned cattle, accuftomed to it, eat the roots with avidity; and that they are collected for this purpofe by the huſbandmen.

89. *Ladies Mantle.* Dr. *Haller*, in his *Iter Helveticum*, tells us, that the aſtoniſhing richnes

	O.	G.	Sh.	H	S.	
60.		1	1	1		In corn fields, not very common. 8.
61.	1	1	1			About hedges and bushes every where. 7.
62.	1		1	1		In pastures every where. 7.
63.	1	1	0	1	c	In rivers and lakes, common. 7.
64.		1				About hedges, &c. in moist places about woods. 6, 7.
65.			10			Among the corn. 7, 8.
66.	1	10		11		In pastures, and by the way sides. 6.
67.	1	1	1	1	c	In fields, and about hedges. 6—8.
68.	1	1	0	1		On the sea coast, not common. 5, 6.
69.	0		0	0	0	About springs and brooks. 4.
70.	1		1	1		In meadows, and by way sides. 4—8.
71.	10	1	1	1	c	About corn fields, common. 8.
72.		1	1	1		In dry pastures, common. 6, 7.
73.	1	1	1	1	0	In meadows and pastures, common. 6—8.
74.	0	11	0	1		On plowed or fallow lands. 7, 8.
75.	1	1	1	1		In woods. 5.
76.	1	1	1	1	c	On upland chalky grounds. 7, 8.
77.	10	1	1	0	0	In meadows, and the borders of fields. 7.
78.	1	1	1	1	1	In hedges, very common. 6, 7.
79.	10	1	1	1	0	On upland pastures in the North. 6—8.
80.	1	0	1	1	0	In pastures, and about hedges and bushes. 5, 6.
81.	1	1	1	1	c	About hedges, very common. 5—8.
82.	0	1	1	0	1	By way sides every where; in pastures. 6, 7.
83.	0	1	1	0	1	With the foregoing. 7, 8.
84.	0	1	1	1		In meadows and pastures every where. 6, 8.
85.		1	1			In gravelly ground, and on the sea coast. 7, 8.
86.	10	1	1			In sea marshes. 6, 7.
87.	1	1	1	1		In pastures, common. 6, 7.
88.	0	1	1	1		In woods and hedges. 6.
89.	10	1	1	1	c	In upland pastures and meads. 6, 8.
90.	1	1	0	0	c	In mountainous grounds, not common.
91.	1	1	0	0	c	In waters, common. 8.
92.	c	c	0	c	c	In rivers, frequent. 6, 7.
93.	0		0		0	In rivers and standing waters. 6.
94.			1			On sandy pastures. 6.
95.	0	c	0	0	0	In dry pastures. 4—8.
96.	0	1	0		0	About brooks, springs, and ditches. 4—8.
97.	0	1		0		By the road sides: dry pastures. 5, 6.
98.	10	1	1	0	c	In corn fields. 5, 6.
99.	0	1	0	0	0	In lanes, and by road sides. 6.

richness of the milk in the famous dairies of the *Alps*, described by *Scheuckzer*, is attributed entirely to the plenty of this plant, and that of the *Ribwort Plantain*.

95. *Mouse-ear Scorpion Grass*. Constantly refused by all these animals.

96. *Water Scorpion Grass*. This is considered as only a variety of the former, owing to its place of growth, which renders the plant larger in all its parts, and destroys the hairyness of its leaves. It is common in watery places, and the *sheep* will sometimes eat it, in which case it is frequently fatal to them, as *Linnæus* discovered in his *Iter Gotlandicum*.

	Hill.	Ray.	Flor. Dan.
100. Comfrey, *Symphytum majus.* P.	391.	230.	664.
101. Small wild Bugloſs. *Lycopſis arvenſis.* A.	387.1.	227.	435.
102. Viper's Bugloſs. *Echium vulgare.* P.	388.1.	227.	445?
103. Primroſe and Cowſlip. *Primula vulgaris.* P.	69.1.	284.	194. & 434.
104. Bird's Eye. *P. farinoſa.* P.	69.3.	285.	125.
105. Buck-bean. *Menyanthes trifoliata.* P.	77.	285.	541.
106. Water Violet. *Hottonia paluſtris.* P.	78.	285.	487.
107. Water Pimpernel. *Samolus Valerandi.* P.	66.	283.	198.
108. Yellow Willow Herb. *Lyſimachia vulgaris.* P.	64.	282.	689.
109. Money Wort. *L. Nummularia.* P.	65.	283.	493.
110. Red Pimpernel. *Anogallis arvenſis.* A.	67.	282.1.	88.
111. Small Bindweed. *Convolvulus arvenſis.*	57.2.	275.2.	459.
112. Great Bindweed. *C. ſepium.* P.	57.1.	275.1.	458.
113. Round-leaved Bell Flower. *Campanula rotundifolia.* P.	70.1.	277.5.	189.
114. Giant Throatwort. *C. latifolia.* P.	74.1.	276.1.	85.
115. Great Throatwort. *C Trachelium.* P.	74.2.	276.2.	
116. Henbane. *Hyoſcyamus niger.* A.	55.	274.	
117. Great White Mullein. *Verbaſcum Thapſus.* B	88.	287.1.	631.
118. Black Mullein. *V. nigrum.* P.	88.4.	288.4.	
119. White-flowered Mullein. *V. Lychnitis.* B.	88.3.	287.3.	586.
120. Common Nightſhade. *Solanum nigrum.* A.	326.3.	265.4.	460.
121. Woody Nightſhade. *S. Dulcamara.* P.	326 1.	265.1.	607.
122. Ivy. *Hedera Helix.*	516.	459.	
123. Honeyſuckle. *Lonicera Caprifolium.*	516.	458.	
124. Buckthorn. *Rhamnus Catharticus.*	520.	466.	
125. Black Berry-bearing Alder. *R. Frangula.*	520.	465.	278.
126. Spindle Tree. *Euonymus Europæus.*	521.	468.	
127. Gooſeberry Buſh. *Ribes Groſſularia.*			
128. Red Currants. *R. rubrum.*	515.	456.1.	
129. Sweet Currants. *R. alpinum.*		456.2.	
130. Sea Milkwort. *Glaux maritima.* P.	78.	285.	548.
131. Autumnal Gentian. *Gentiana Amarella.* A.	61.2.	275.	328.
132. Centory. *G. Centaurium.* A.	62.1.	286.	617.
133. Dodder. *Cuſcuta Europæa.* A.	83.	281.	199. & 427.
134. Prickly Glaſſwort. *Salſola Kali.* A.		159.	818.
135. Common Engliſh Mercury. *Chenopodium Bonus Henricus.* P.	490.	156.	579.
136. Gooſefoot, or Sowbane. *C. murale.* A.	490.	154.2.	
137. Common Orach. *C. album.* A.	490.	154 1.	
138. Maple-leaved Blite. *C. hybridum.* A.	490.	154.5.	
139. Stinking Orach. *C. olida.* A.	490.2	156.13.	
140. Round-leaved Blite. *C. polyſpermum.* A.	490.9.	157.18.	
141. Common Elm. *Ulmus campeſtris.*	522.	468.	632.
142. Marſh Pennywort. *Hydrocotyle vulgaris.* P.	419.	222.	90.

117. *White Mullein*, called alſo *Cow's Lung-wort*, from the great reputation it had formerly with our country people for inveterate coughs among the horned cattle. *Parkinſon* tells us it was uſed in his time, in ſuch caſes, with great ſucceſs, and it yet retains the ſame credit in ſome parts of *Europe*. *Gunner*. *Loeſel.*

125. *Black Berry-bearing Alder*. The bark of this tree is ſaid to be the moſt certain purge for the horned cattle in obſtinate conſtipations of the bowels. *Lin.* *Gunner* ſays, horſes do not eat the leaves, but that cows ſometimes will, and that it greatly increaſes the milk.

135. *Engliſh Mercury*. Common about farm-yards. The country people give the root to

	O.	G.	Sh.	H.	S.	
100.	1	0	1	0	0	In moiſt places and by river ſides. 5—8.
101.	1	1	1	1	0	In corn fields and fallow land. 6—9.
102.	1	0	1	0		On fallow ground, and by way ſides. 7, 8.
103.	01	1	1	0	0	In hedges and paſtures. 3—5.
104.	0	1	1	1		On boggy mountains in the North. 5.
105.	0	1	10	0	0	In watery pits and bogs. 6, 7.
106.	1				0	In ditches, bogs, and marſhes. 7, 8.
107.	1	1	1	0		In moiſt meadows and marſhes near the ſea. 6.
108.	1	1	10	0	0	By waters. 6, 7.
109.	1	10	1	0		In wet meadows, and about ditches. 6.
110.	1	1	0			In corn fields, and on ſandy places. 5—8.
111.	1	1	1	1	0	In corn fields every where. 6, 7.
112.	0	1	1	1		In hedges, eſpecially in moiſt places. 7, 8.
113.	1	1	1	1	0	On dry barren paſtures, and on heaths. 8.
114.		1	1	1		In buſhes and hedges, not common. 8.
115.	1	0		0		In woods and hedges. 7, 8.
116.	0	01	0	0	0	In waſte places, farm yards, about villages. 6.
117.	0	0	0	0	0	By way ſides, in lanes. 7.
118.	0	0	10	0	1	By way ſides, not very common. 7.
119.	0	0	0	0	0	In ſandy and chalky ſoil, not common. 7.
120.	0	0	0	0	0	About dunghills, common. 6, 7.
121.	0	1	1	0	0	In wet hedges, and woods. 6, 7.
122.	0	0	1	1		In hedges, and woods and thickets. 9, 10.
123.	1	1	1	0		In hedges and woods. 5, 7.
124.	0	1	1	1		In woods, and hedges and thickets. 4, 5.
125.	0	1	1			In woods, &c. 4, 5.
126.	1	1	1	0		In woods and hedges. 4, 5.
127.	0	1	10	1		In hedges. 5.
128.	1	1	1	10		In woods and hedges. 5.
129.	1	1	1	1		In hedges in the North, not common.
130.	1					On the coaſt, in ſalt marſhes. 7.
131.			1	0		On upland paſtures. 7, 8.
132.	10					With the foregoing. 6—8.
133.	1	01	1	0	1	On heaths, among corn. 7.
134.	0	0	0	0	0	On the ſea coaſt. 7, 8.
135.	1	10	10	0	0	In farm yards, and waſte places, common. 8.
136.	1	1	1	0	1	About dunghills and manured ſpots. 8.
137.	1	1	1	0	11	In cultivated places, and among corn. 8.
138.		1	1		1	In waſte places and cultivated ſpots. 8.
139.	1	1	1	1	0	In like places with the foregoing, 8.
140.	1	0	1	0		In waſte places, and on dunghills, 8.
141.	1	1	1	1	1	In hedges, &c. 4.
142.						On bogs and marſhy grounds, 5.

to their ſheep in obſtinate coughs. *Lin.*

136. *Goofefoot*, or *Sowbane.* This has the character of being poiſonous to ſwine; yet it appears that theſe animals will eat it. Almoſt all the old writers give it the character of a poiſonous plant, and *John Baubine* particularly avers, that it is ſo to theſe animals; as do alſo ſome of the more modern writers.

142. *Marſh Pennywort.* It does not appear that any experiments were made with this plant. It is very common in marſhy grounds with us, and our farmers are of opinion that it gives ſheep the *rot*, and thence call it *White Rot.* In this light *Parkinſon* mentions it.

	Hill.	Ray.	Flor. Dan.
143. Sanicle. *Sanicula Europæa.* P.	419.	221.	283.
144. Wild Carrot. *Daucus Carota.* B.	415.	218.	723.
145. Hemlock. *Conium maculatum.* A.	411.	215.1.	
146. Cow Parſnip. *Heracleum Spondylium.* B.	401.	205.1.	
147. Wild Angelica. *Angelica ſylveſtris.* P.	405.	208.	
148. Great Water Parſnip. *Sium latifolium.* P.	408.	211.	246.
149. Water Dropwort. *Oenanthe fiſtuloſa.* P.	407.	210.	
150. Hemlock Dropwort. *O. crocata.* P.	407.	210.	
151. Water Hemlock. *Phellandrium aquat.* B.	412.	215.	
152. Long-leaved Water Hemlock. *Cicuta viroſa.*	409.	212.7.	208.
153. Fools Parſley. *Æthuſa Cynapium.* A.	411.2.	215.2.	
154. Hemlock Chervil. *Scandix Anthriſcus.* A.	416.7.	220.7.	
155. Wild Cicely, or Cow-weed. *Charophyllum ſylveſtre.* A.	404.2.	207.	
156. Wild Chervil. *C. temulum.* A.	404.1.	207.	
157. Burnet Saxifrage. *Pimpinella Saxifraga.* P.	409.	213.	669.
158. Herb Gerard: Gout-weed. *Ægopodium Podagraria.* P.	406.	208.	670.
159. Smallage. *Apium paluſtre.* B.	411.	214.	790.
160. Water Elder. *Viburnum Opulus.*	517.	460.	661.
161. Common Elder. *Sambucus nigra.*	518.	461.	545.
162. Dwarf Elder. *S. Ebulus.* P.	518.	461.	
163. Graſs of Parnaſſus. *Parnaſſia paluſtris.* P.	192.	355.	584.
164. Thriſt: Sea Gilliflower. *Statice Armeria.* P.	345.	203.	
165. Sea Lavender. *S. Limonium.* P.	343.1.	201.	315.
166. Purging Flax. *Linum Catharticum.* A.	195.5.	362.	
*166. Sun-dew. *Droſera rotundifolia.* B.	187.	356.	
HEXANDROUS PLANTS.			
167. Ramſon. *Allium urſinum.* P.	467.5.	370.5.	757.
168. Crow Garlick. *A. vineale.* P.	467 1.	369.1.	
169. Lancaſhire Aſphodel. *Anthericum oſſifragum.* P.	473.	375.	42.
170. Lilly of the Valley. *Convallaria majalis.*	322.	264.	
171. Wild Sparagus. *Aſparagus officinalis.* P.	325.	267.	805.
172. Sweet-ſmelling Flag. *Acorus Calamus.* P.	507.	437.	
173. Common ſoft Ruſh. *Juncus effuſus.* P.	505.	432.4.	
174. Common round-headed Ruſh. *J. conglomeratus.*	505.	432.5.	
175. Bulboſe Ruſh. *J. bulboſus.* P.	505.	434.11.	431.
176. Toad Graſs. *J. buſonius.* A.	505.	434 12.	
177. Common hairy Wood Ruſh. *J. piloſus.* P.	502.	416.3.	441.
178. Small hairy Wood Ruſh. *J. campeſtris.* P.	502.	416.1.	
179. Barberry Buſh. *Berberis vulgaris.*	520.	465.	
180. Water Dock. *Rumex aquaticus.* P.	485.	140.1.	

146. *Cow Parſnip.* The cows are known to be particularly fond of this plant; and Mr. *Ray* obſerves that the rabbits are no leſs ſo.

151. *Common Water Hemlock.* This plant is very common in *England.* It is a well-known fact in *Sweden*, that horſes will eat it, and that it frequently proves fatal to them by inducing a palſy: this effect, nevertheleſs, is judged to be owing to an inſect, which inhabits in great plenty the ſtalks of this herb, and from this ſingular effect is called by LINNÆUS, *Curculio paraplecticus*, when in its perfect ſtate, as the *Larva* only exiſts in this vegetable. The ſame caterpillar is found in the *Water Parſnip* alſo in *England.*

152. *Long-leaved Water Hemlock.* Happily this plant is not very common in *England:* the roots are the moſt virulent vegetable poiſon that is indigenous here. LINNÆUS, in the *Flora Lapponica*, N° 103, gives a dreadful account of the havock it frequently made among the horned cattle in *Lapland*, where it is common in the meadows near the ſea, and where theſe cattle will frequently eat it, upon being firſt turned to graſs in the ſpring, though they afterwards refuſe it: yet they will eat the roots at all times, which are the moſt

	O.	G.	Sh.	H.	S.	
143.		10	1	0		In woods and hedges, common. 5, 6.
144.	1	1	1	1		In meadows and paſtures, common. 6, 7.
145.	0	0	1	0		By hedges, and on the banks of ditches. 6, 7.
146.	1	1	1	10	1	About hedges, rivers, and in paſtures. 7.
147.	1	1		0	1	In moiſt woods, in watery places. 6, 7.
148.	0	0	01	1	1	In rivers, ponds, and marſhy places. 7, 8.
149.	0			0		In marſhes, and in ditches, common. 7.
150.	0		1	0		By the ſides of rivers and brooks. 6, 7.
151.	0	1	1	1	01	In rivers and ditches, common.
152.	0	1	1	1		On the banks of rivers and ponds, &c. 7—9.
153.	1	1	1	1	1	In corn fields, and on banks of ditches. 8.
154.	1	1	1			Hedges, waſte places; among corn, every where. 5, 6.
155.	10	10	10	10	0	About hedges, very common: orchards. 5, 6.
156.						With the former, every where: orchards. 7, 8.
157.	1	1	1	1	1	On dry paſtures. 8.
158.	1	1	1	10		In hedges, and often the peſt of gardens. 6.
159.	10	1	1	0		About waters, eſpecially near the ſea. 8.
160.	1	1	1	0		In moiſt woods, and hedges. 5, 6.
161.	0	0	1	0		In moiſt hedges. 4.
162.	0	0	0	0	0	In hedges by way ſides, in church yards. 7.
163.	0	1	10	1	0	In marſhy meadows, not common. 8.
164.	0	1	1	1	0	In ſalt marſhes, common. 7, 8.
165.		1	1			On the ſea coaſt, and with the foregoing.
166.		1	1	1		On dry and upland paſtures. 5, 6.
*166.			01			On bogs and heaths. 7. 8.
167.	1					In woods, hedges, and thickets. 5.
168.	1	1	1		1	In meadows and paſtures. 5.
169.	1		0	1	0	On boggy grounds, not very frequent. 8.
170.	0	1	1	0	0	In woods, not common. 5.
171.	1	1	1	0	0	About the coaſt, and in ſalt marſhes. 7.
172.	0	0	0	0	0	In rivers, ſcarce. 5.
173.		1		1		In and about waters. 5—8.
174.		1	01			Wet paſtures, and woods.
175.	1	1	1	1		In moiſt marſhes and heaths, common. 8.
176.				1		In gravelly ſoil, about ſtanding waters. 7.
177.	0	1	1	1		In thick woods. 4, 5.
178.		1	1	1		In dry turfy meadows and paſtures. 4.
179	1	1	1	0	0	In woods and hedges. 5.
180.	0	0	1	0	0	In and about rivers and lakes, 7, 8.

moſt virulent parts of the plant. Biſhop *Gunner* and *Gmelin* both confirm theſe bad effects. It is yet doubtful whether horſes are hurt by it; and certain that goats are delighted with it, and eat it without any ſubſequent ill effect: and the roots are collected by the *Norwegian* peaſants as fodder for thoſe animals.

153. *Fools Parſley.* This is deleterious to the human race, although eaten by theſe quadrupeds.

*166. *Sun-dew.* Sun-dew is called by the country people *Red-rot*, on account of its deſtructive quality to ſheep. *Ray.*

169. *Lancaſhire Aſphodel.* This plant is alſo thought to be very noxious to ſheep, whenever through poverty of paſture they are neceſſitated to eat it, although they are ſaid to improve much in their fleſh at firſt, and afterwards to die with the ſymptoms of a diſeaſed liver. This is the plant of which ſuch wonderful tales have been told by *Pauli*, *Bartholine*, and others, of its ſoftening the bones of ſuch animals as ate it; and which they thence called *Gramen oſſifragum.* Horned cattle eat it without any ill effect. *Gunner.*

	Hill.	Ray.	Flor. Dan.
181. Curled Dock. *R. crispus.* P. ——	485.	141.3.	
182. Common Sorrel. *R. acetosa.* P. ——	485.	143.	
183. Sheeps Sorrel. *R. acetosella.* P. ——	485.	143.	
184. Arrow-headed Grass. *Triglochin palustre.* P.	505.	435.	490.
185. Sea spiked Grass. *T. maritimum.* P. ——	505.	435.	306.
186. Water Plantain. *Alisma Plantago aquatica.* P.	22.	257.	561.
OCTANDROUS PLANTS.			
187. Rosebay Willow-herb. *Epilobium angustif.* —	147.1.	310.	289.
188. Hairy Willow-herb. *E. hirsutum.* P. ——	147.2.	311.	347.
189. Smooth Willow-herb. *E. montanum.* B. —	147.3.	311.4.	
190. Common Heath, or Ling. *Erica vulgaris.* —	523.	470.1.	677.
191. Whorts: Whortle-berries. *Vaccinium V.tis Idæa.* —— ——	516.1.	457.3.	40.
192. Black Whorts: Bilberries. *V. Myrtillus.* —	516.3.	457.2.	
193. Cranberries. *V. Oxycoccus.* ——	324.	267.	80.
194. Golden Saxifrage. *Chrysosplenium.* P. —	491.	158.	365.
195. Perennial Arsmart. *Polygonum amphibium.* —	487.	145.9.	282.
196. Dead or spotted Arsmart. *P. Perficaria.* A.	487.	145.4.	702.
197. Water Pepper. *P. Hydropiper.* A. ——	487.	144.1.	
198. Knot Grass. *P. aviculare.* A. ——	487.	146.	803.
199. Black Bindweed. *P. Helxine.* A. ——	486.	144.	744.
200. Herb Paris, One Berry. *Paris quadrifolia.* P.	323.	264.	139.
ENNEANDROUS PLANTS.			
201. Flowering Rush. *Butomus umbellatus.* P. —	35.	273.	604.
DECANDROUS PLANTS.			
202. Winter Green. *Pyrola rotundifolia.* P. ——	85.1.	363.1.	110.
203. Marsh Cistus. *Andromeda polyfolia.* P. ——	523.	472.	54.
204. Maiden Pink. *Dianthus deltoides.* P. ——	162.	335.	577.
205. Knawel. *Scleranthus annuus.* A. ——	493.	159.	504.
206. White Saxifrage. *Saxifraga granulata.* P.	189.	354.	514.
207. Bottle Campion. *Cucubalus Behen.* P. ——	164.2.	337.2.	
208. White and Red Campion. *Lychnis dioica.* P.	166.8.	339.9.	792.
209. Chickweed. *Alsine media.* A. ——	179.1.	347.6.	525.
210. Purple Spurrey. *Arenaria rubra.* A. ——	184.2.	351.9.	740.
211. Corn Spurrey. *Spergula arvensis.* A. ——	184.1.	351.7.	
212. Sea Chickweed. *Arenaria peploides.* ——	181.14.	351.12.	624.
*212. Mouse-ear Chickweed. *Cerastium viscosum.* A.	183.2.	348.3.	
213. Marsh Mouse-ear Chickweed. *C. aquaticum.* P.	179.2.	347.4.	
214. Cockle. *Agrostemma Githago.* A. ——	166.6.	338.5.	576.
215. Meadow Pink. *Lychnis Flos Cuculi.* P. ——	165.4.	338.4.	590.
216. Wood Sorrel. *Oxalis Acetosella.* P. ——	80.	281.	
217. Orpine. *Sedum Telephium.* P. ——	36.1.	269.	686.
218. Stone Crop: Wall Pepper. *S. acre.* P. —	38.6.	270.5.	
219. White-flowered Stone Crop. *S. album.* P. —	38.3.	271.7.	66.
DODECANDROUS PLANTS.			
*219. Sun Spurge. *Euphorbia Helioscopia.* A. —	150.	313.	725.
220. Purple spiked Loosestrife. *Lythrum Salicaria.* P.	218.1.	367.1.	671.

185. *Sea spiked Grass.* Cows are extremely fond of this grass; as indeed they are of many other maritime plants: and equally so of the foregoing species.

190. *Common Heath, or Ling.* The bees are thought to get more honey from *Ling* than from any other plants; but what is produced from it has a reddish cast, and is therefore not so much valued.

207. *Bottle Campion.* This plant is common with us on the borders of corn-fields, and

Gunner

	O.	G.	Sh.	H.	S.	
181.	0	0				In meadows, paſtures, and by way ſides. 6, 7.
182.	1	1	1	1	1	In meadows and paſtures, common. 5, 6.
183.		1	1	1	1	On downs, uplands, fallow fields, &c.
184.	1	1	1	1	1	In moiſt and marſhy meadows. 7, 8.
185.	11	1	1	1	1	In ſalt marſhes, common. 5, 6.
186.	0	1	0	1	0	In waters, plentifully. 6, 7.
187.	1	11	1	0	0	In woods and hedges, in the North. 7, 8.
188.	10	1	1	1	0	In watery places, about rivers, &c. 7.
189.		1		10		In woods and wet places. 6.
190.	1	10	10	1	0	On barren mountainous ground. 6—9.
191.	1	1	1	1	0	On mountains and heaths, in the North. 4, 5.
192.	0	1	0	0		On heaths, and in woods. 4.
193.	0	1	0	0	1	On turfy boggy grounds, in the North. 5.
194.	10		0	0	0	In ſhady thick woods, and about ſprings. 4.
195.	0	1	1	1	1	In and about rivers and ditches. 6, 7.
196.	0	1	1	1	0	In meadows, waſte places, corn fields, &c. 8, 9.
197.	0	0	0	0	0	In and about ditches and moiſt places. 7, 8.
198.	1	1	1	1	1	By the way ſides, waſte places, very common. 6, 9.
199.	1	1	0	0	0	Corn fields, gardens, manured places. 6—9.
200.	0	1	1	0	0	In ſhady woods and thickets. 5, 6.
201.	0	0	0	0	0	In waters. 6.
202.	0	1	0	0	0	In woods and groves, in the North. 6, 7.
203.	0	1	0	0		On bogs and wet turfy grounds, in the North. 4.
204.	1	1	1	1	0	On heaths and dry paſtures, not common. 6, 7.
205.	0	1		1		In corn fields and gravelly grounds. 8.
206.	0	1	0	0	0	In dry meadows and paſtures. 5, 6.
207.	1	1	1	1	0	On fallow lands, and among corn. 7.
208.	1	1	1	1	1	In woods, and about hedges, every where. 5—7.
209.	1	0	10	1	1	Every where in moiſt and ſhady places.
210.		1	1			Dry ſandy grounds, and on the ſea coaſts. 6, 7.
211.	10	0	1	1	1	Among corn, and on fallow ground. 8.
212.	1		1	1		On the ſea coaſt. 6, 7.
*212.	0	1	0	1		In meadows and paſtures, very common. 5.
213.			1	1	1	In moiſt places about ditches and rivers. 7.
214.		1	1	1		Among the corn, very common. 6.
215.		1	1	1		In moiſt meadows and paſtures. 6.
216.	01	1	1	0	1	In woods, and under ſhady hedges. 4.
217.	1	1	1	0	1	About hedges, old walls, and in paſtures. 8.
218.	0	1	0	0	0	On walls, on rocks and mountains. 6.
219.		1	0			On walls, thatch, &c. not common. 6, 7.
*219.	0	01	01	1		In kitchen gardens, and ſometimes in corn fields. 7.
220.	1	1	1	1	0	By the banks of rivers and lakes. 7.

Gunner ſays it is among the moſt accepta'le herbs to cows. Its cultivation has on this account been recommended in foreign publications.

208. *White and Red Campion.* The ſame author relates that this plant is thought by ſome of the peaſants in *Norway* to cauſe ſtaling of blood in the horned cattle.

211. *Corn Spurrey.* This plant has been cultivated as food for cattle, and is thought by ſome writers on agriculture to deſerve more notice than has hitherto been paid to it.

*220. Dyer's

		Hill.	Ray.	Flor. Dan.
*220.	Dyer's Weed. *Reseda Luteola.* A. ——	208.	366.	
221.	Agrimony. *Agrimonia Eupatoria.* P. ——	345.	202.	588.
	ICOSANDROUS PLANTS.			
222.	Black-thorn. *Prunus spinosa.* ——	518.	462.	
223.	Bird's Cherry. *P. Padus.* — ——	518.	463.	205.
224.	Wild Service Tree. *Cratægus torminalis.* —	514.	453.	798.
225.	Haw-thorn. *C. Oxyacantha.* ——	515.	453.	634.
226.	Quicken-tree: Mountain Ash. *Sorbus aucuparia.*	514.	452.	
227.	Wild Pear Tree. *Pyrus communis.* ——	514.	452.	
228.	Crab Tree. *P. Malus.* ——	514.	452.	
229.	Dropwort. *Spiræa Filipendula.* P. ——	24.	259.	635.
230.	Meadow Sweet. *S. Ulmaria.* γ. ——	23.	259.	547.
231.	Common Briar, or Dog Rose. *Rosa Canina.*	515.	454.	555.
232.	Burnet Rose. *R. spinosissima.* ——	515.	455.	398.
233.	Raspberry Bush. *Rubus Idæus.* ——	521.	467.4.	788.
234.	Common Bramble. *R. fruticosus.* ——	521.	467.1.	
235.	Dewberry Bush. *R. cæsius.* — ——	521.	467.3.	
236.	The Wood Strawberry. *Fragaria vesca.* P.	2.	254.1.	
237.	Silver Weed. *Potentilla Argentina.* P. —	6.	256.	544.
238.	Cinquefoil. *P. reptans.* P. ——	3.	255.1.	
239.	Spring Cinquefoil. *P. verna.* P. —	3.	255.3.	
240.	Tormentil. *Tormentilla erecta.* P. ——	7.	257.	589.
241.	Purple Marsh Cinquefoil. *Comarum palustre.* P.	5.	256.2.	636.
242.	Avens: Herb Bennet. *Geum urbanum.* P. —	8.	253.1.	672.
	POLYANDROUS PLANTS.			
243.	Yellow Water Lilly. *Nymphæa lutea.* P. —	223.	368.	603.
244.	White Water Lilly. *N. alba.* P. ——	223.	368.	602.
245.	Red Poppy. *Papaver Rhœas.* A. ——	142.	308.	
246.	Long rough-headed Poppy. *P. Argemone.* A.	143.5.	308.	
247.	Greater Celandine. *Chelidonium majus.* —	146.	309.	542.
248.	Herb Christopher. *Actæa Christophoriana.* P.	320.	262.	498.
249.	Lime Tree. *Tilia Europæa.* ——	523.	473.	553.
250.	Dwarf Cistus. *Cistus Helianthemum.* P. —	170.	341.	101.
251.	Lark Spur. *Delphinium Consolida.* A. ——	42.	273.	683.
252.	Columbines. *Aquilegia vulgaris.* P. ——	41.	273.	695.
253.	Water Aloe. *Stratiotis Aloides.* P. ——	140.	290.	337.
254.	Pasque Flower. *Anemone Pulsatilla.* P. —	10.	260.	153.
255.	Wood Anemone. *A. nemorosa.* P. ——	12.	259.	549.
256.	Meadow Rue. *Thalictrum flavum.* P. —	347.	203.	
257.	Lesser Spearwort. *Ranunculus Flammula.* —	17.10.	250.	575.
258.	Pilewort. *R. Ficaria.* P. — ——	10.	246.	499.
259.	Sweet Wood Crowfoot. *R. auricomus.* P. —	16.6.	248.	665.

229. *Common Dropwort.* Swine are extremely fond of the roots of this plant, and will make great devastation in pastures where they find it.

237. *Silver Weed.* The same animals are not less fond of the roots of this plant, which have somewhat the taste of parsnips; and *Ray* informs us that they were formerly eaten in this country, as they still are in less happy climates. *Gunner.*

240. *Tormentil.* The roots of Tormentil being an excellent astringent, are used by the farmers in *Holland* as a remedy against the staling of blood among their cattle.

243. *Yellow Water Lilly.* It is remarkable that scarcely any animals, except *hogs*, will touch this plant, and they will eat both roots and leaves, and fatten by their use. *Flor. Oeconomic.*

	O.	G.	Sh.	H.	S.	
*220.	0	0	1	0	0	In waſte places in chalky grounds. 6.
221.	0	1	1	0	0	About hedges and the borders of fields. 6.
222.		1	1	1		In hedges, common. 3, 4.
223.	10	1	1	0	1	In woods and hedges, not common. 5.
224.		1	1			In woods and hedges, not common. 4.
225.	1	1	1	1		In hedges. 5.
226.	1	1	1	1	1	In woods and hedges. 5.
227.	1	1	1	1		With the foregoing. 4.
228.	1	1	1	1		With the foregoing. 5.
229.	1	1	1	0	1	On upland paſtures. 7.
230.	0	11	1	0	1	In moiſt meadows, and by rivers and brooks. 6—8.
231.	1	1	1	0	1	In hedges. 5, 6.
232.	1	1	1	0	1	In heaths, among furze, in gravelly ſoil. 6.
233.	01	1	1	0	1	In woods and mountainous places. 5, 6.
234.		1	1			In hedges every where, and thickets. 5—9.
235.	1	1	1	0		With the former in moiſt places. 6, 7.
236.	10	1	1	0	0	In woods, and under hedges. 4, 5.
237.	1	1	1	1	1	By the road ſides; in low paſtures. 6—8.
238.	1	1	1	1		In like places with the foregoing. 6.
239.	1	1	1	1		On dry barren paſtures. 5, 6.
240.	1	1	1	0	1	In dry woods and paſtures, common. 6, 7.
241.	01	1	10	0	0	In bogs and marſhes. 6.
242.	1	1	1	10	1	In hedges, woods, and thickets, common. 6—8.
243.	0	01	0	0	1	In rivers, ponds, and ditches. 8.
244.	0	01		0	1	With the foregoing, but not ſo common. 7.
245.	1	1	1	0		In corn fields, arable ground. 6, 7.
246.		1	1	0		On arable lands. 6.
247.	0	0	0	0	0	In waſte places. 5, 6.
248.	0	1	1	0	0	In woods, in the North. 5, 6.
249.	1	1	1	1		In groves and viſtas cultivated. 7.
250.		1	1	1	0	On dry, and particularly chalky downs. 7.
251.	0	1	1	10	0	Among ſtanding corn, rare. 6.
252.	0	1	01	0	0	In woods, in the North. 6.
253.		0			1	In the fenny countries. 6.
254.	0	1	1	0	0	In mountainous paſtures. 4.
255.	10	1	1	0	0	In woods, thickets, and hedges. 4.
256.	1	1	1	1	10	In wet paſtures, and by river ſides. 6, 7.
257.	0	0	0	1	0	In marſhy grounds, common. 6—9.
258.	0	1	1	0		In meadows and paſtures every where. 4.
259.	1	1	0	0		In woods and hedges. 4.

248. *Herb Chriſtopher.* This is one of the poiſonous herbs to cattle, but is happily ſcarce in *England*, and not found elſewhere than in woods.

249. The leaves of the *Lime Tree* are in ſome parts of *Europe* laid up as fodder for *ſheep* and *goats*. *Bees* get their fineſt honey from theſe trees. *Cows* are fond of the leaves, but they are ſaid to vitiate the milk.

255. *Wood Anemone.* Horned cattle, when removed from higher grounds into woods and woody paſturage, frequently eat this herb, and many obſervations have proved that it cauſes the bloody flux among them. *Lin. Gunner.*

	Hill.	Ray.	Flor. Dan.
260. Round-leaved Water Crowfoot. *Ranunculus sceleratus.* A. — —	16.8.	249.1.	571.
261. Upright Meadow Crowfoot. *R. acris.* P. —	16.4.	248.4.	
262. Creeping Crowfoot. *R. repens.* P. —	15.2.	247.	795.
263. Bulbous Crowfoot. *R. bulbosus.* P. —	15.1.	247.	551.
264. Various-leaved Crowfoot. *Aquatilis.* P. —	17.	249.	376.
265. Marsh Marigold. *Caltha palustris.* P. —	34.	272.	668.
266. Globe Flower. *Trollius Europæus.* P. —	33.	272.	133.
DIDYNAMOUS PLANTS, *with naked seeds.*			
267. Bugle. *Ajuga reptans.* P. —	372.	245.	
268. Water Germander. *Teucrium Scordium.* P.	373.	246.	593.
269. Wild Thyme. *Thymus Serpyllum.* P. —	350.	230.	
270. Wild Basil. *T. Acinos.* A. —	362.	238.	814.
271. Great wild Basil. *Clinopodium vulgare.* P. —	364.	239.	
272. Wild Marjoram. *Origanum vulgare.* P. —	357.	236.	638.
273. Corn Mint. *Mentha arvensis.* P. —	351.1.	232.1.	512.
274. Water Mint. *M. aquatica.* P. —	352.	233.	673.
275. Ground Ivy. *Glechoma hederacea.* P. —	369.	243.	789.
276. Stinking Horehound. *Ballota nigra.* A. —	370.	244.	
277. Common Horehound. *Marrubium vulgare.*	363.	239.	
278. Cat-mint. *Nepeta Cataria.* P. —	360.	237.	580.
279. Betony. *Betonica officinalis.* P. —	361.	238.	726.
280. Hedge Nettle. *Stachys sylvatica.* P. —	359.	237.	
281. Clowns Allheal. *S. palustris.* P. —	367.	242.	
282. Nettle Hemp. *Galeopsis Tetrahit.* A. —	366.6.	240.	
283. Narrow-leaved Allheal. *G. Ladanum.* A. —	368.	242.	
284. White Dead Nettle. *Lamium album.* P. —	365.	240.	594.
285. Red Archangel. *L. rubrum.* A. —	365.	240.	523.
286. Great Henbit. *L. amplexicaule.* A. —	365.	240.	752.
287. Motherwort. *Leonurus Cardiaca.* B. —	364.	239.	727.
288. Self-heal. *Prunella vulgaris.* P. —	362.	238.	
289. Hooded Willow Herb. *Scutellaria galericulata.* — —	370.	244.	637.
— *with capsules.*			
290. Toad Flax. *Antirrhinum Linaria.* P. —	108.	281.	
291. Leaft Toad Flax. *A. minus.* A. —	112.	283.	502.
292. Yellow Rattle, or Cock's-comb. *Rhinanthus Crista Galli.* A. — —	121.	284.	
293. Common Louſewort. *Pedicularis ſylvatica.* —	120.1.	284.3.	225.
294. Marſh Louſewort. *P. paluſtris.* P. —	120.2.	284.	
295. Creſted Cow wheat. *Melampyrum criſtatum.* A.	124.2.	286.	
296. Common Cow-wheat. *M. pratenſe.* A. —	124.	286.	145.

260—264. *Crowfoot*, or *Butter Cups*. Scarcely any of theſe plants are reliſhed by the cows or horſes, from their biting taſte; the *Round-leaved Water Crowfoot*, the *Upright Meadow Crowfoot*, and particularly the *Various-leaved Crowfoot*, are conſtantly left untouched, while growing. The acrimony in theſe plants appears to be diſſipated in the hay, into which they often enter in a large proportion.

265. *Marſh Marigold*. It has been conjectured that the yellowneſs of the butter is in many places owing to the cattle having fed on the large yellow flowers of this plant; which is however a great error, as cows do not touch the plant, although they pare the ground around it.

273, 274. *Mints*. All Mints are thought to have the property of retarding or preventing the curdling of milk. Hence it is that in ſome places, towards the latter end of the year, when herbage is ſcarce, and the cows are neceſſitated to eat theſe plants in more conſiderable quantities, the dairy-woman has difficulty to make her cheeſe.

	O.	S.	Sh.	H.	S.	
260.	0	1	0	0		In watery places, common. 5, 6.
261.	0	1	1	0	0	In meadows and paſtures, common. 6, 7.
262.		1		1		In meadows and paſtures every where. 5, 6.
263.	0					With the foregoing every where. 5.
264.	0	0	0	0	0	In rivers, ditches, ponds, &c. 4—6.
265.	0	1	1	0	0	In moiſt meadows and brooks. 4.
266.	0	1	1	0	1	In mountainous paſtures, in the North. 5, 6.
267.	0	1	1	0	0	In moiſt meadows and paſtures, and woods. 5, 6.
268.	0	1	1	0	0	In the fens, common. 8.
269.		1	1		0	On dry paſtures, common. 7, 8.
270.	10	0	10	1		On chalky, gravelly downs. 7, 8.
271.		1	1	0		About hedges, and in dry paſtures. 7.
272.	0	1	1	1		About hedges and buſhes. 7.
273.	0	1	01	1	0	On arable land and corn grounds. 8, 9.
274.				1	0	In watery places, and by rivers, ponds, &c.
275.	0	0	1	10	0	Under ſhady hedges, and in woods. 5, 6.
276.	0	0	0	0		In waſte places and by hedges, every where. 7.
277.	0	0	0	0		On arable land, dry paſtures, and waſte places.
278.	0	0	1	0	0	By hedges, and on upland paſtures. 7.
279.		0	1			On heaths, and in woods, common. 7, 8.
280.	01	1	1	0	0	In hedges and woods every where. 7, 8.
281.	0	0	1	0	0	In watery places, and about rivers. 8.
282.	0	1	1	0	0	On arable grounds, and borders of fields. 8.
283.	1	1	1	0		On arable grounds. 7, 8.
284.	10	1	1	0	0	About hedges, and in waſte places. 5, 6.
285.	0	1	1	1		In waſte places, and on arable land. 5.
286.		1	1	1		On arable grounds, very common. 6.
287.	01	1	1	1	0	On dunghills, and among rubbiſh 7.
288.	1	1	1	10		In meadows and paſtures every where. 8.
289.	1	1	1	0	0	About waters, and watery places. 8, 9.
290.	0	10	01	0	0	About hedges, and dry barren paſtures. 7.
291.	1	0	1	0	01	On arable land, and among corn. 6—9.
292.	10	1	1	10		In meadows and paſtures, common. 6, 7.
293.	0				0	In boggy marſhy meadows and heaths. 6, 7.
294.	0	1	0	0	01	In moiſt and marſhy meadows and paſtures. 6.
295.	1	1	1			In woods, not common. 7.
296.	11	1	1	0	0	In woods, very common. 7, 8.

280. *Hedge Nettle.* Horſes abominate this plant. Cows, notwithſtanding its fœtid ſmell, will eat it, and *Gunner* ſays it undoubtedly increaſes their milk greatly.

281. *Clowns Alheal.* The roots of this plant are among the acceptable food of ſwine: they are indeed ſapid enough to have ſupplied in ſome ſeaſons the want of bread to the human ſpecies.

293, 294. *Louſeworts.* Theſe plants are very noxious to cattle, when through penury, or other cauſes, they are induced to eat them. *Gunner* affirms, that it is very common for cattle, that are removed into paſtures where the *Marſh Louſewort* abounds, to die ſuddenly from ſtaling of blood. He obſerves, that ſuch as are bred where it is plentiful, either do not eat it, or are not hurt by it. It is too common with us.

296. *Cow-wheat.* Cows are extravagantly fond of this plant, and the richneſs, as well as yellowneſs, of the butter, in ſome places, is with great reaſon attributed to the abundance

	Hill.	Ray.	Flor. Dan.
297. Common Eye-bright. *Euphrasia officinalis.* —	122.1.	284.	
298. Red Eye-bright. *E. odontites.* A. ——	122.2.	284.2.	625.
299. Broom rape. *Orobanche major.* P. ——	127.	288.	
300. Knobby-rooted Figwort. *Schrophularia nodosa.*	114.	283.2.	
301. Toothwort. *Lathræa squamaria.* P. ——	128.	288.	136.
TETRADYNAMOUS PLANTS.			
302. Whitlow Grass. *Draba verna.* A. ——	259.	292.	
303. Mithridate Mustard. *Thlaspi campestre.* A. —	269.	305.1.	
304. Shepherds Purse. *T. Bursa Pastoris.* A. —	260.	306.	729.
305. Dittander: Pepperwort. *Lepidium latifolium.*	261.	304.	557.
306. Narrow-leaved wild Cress. *L. ruderale.* A.	268.1.	303.	184.
307. Scurvy Grass. *Cochlearia officinalis.* B. —	266.	302.	135.
308. Horse Rhadish. *C. Armoracia.* P. ——	261.	301.	
309. Gold of Pleasure. *Myagrum sativum.* A. —	263.	302.	
310. Woad. *Isatis tinctoria.* B. ——	254.	307.	
311. Great Tower Mustard. *Turritis glabra.* A.	249.	293.	809.
312. Wild Navew, or Rape. *Brassica Napus.* B.	240.	295.	
313. Wild Mustard, or Charlock. *Sinapis arvensis.* A.	242.	295.	678.
314. Water Rhadish. *Sisymbrium amphibium.* P. —	265.	301.	
315. Flix Weed. *S. Sophia.* A. —— ——	251.	298.	528.
316. Hedge Mustard. *Erysimum vulgare.* A. —	238.	298.	560.
317. Treacle Wormseed. *E. cheiranthoides.* A. —	250.	298.	731.
318. Winter Cresses, or Rocket. *E. Barbarea.* —	237.4.	297.	
319. Jack by the Hedge: Sauce alone. *E. Alliaria.* P.	235.	293.	
320. Cuckow Flower. *Cardamine pratensis.* P. —	246.	299.	
321. Bitter Cresses. *C. amara.* P. ——	246.2.	299.	
322. White and Yellow flowered Charlock. *Raphanus Raphanistrum.* A. ——	244.	296.	
323. Sea Rocket. *Bunias Cakile.* A. ——	257.2.	307.	
324. Sea Colewort. *Crambe maritima.* P. ——	257.1.	307.	316.
MONADELPHOUS PLANTS.			
325. Crow foot Cranes bill. *Geranium pratense.* P.	198.	360.	
326. Herb Robert. *G. Robertianum.* B. ——	196.	358.	694.
327. Round-leaved Cranes-bill. *G. rotundifolium.* A.	196.	359.10.	
328. Common Dove's-foot Cranes-bill. *G. molle.* A.	196.	359.11.	679.
329. Hemlock-leaved Cranes-bill. *G. cicutarium.* A.	199.	357.2.	
330. Common Mallow. *Malva sylvestris.* B. —	25.1.	251.1.	
331. Dwarf Mallow. *M. rotundifolia.* A. ——	25.2.	251.	721.
332. Vervain Mallow. *M. Alcea.* P. ——	27.	252.	
DIADELPHOUS PLANTS.			
333. Common Fumitory. *Fumaria officinalis.* A.	348.	204.	
334. Common Milkwort. *Polygala vulgaris.* P. —	81.	287.	516.
335. Dyers Weed. *Genista tinctoria.* ——	523.	474.	526.
336. Liquorice Vetch. *Astragalus glycyphyllus.* —	293.	326.	
337. Kidney Vetch. *Anthyllis Vulneraria.* P. ——	290.	325.	

322. *Charlocks.* The pests of our corn-fields, and which have been thought to give a most unwholesome quality to bread when the seeds abound in grain.

326. *Herb Robert.* This plant is in great reputation with some farmers, on account of its prevailing virtues against staling of blood, and the bloody flux in cattle: in which cases it is said to be the best among a great variety of means commonly used upon such occasions.

Diadelphous Plants. A general view of this class shews at once how very acceptable they are to almost all cattle. Cows and sheep refused none, and horses not more than three out of the whole number with which they were tried. They afford the richest food for cattle; and

	O.	G.	Sh.	H.	S.	
297.	1	1	1	1	0	In meadows and paſtures, very common. 8, 9.
298.	1	1	1	1		On the borders of fields, and on arable ground, 8, 9.
299.						In dry paſtures, 5, 6.
300.	0	1	0	0	0	In woods and moiſt hedges. 7, 8.
301.	0	1	1	0	0	In ſhady places at the foot of mountains: rare.
302.	10	1	1	1	0	On mole hills, in dry paſtures. 4.
303.	10	1	0	0	1	On arable land, and in corn fields. 6, 7.
304.	1	1	1	1	1	Every where in fields and waſte places. 3, 4.
305.	1	1	1	0		In meadows and paſtures: rare. 6, 7.
306.	1	1		0	0	On the ſea coaſts: rare. 6.
307.	1	0	0	0		On the ſea coaſts. 4, 5.
308.	0	0	0	0	0	In waſte places, and about ditches. 5.
309.	1	1	1	1		In flax fields. 6.
310.	1	0	0	0		On the borders of fields, and on arable land: rare. 7.
311.	1	1	1	0	1	In paſtures, particularly of a gravelly ſoil. 5.
312.	1	1			1	On the banks of ditches, and among corn. 5.
313.	1	1	1	10	1	The peſt of arable land and ſtanding corn. 5.
314.	1	1	1	1	1	In watery places, meadows, and brooks. 6.
315.	1	01	1	10	0	In orchards, about ruins, highways, and commons. 7.
316.	0	1	1	0	0	By the way ſides, and under walls, waſte places. 5.
317.	1	1	1	1	1	In corn fields: ſcarce. 7.
318.	1	10	10	0	0	In ditches and watery places, very common.
319.	1	1	0	0	0	On banks about hedges, very common. 5.
320.	10	1	1	0	0	In moiſt meadows and paſtures, every where. 4.
321.	10		1			With the foregoing; eſpecially on boggy ſoil. 4. 5.
322.	0		0	1		The peſt of corn fields in *England*. 6, 7.
323.				1		On the ſea ſhores. 6.
324.	1	1	1	1	1	On the ſea ſhores. 5.
325.	1	1	1	1	1	On the borders of moiſt fields, meadows, &c. 6, 7.
326.		1	0	1	0	Under ſhady hedges, and in woods. 4—6.
327.	0		1	1	0	About hedges, way ſides. 7.
328.		1	1			With the foregoing, and about hedges, common, 5, 6.
329.	1		10	1		By the way ſides, borders of corn fields. 4—6.
330.	1			1		Every where by hedges and in waſte places. 5—10.
331.	01	0	1	1	1	In the like places with the foregoing. 6—10.
332.	1	1	1	1		In lanes, hedges, and the borders of fields. 7—9.
333.	1	10	1	0	0	In corn fields, arable land, on banks, &c. 4—6.
334.	1	1	1		0	On upland paſtures and heaths, common. 5, 6.
335.	1	1	1	1		On coarſe paſtures, and the borders of fields.
336.	1	1	1	1	0	In meadows, paſtures, and about hedges.
337.	1	1				On dry, chalky paſtures. 7, 8.

and are cultivated in divers parts of *Europe* with all poſſible attention. With us the *Common Purple Trefoil*, or Clover, is moſtly ſown. Lately ſome trials have been made with the *Saint Foin*, 339, and ſome have thought it anſwers better than Clover. I ſay nothing of the exotic *Lucern*.

Among theſe Plants, the *Kidney Vetch*, 327, is particularly acceptable to ſheep, inſomuch that ſeparate cultivation of it has been recommended; but it will not ſucceed well except on chalky grounds.

	Hill.	Ray.	Flor. Dan.
338. Wood Peaſe; Heath Peaſe. *Orobus tuberoſus.* P.	289.2.	324.	788.
339. St. Foin; Cockſhead. *Hedyſarum Onobrichis.* P.	293.	327.	
340. Narrow-leaved Everlaſting Pea. *Lathyrus ſylveſtris.* P. — —	280.	319.	325.
341. Common Yellow Vetchling. *L. pratenſis.* P.	280.	320.	527.
342. Common Vetch, or Tare. *Vicia ſativa.* A. —	283.	320.1.	522.
343. Buſh Vetch. *V. Sepium.* P. — —	283.	320.2.	699.
344. Tufted Wood Vetch. *V. ſylvatica.* P. —	285.4.	322.4.	277.
345. Common tufted Vetch. *V. Cracca.* P. —	285.3.	322.3.	804.
346. Smooth-podded Tine Tare. *Ervum tetraſpermum.* A. — —	285.2.	322.2.	95.
347. Hairy-podded Tine Tare. *E. hirſutum.* A.	285.1.	322.1.	639.
348. Sea Peaſe. *Piſum marinum.* P. —	278.	319.	338.
349. Bird's-foot Trefoil. *Lotus corniculata.* P. —	314.	334.	
350. White Trefoil. *Trifolium repens.* —	302.1.	327.1.	
351. Honeyſuckle Trefoil, or Clover. *T. pratenſe.*	302.	328.	
352. Hop Trefoil. *T. agrarium.* A. —	307.	330.	558.
353. Leſſer Hop Trefoil. *T. procumbens.* P. —	307.	330.	796.
354. Melilot. *T. Melitotus officinalis.* B. —	308.	331.	
355. Yellow Lucern, or Medick. *Medicago falcata.*	311.	333.	233.
356. Melilot Trefoil. *M. lupulina.* —	308.	331.2.	
357. Reſt-harrow, or Cammock. *Ononis arvenſis.* P.	310.	332.	
POLYADELPHOUS PLANTS.			
358. St. Peter's Wort. *Hypericum quadrangulum.*	175.7.	344.7.	640.
359. St. John's Wort. *H. perforatum.* P. —	174.1.	342.1.	
360. Hairy St. John's Wort. *H. hirſutum.* P. —	175.4.	343.4.	802.
SYNGENESIOUS PLANTS.			
361. Dandelion. *Leontodon Taraxacum.* P. —	441.	170.	574.
362. Rough Dandelion. *L. hirſutum.* P. —	442.3.	171.3.	
363. Hawkweed with bitter roots. *L. autumnale.* P.	438.	164.1.	501.
364. Long-rooted Hawkweed. *Hypochæris radicata.* P. — —	438.2.	165.6.	150.
365. Spotted Hawkweed. *H. maculata.* P. —	439.11.	167.17.	149.
366. Creeping Mouſe-ear. *Hieracium Piloſella.*	441.	170.	
367. Broad-leaved buſhy Hawkweed. *H. ſabaudum.*	440.	167.1.	
368. Succory Hawkweed. *Crepis tectorum.* A. —	438.3.	165.9.	
369. Sowthiſtle. *Sonchus oleraceus.* A. —	437.	163.	682.
370. Tree, or Corn Sowthiſtle. *S. arvenſis.* P. —	437.7.	163.	606.
371. Ivy-leaved wild Lettuce. *Phrenanthes muralis.* P. — —	436.4.	162.5.	509.
372. Yellow Goatſbeard. *Tragopogon pratenſe.* B.	442.	171.	
373. Nipplewort. *Lapſana communis.* A. —	443.	173.	500.
374. Wild Succory, or Endive. *Cichorium Intybus.* B.	443.	172.	
375. Burdock. *Arctium Lappa.* B. —	432.	197.	642.
376. Carline Thiſtle. *Carlina ſylveſtris.* B. —	449.	175.	

341. *Common Yellow Vetchling.* Uncommonly grateful to cattle; as is alſo the
345. *Common tufted Vetch.* Both theſe are very common in our beſt meadows and paſtures.

350. *White Trefoil.* Wherever this plant occurs ſpontaneouſly, and abounds, it is always conſidered as an indication of the goodneſs of the ſoil; and this is a thing well known to all farmers.

The richneſs of all meadows and paſtures is naturally owing to their abounding principally with the *Trefoils*, and others of the ſame claſs, with a due mixture of the more acceptable *Graſſes*.

	O.	G.	Sh.	H.	S.	
338.	1	1	1	1		In woods; and ſometimes in meadows, &c. 5.
339.	1	1	1	11		On chalky meadows and paſtures. 7.
340.	1	1	1	1		In woods and hedges. 7, 8. [7, 8.
341.	1	1	1	1	0	In woods, hedges, meadows, and paſtures, every where.
342.	11	1	1	11		Cultivated: and often wild in corn fields.
343.	1	1	1	1	1	In meadows, paſtures, hedges, and woods. 5.
344.	1	1	1	1		In hedges and woods. 7, 8.
345.	1	1	1	1	01	In woods and hedges, common, and in paſtures
346.	1	1	1	1		On tilled grounds, and among corn. 6.
347.	1	1	1	1		With the foregoing. 6.
348.	1	1	1	1		On the ſea ſhores. 7.
349.	1	1	1	1	10	In meadows, paſtures, woods, every where. 7, 8.
350.	1	1	1	1	0	*The pride* of meadows and paſtures. 5—9.
351.	1	1	1	11	1	With the former. 5—9. both perennial.
352.	1	1	1	1		In ſandy paſtures, corn fields. 6.
353	1	1	1	1		In meadows and paſtures, common. 5—8.
354	1	1	1	1	1	In hedges, and in the borders of corn fields. 6, 7.
355.	1	1	1	1		On the borders of fields, not common. 7.
356.	1	1	1	10		In paſtures every where. 5—8.
357.	1	1	11	0	0	On barren paſtures, way ſides. 6—8.
358.	1	1	1	0	0	In moiſt hedges, and the banks of brooks.
359.	1	1	1	0	0	In hedges and buſhes, common. 7.
360.			1	0		In hedges and buſhes, very common. 7.
361.	01	1	10	0	1	In meadows and paſtures, every where. 4—6.
362.						With the former every where. 5, 6.
363.	0	1	0	1	1	With the foregoing, very common. 8.
364.	1					In meadows and paſtures, common. 5—7.
365.	1	1	01	1	1	In mountainous paſtures: ſcarce in *England*. 7.
366.	01	1	10	0		On uplands and dry paſtures, common. 5.
367.	1	1	1	1	1	In hedges and woods, common. 7, 8.
368.	1	1	1	1	1	In meadows and paſtures, very common. 6—9.
369.		1	1	11	1	In manured grounds, corn fields, waſte places.
370.	1	1		11		In corn fields and about hedges. 7.
371.	1	1	11	1		In ſhady lanes and woods. 7, 8.
372.	1	10	1	1	11	In meadows and paſtures. 6.
373.	1	0	1	1	1	In hedges and waſte places, kitchen gardens. 6, 7.
374.	0	1	1	0	1	On the borders of corn fields. 7, 8.
375.	1	1	0	0	0	By the way ſides, waſte places, &c. 7, 8.
376.	0	1				On dry paſtures. 6.

356. *Melilot Trefoil.* This plant, which is exceedingly common, is notwithſtanding much leſs agreeable to cattle than the reſt of the Trefoils. This obſervation occurred to *Plukenet*, who called it *Medica pratenſis lutea non grata jumentis*; and *Linnæus* has informed us particularly that future obſervations have confirmed the remark.

357. *Reſt-harrow*, or *Cammock.* A decoction of this plant has been much recommended to horſes labouring under a ſtoppage of urine. It is the peſt of ſome corn-fields; but in its younger ſtate, before the plant has acquired its thorns, is a moſt acceptable herb to ſheep.

366. *Creeping Mouſe-ear.* Very common on our dry paſtures, and ſometimes eaten by ſheep; to which animals *Ray* ſays it is very hurtful from its powerful aſtringent quality.

	Hill.	Ray.	Flor. Dan.
377. Cotton Thiſtle. *Onopordon Acanthium.* B. —	430.	196.	
378. Spear Thiſtle. *Carduus lanceolatus.* B. —	429.	195.	
379. Muſk Thiſtle. *C. nutans.* B. ——	428.	193.	675.
380. Dwarf Carline Thiſtle. *C. acaulis.* P. —	429.	195.	
381. Soft or gentle Thiſtle. *C. heterophyllus.* —	428.	193.1.	109?
382. Thiſtle upon Thiſtle. *C. criſpus.* A. ——	429.	194.2.	621.
383. Marſh Thiſtle. *C. paluſtris.* P. ——	429.	194.4.	
384. Saw-wort. *Serratula tinctoria.* P. ——	431.	196.	281.
385. Corn Saw-wort, or Way Thiſtle. *S. arvenſis.* P.	428.	194.	644.
386. Trifid Water Hemp Agrimony. *Bidens tripartita.* A. —— ——	461.	187.	
387. Whole-leaved Water Hemp Agrimony. *B. cernua.* A. — ——	461.2.	187.	
388. Dutch, or Hemp Agrimony. *Eupatorium cannabinum.* P. — —	453.	179.	745.
389. Tanſy. *Tanacetum vulgare.* P. ——	461.	188.	
390. Mugwort. *Artemiſia vulgaris.* P. ——	463.	190.	
391. Wormwood. *A. Abſinthium.* P. ——	462.	188.	
392. Sea Wormwood. *A. maritima.* P. —	462.	188.	
393. Mountain Cudweed. *Gnaphalium dioicum.*	454.	181.	
394. Upright Cudweed. *G. ſylvaticum.* B. —	453.2.	180.2.	
395. Black-headed Cudweed. *G. uliginoſum.* A.	454.5.	181.6.	
396. Coltsfoot. *Tuſſilago Farfara.* P. ——	446.	173.	595.
397. Butter-bur. *T. Petaſites.* P. ——	452.	179.	
398. Golden Rod. *Solidago Virga aurea.* P. —	449.	176.	663.
399. Ragwort. *Senecio Jacobæa.* P. ——	450.	177.	
400. Groundſel. *S. vulgaris.* A. — —	451.	178.	513.
401. Blue flowered Fleabane. *Erigeron acre.* —	448.	175.	
402. Elecampane. *Inula Helenium.* P. ——	449.	176.	728.
403. Middle Fleabane. *I. dyſenterica.* P. ——	447.	174.	410.
404. Small Fleabane. *I. Pulicaria.* A. —	447.	174.2.	613.
405. Sea Star-wort. *After Tripolium.* P. ——	448.	175.	615.
406. Corn Marigold. *Chryſanthemum ſegetum.* —	456.	182.	
407. Great Daiſie. *C. Leucanthemum.* P. ——	459.	184.1.	
408. Sweet Chamomile. *Anthemis nobilis.* P. —	459.	185.2.	
409. Stinking Mayweed. *A. Cotula.* A. ——	460.	185.3.	
410. Corn Chamomile. *A. arvenſis.* B. ——	459.1.	185.4.	
411. Feverfew. *Matricaria Parthenium.* B. ——	460.	187.	674.
412. Corn Feverfew. *M. Chamomilla.* A. —	459.	184.1.	
413. Milfoil: Yarrow. *Achillea Millefolium.* P. —	458.	183.	737.
414. Sneeze-wort: Goole tongue. *A. Ptarmica.* P.	457.	183.	643.
415. Common Daiſie. *Bellis perennis.* P. —	459.	184.	503.
416. Great Knapweed. *Centaurea Scabioſa.* —	433.	198.	
417. Common Knapweed. *C. nigra.* P. ——	433.	198.	
418. Blue Bottle. *C. Cyanus.* A. ——	433.	198.	
419. Common Cudweed. *Filago germanica.* A. —	453.	180.	
420. Leaſt Cudweed. *F. montana.* A. ——	454.	181.	
421. Hairy Sheeps Scabious. *Jaſione montana.* A.	71.6.	278.	319.
422. Dogs Violet. *Viola canina.* P. ——	204.	364.	
423. Panſies; Hearts Eaſe. *V. tricolor.* A. —	205.	365.9.	623.

406. *Corn Marigold.* This plant infeſts the corn-fields in many parts of *Europe*, and in *Denmark* there was a law enforcing the farmers to rid their fields of it.

407. *Great Daiſie.* Very common in our paſtures, but unacceptable to cows; neither is the *common Daiſie* reliſhed by them.

417. *Common Knapweed.* A harſh and ungrateful plant to cows and ſheep, but impoſſible to be extirpated, though very common in our beſt meadows and paſtures.

419. *Common*

	O.	G.	Sh.	H.	S.	
377.	0		0	0		In waſte places: and on fallow grounds. 7.
378.	01	01	0	1	0	Waſte places, about hedges; fallow lands.
379.	10	0	0	1		On uplands and fallow grounds abundantly.
380.	0			0		On dry paſtures: heaths and downs. 7.
381.	1	1	1	1	0	In marſhy paſtures, not very common.
382.	1	1	1	1		About ditches and hedges, common. 6.
383.				11		In marſhy paſtures, and in woods. 7.
384.	0	1	1	10	0	In woods, and barren paſtures. 7.
385.	10	1	11	1	0	By the way ſides, and on fallow grounds.
386.	1	0	1	0	0	In marſhy grounds, and about waters. 7, 8.
387.		1		0		In ditches, and watery places. 7, 8.
388.	0	1	0	0	0	About waters, and moiſt hedges. 7, 8.
389.	1	0	1	0	0	On high paſtures in the North, and by rivers in the [South. 8.
390.	1	10	0	1	0	About hedges, corn fields, and waſtes. 8.
391.	1	10	1	1	0	In waſte places, and by road ſides. 8, 9.
392.	0	0	0	1		On the ſea coaſt. 8.
393.	0	0	1	1	1	On dry upland paſtures in the North. 5.
394.		1				In dry woods and paſtures. 8.
395.	0	0				In watery places, and where water has ſtagnated. 8.
396.	10	1	1	0	0	In moiſt waſte places, and among corn. 3.
397.	1	1	1	1		In moiſt meadows by rivers and brooks. 3, 4.
398.	1	1	1	1	1	In woods, hedges, and among furze, on heaths.
399.	1					In meadows, paſtures, and by way ſides. 7.
400.	1	1	0	0	1	In manured waſte grounds every where.
401.	0	0				On upland dry paſtures, among buſhes.
402.	0	1	0	1	0	In hedges of moiſt meadows. 7, 8.
403.	01	0	0			In watery places; about banks of rivers.
404.	0	0	1	0		In moiſt places, and where water has ſtagnated.
405.	1	1	10	1	0	In ſalt marſhes. 8.
406.						Among corn too plentifully. 6, 7.
407.	0	1	1	1	0	In meadows and paſtures, every where. 5.
408.		1	1	1	0	In damp places on heaths, &c. 7, 8, 9.
409.	0	01	01	0	0	In and about corn fields: farm yards.
410.	1		1	10		With the former. 7, 8.
411.						In waſte places, and about hedges. 6.
412.	1	1	1	0	0	In corn fields. 6.
413.	10	10	1	1	1	In meadows and paſtures. 5—7.
414.	1	1	1	1	1	In moiſt woods and meadows. 8.
415.	1	1	1	1	1	In every paſture. 3—9.
416.	0	1	1	1	1	In and about corn fields. 6, 7.
417.	10	1	10	1	10	In meadows and paſtures, common. 7, 8.
418.	1	1	1	0	0	Among the corn. 7.
419.	0	0				By the way ſides, and in dry paſtures. 6, 7.
420.	0	0	1			On ſandy heaths. 6, 7.
421.						On downs and heaths. 6, 7.
422.	1	1	1	0	1	On heaths. 4.
423.	1	1	0	0	10	On corn grounds. 5—9.

419. *Cudweed*, ſo called becauſe huſbandmen formerly gave it to cattle that did not *ruminate* freely.

A general view of the *ſyngeneſious* claſs, ſhews at once the vaſt difference between this and the *diadelphous*; of the former we ſee great numbers are rejected by cows, and by ſheep more particularly.

	Hill.	Ray.	Flor. Dan.
424. Sweet Violet. *Viola odorata.* P.	204.	364.1.	309.
425. Hairy violet. *V. hirta.* P.	205.	365.8.	618.
426. Touch me not. *Impatiens noli me tangere.* A.	207.	316.	582.
GYNANDROUS PLANTS.			
427. Male Orchis Salep. *Orchis mascula.* P.	474.	376.3.	457.
428. Female Orchis. *O. morio.* P.	474.	377.4.	253.
429. Male handed Orchis. *O. latifolia.* P.	474.	380.19.	266.
430. Red handed Orchis. *O. conopsea.* B.	476.21.	381.21.	224.
431. Female handed Orchis. *O. maculata.* P.	476.20.	381.20.	
432. Frog Orchis. *Satyrium viride.* P.	476.22.	381.22.	77.
433. Twayblade. *Ophrys ovata.* P.	478.	385.	137.
434. Graſs Wrack. *Zoſtera marina.* P.	533.	52.1.	15.
MONOECIOUS PLANTS.			
435. Spiked Sedge. *Carex vulpina.* P.	503.28.	423.8.	308.
436. Prickly Sedge. *C. muricata.* P.	503.32.	424.12.	284.
437. Baſtard Sedge. *C. Pſeudo-Cyperus.* P.	503.12.	419.12.	
438. Bladder Sedge. *C. veſicaria.* A.	503.14.	420.14.	647.
439. Great brown Carex or Sedge. *C. acuta.* P.	503.2.	417.1.	
440. Burr-reed. *Sparganium erectum.* P.	506.	437.	
441. Cats-tail. *Typha paluſtris.* P.	506.	436.	645.
442. Common Nettle. *Urtica dioica.* P.	484.	139.	746.
443. Leſſer Nettle. *U. urens.* A.	484.	140.	739.
444. The Alder Tree. *Betula Alnus.*	510.	442.	
445. The Birch Tree. *B. alba.*	510.	443.	
446. Arrow Head. *Sagittaria Sagittifolia.* P.	21.	258.	172.
447. Feathered Water Milfoil. *Myriophyllum ſpicatum.* P.	489.	150.	681.
448. Leſſer Burnet. *Poterium Sanguiſorba.* P.	346.	203.1.	
449. Common Oak Tree. *Quercus Robur.*	509.	440.	
450. The Beach. *Fagus ſylvatica.*	509.	439.	
451. The Horn-beam. *Carpinus Betulus.*	513.	451.	
452. The Haſel Nut-tree. *Corylus Avellana.*	509.	439.	
453. Scotch Fir. *Pinus ſylveſtris.*	510.	441.	
454. Common Fir, or Pitch Tree. *P. Abies.*	510.	441.	193.
455. White Bryony. *Bryonia alba.* P.	318.	261.	813.
DIOECIOUS PLANTS.			
456. Bay-leaved Sweet Willow. *Salix pentandra.*	513.	449.	
457. Common White Willow. *Salix alba.*	513.	447.	
458. Herbaceous Willow. *S. herbacea.* P.	513.	448.7.	117.
459. The Oſier. *S. viminalis.*	513.	450.21.	
460. The common Sallow. *S. capræa.*	513.	450.16.	245.
461. Sea Buckthorn. *Hippophäe Rhamnoides.*	512.	445.	265.
462. Sweet Willow Dutch Myrtle. *Myrica Gale.*	510.	443.	327.
463. Common Hop. *Humulus Lupulus.* P.	482.	137.	
464. White Poplar. *Populus alba.*	512.	446.	
465. Black Poplar. *P. nigra.*	512.	446.	

434. *Graſs Wrack.* Beſides the utility of this plant as an excellent manure in certain places, and for making mounds or walls (which will ſtand, when well conſtructed, for a vaſt number of years) cows and horſes will frequently leave their paſtures to feed in the ſea-water itſelf upon this plant. *Gunner* refers to an inſtance of ſome horned cattle that were very well ſuſtained, through a ſevere winter, by the help of this plant only. Its utility for mounds againſt the encroachment of

	O.	G.	Sh.	H.	S.	
424.						In hedges and ditches; in woods. 3.
425.	1	1	1	1		With the former. 3.
426.	0	1	0	0		In moiſt ſhady places in the North. 8.
427.						In meadows and paſtures; among buſhes. 5.
428.		1		0		In moiſt meadows and paſtures, common.
429.	1			0		In meadows and paſtures. 5, 6.
430.	1	1		0		With the foregoing. 6, 7.
431.	10	0	1	0		In moiſt meadows and paſtures, and woods. 6.
432.		1				In dry paſtures. 5, 6.
433.	1	1				In moiſt woods and thickets. 5, 6.
434.	01			1	1	In the ſhallow ſalt waters abundantly.
435.		1		1	0	In watery places, and by the banks of rivers. 7.
436.		1		1		In marſhy meadows and woods. 5—8.
437.	1	1	1			On the ſides of rivers. 7.
438.	1	1	1			In watery places, and about rivers. 6.
439.	1	1	1	1	0	Common in watery places about rivers, &c.
440.	01	0	0	1	1	In ſtanding and ſlow running waters. 7.
441.	1				0	In like places with the foregoing. 7, 8.
442.	0	0	0	0		In waſte places every where. 7.
443.	0	0	0	0		In waſte grounds, and arable land. 8.
444.	1	1	1	1	0	In moiſt woods and hedges. 7.
445.	1	1	1	1	0	In like places with the former. 7.
446.	01	1		1	1	In waters, and about ditches and rivers. 6.
447.		0	0			In ſtagnant waters. 6, 7.
448.	1	1	1	1		On downs, eſpecially in a chalky ſoil. 7.
449.	1	1	1	1		*The pride and glory* of our woods. 4.
450.		1	1			In hedges and woods. 5.
451.						In woods, and copſes. 5.
452.		1	0		0	In woods, copſes, and hedges. 3.
453.		10	01	0		Wild in *Scotland*. 5.
454.		1	0			With the former. 5.
455.	0	1	0	0	0	In hedges, woods, and thickets, common. 5.
456.		1	1			Frequent in the North of *England*. 4.
457.	1	1	1	1		By waters, and in woods and hedges. 4.
458.	1			1		On boggy mountains. 6.
459.	1	1	1	1		By waters. 4.
460.	1	1	1	1		With the former. 4, 5.
461.	0	1	1	1		On the ſea coaſt, not common. 4.
462.	0	1	0	1		On bogs, in heathy grounds. 5.
463.	1	1	1	1	1	In wet hedges. 6.
464.	10	1	1	1		In hedges about rivers. 3.
465.	1	1	1	1		About rivers, and in watery places. 3.

inſtances of its having ſtood in this way for upwards of eighty years.

435—439. *Sedges* are coarſe and unwholeſome food for thoſe cattle that are obliged to eat them, and are ſaid ſometimes to occaſion great flatulence, and diſorder.

442—43. *Nettles* are eaten by ſheep and cows, while the plants are young.

458. *Herbaceous Willow*. Acceptable to cows and horſes. *Gunner* ſays the latter will

	Hill.	Ray.	Flor. Dan.
466. Aſp, or trembling Poplar. *Populus tremula.*	512.	446.	
467. Dogs Mercury. *Cynocrambe perennis.* P. —	483.	138.	480.
468. French Mercury. *C. annua.* A. ——	483.	139.	
469. Black Bryony. *Tamus communis.* P. —	319.	262.	
470. Common Juniper. *Juniperus communis.* —	511.	444.	
471. Yew Tree. *Taxus baccata.* — ——	512.	445.	
POLYGAMOUS PLANTS.			
472. Sea Purſlane. *Atriplex portulacoides.* ——	490.	153.11.	
473. Wild Orache. *A. haſtata.* A. ——	489.	151.1.	
474. Narrow-leaved Orache. *A. patula.* A. ——	489.	151.2.	
475. The Aſh Tree. *Fraxinus excelſior.* —	522.	469.	
476. Black-berried Heath. *Empetrum nigrum.* P.	511.	444.	
CRYPTOGAMOUS PLANTS.			
477. Corn Horſe-tail. *Equiſetum arvenſe.* P. —	531.	130.2.	
478. Wood Horſe-tail. *E. ſylvaticum.* P. ——	531.	130.4.	
479. Marſh Horſe-tail. *E. paluſtre.* P. ——	531.	131.9.	
480. River Horſe-tail. *E. fluviatile.* P. ——	531.	130.1.	
481. Smooth Horſe-tail. *E. limoſum.* P. ——	531.	131.10.	
482. Female Fern, or Brakes. *Pteris aquilina.* —	528.	124.	
483. Common Polypody. *Polypodium vulgare.* —	526.	117.	
484. Common Male Fern. *P. Filix mas.* ——	527.	120.	
485. Stone Fern. *P. fragile.* —— —	528.7.	125.	401.
486. Hart's Tongue. *Aſplenium Scolopendrium.* —	525.	116.	
487. Adder's Tongue. *Ophioglоſſum vulgatum.* —	530.	128.	147.
488. Common *Fucus*, or Sea Oak. *F. veſiculoſus.*		40.4.	
489. Sweet Fucus. *Fucus ſaccharinus.* ——		39.1.	416.
490. Thread Fucus. *F. Filum.* —— —		40.3.	821.
491. Brown Boletus. *Boletus bovinus.* ——		11.2.	

467. *Dogs Mercury* is abſolutely poiſonous to ſheep, which will ſometimes eat it. Our own obſervations, many times repeated, have taught us that horſes will not touch it.

469. *Black Bryony.* This is not a *Swediſh* plant; it is common in our hedges, but horſes refuſe it.

471. *Yew Tree.* That the *Yew* is poiſonous to horned cattle and horſes, is proved beyond all doubt. Several caſes of its fatal effects have fallen under our own knowledge. A memorable one occurs alſo in the *Phil. Tranſ.* vol. xlvii. p. 195.

477. *Corn Horſe-tail* is ſaid to be very noxious to horned cattle and ſheep, both by *Gunner* and

	O.	G.	Sh.	H.	S.	
466.		1	1	0	0	In woods, particularly in boggy ſoils.
467.	0	1	1			In woods and thickets, and under hedges, 4, 5.
468.						In waſte manured places: gardens. 9.
469.				1		In woods, thickets, and hedges. 6.
470.		1	1	1		On heaths and mountains in the North.
471.	0	1	1	0		On mountainous grounds. 3, 4.
472.	1	1	1			On the ſea ſhores, common. 8.
473.	1					About dunghills; and on the ſea ſhores. 8, 9.
474.	1	1	1		1	In waſte places, and about hedges. 8.
475.	1	1	1	0	0	In woods and hedges. 3, 4.
476.	0	10	0	0		On mountainous boggy places in the North. 4, 5.
477.	0	1	10	0		On moiſt corn land. 3, 4.
478.		1		11		In ſhady moiſt woods. 4, 5.
479.		1				In marſhes. 6.
480.	10	1	11	1	1	In watery places, and about rivers. 5.
481.		0	1		10	In ſhallow waters and marſhes. 6.
482.	0	01	0	0	0	In woods, and on heaths, very common.
483.		01	0			On old walls, and ſtumps of trees.
484.	0	1	0			In woods, hedges, and ſhady lanes.
485.	1	1		1		In rocky places in the North.
486.	0		0	0		In ſhady, ſtony boggy places under hedges.
487.	01		01			In moiſt meadows and paſtures.
488.	1		1			On the ſea coaſt.
489.	1					On the ſame.
490.	11					On the ſame.
491.	11		1		1	Not uncommon in our woods.

and others; and *Loeſelius* ſays it brings on abortion, if pregnant ewes eat it.

478. *Wood Horſe-tail.* Horſes are extremely fond of this, and where it is abundant, as is the caſe in ſome of the northern parts of *Europe*, hay of this alone is made for their uſe; as alſo of the *River Horſe-tail*, which the cows like, and it is thought to encreaſe their milk.

488—90. *Fucus.* All theſe Fucuſes are eaten by cows; but *Gunner* ſays the *Thread Fucus* is not only acceptable to them, but very wholeſome.

491. *Brown Boletus.* Horned cattle are fond of this *Fungus*, and eat it greedily; but it is believed that it vitiates the milk, and leſſens the quantity of it.

A CATALOGUE OF THE WRITINGS and PUBLICATIONS of LINNÆUS:

With References to the Pages in which they are mentioned in this Volume.

5. *Halæ.*

Page

5. *Halæ*. 8vo. p. 88. 1747.

By *M. G. Agnethler*. With the *German* names; otherwiſe the ſame as the ſecond edition.

6. *Holmiæ*. 8vo. p. 232. tab. 8.
1748. — — 60.

Embelliſhed with a print of the Author. Augmented by the introduction of the eſſential characters of the genera of plants; and by the addition of the ſpecies to the animal and foſſil kingdoms.

7. *Lipſiæ*. 8vo. p. 232. tab. 8.
1748.

By a Bookſeller; with the *German* names.

8. *Holm*. 8vo. p. 136. 1753.

In the *Swediſh* language. The vegetable kingdom by *Haartman*; the foſſil by *Moller*.

9. *Lugd. Bat*. 8vo. p. 228. t. 8. } 60.
1756 — — } 54.

By Dr. *Gronovius*, with a few additions to the animal kingdom; otherwiſe copied from N° 6.

This edition was alſo printed at *Lucca*, in 1758.

10. *Holm*. 8vo. 2 tom. 1758. — 60.

Tom. 1. p. 821. Animal kingdom. Enlarged by the addition of the ſynonyms.

Tom. 2. p. 560. Vegetable kingdom. Enlarged by the addition of the ſpecies under each genus.

11. *Lipſiæ*. 8vo. very faulty.

12. *Holm*. 8vo. 3 *tom*. 1766, 1767, 1768.

Tom. 1. in 2 parts, p. 1327. Animals. 60.
Tom. 2. p. 736. Vegetables. — 110.
Tom. 3. p. 236. Foſſils. — 131.

Vindob.

Page

Vindob. 8vo. 3 tom. 1, 1767.
2, 3, 1770.

From the foregoing; the pages correſponding.

13. *Gottingæ et Gothæ.* 8vo. 1774. 210.

Tom. 2. only, by Dr. *Murray*, with *Linnæus*'s additions and emendations.

HYPOTHESIS NOVA de febrium intermittentium cauſa. *Harderovic.* 4to. 1735. — 10.

Alſo, in the firſt volume of the *Amœnitates Academicæ*, printed at *Leyden*, 1749. — —

FUNDAMENTA BOTANICA. *Amſt.* 12 mo. p. 36. 1736. — — — 17.

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Stockholm. 8vo. p. 23. 1740.
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Pariſiis. 8vo. p. 26. 1744.
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GENERA PLANTARUM. *Lugd. Bat.* 8vo. p. 384. 935. genera. 1737. — 20.

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Halæ. 8vo. p. 441. 1090. genera. 1752.
Holmiæ. 8vo. p. 580. 1239. genera. 1764. 20.
Viennæ. 8vo. 1767.

Animalia

Page

Animalia Sueciæ. Holm. 8vo. 1745.
Deſcribed, and the ſynonyms annexed.

FAUNA SUECICA. *Holm.* 8vo. p. 411. tab. 2. 1746.
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FLORA ZEYLANICA. *Holm.* 8vo. tab. 4. 1747. 40.

ITER WESTROGOTHICUM. *Holm.* 8vo. p. 284. 1747. tab. 5.
In the *Swediſh* language.

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Tom. 1. *Lugd. Bat.* tab. 15. 1749. 220.
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Tom. 2. *Holm.* et *Amſt.* t. 4. 1751, 1752. — — 237.
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Tom. 4. *Holm.* et *Amſt.* t. 4. 1760. 265.
Tom. 5. *Holm.* et *Amſt.* t. 3. 1760. 288.
Tom. 6. *Holm.* et *Amſt.* t. 4. 1763. 317.
Tom. 7. *Holm.* et *Amſt.* t. 7. 1769. 343.

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By *J. G. Gleditch.*

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MISTAKES.

Page 14. line 20. after *Suecica*, add Edit. I.
17. —— 15. for *abiiſent*, read *abiiſſent*.
23. —— 15. for 346, read 364.
43. —— 10. *dele* would have.
122. —— 19. for 335, read 235.
140. —— 16. for granite, read *Granites*.
202. —— 30. for *ſexus*, read ſexûs.
203. —— 30. for *trydactylis*, read *tridactylis*.
205. —— 5. for *Fœnum*, read *Fœnum*.
207. —— 8. for *indiginæ*, read *indigenæ*.
209. —— 19. for *nciperem*, read *inciperem*.
227. —— 8. *dele* given.
240. —— 27. for 358, read 327.
240. —— 30. for 557, read 577.
250. —— 2. for interſting, read intereſting.
301. —— 24. for 1276, read 1076.
323. —— 18. for *Acetariæ*, read Acetaria.
336. —— 27. for *Bractæ*, read *Bracteæ*.
346. —— 21. for *Forſkalea*, read *Forſkoblea*.
370. —— 18. for 933, read 983.
384. —— 34. *col.* 3. for 1.15. read 11.15.
ibid. —— 26. *col.* 3. for 87, read 687.